

North London Waste Authority
**North London Heat and Power
Project**

Preliminary Environmental
Information Report
Volume 2 Appendix 7.2 Noise
Survey Results

Issue for Consultation

May 2015

Arup

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

ARUP

nlwa
north london waste authority



Noise Survey Results

Vol 2 Appendix 7.2 Table 1: Unattended measurement results at location 1 (15min samples from meter at 1hour intervals)

Date	Time		Noise Level, dB (A)				Comments
	Start	Finish	L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.02.13	14:07	14:22	54.5	58.6	66.5	56.8	-----Unattended measurement-----
27.02.13	14:22	14:37	55.6	61.9	73.8	59.3	
27.02.13	14:37	14:52	56.8	62.5	77.8	61.4	
27.02.13	14:52	15:07	55.8	60.4	73.0	58.5	
27.02.13	15:07	15:22	57.5	63.3	73.9	60.9	
27.02.13	15:22	15:37	57.8	62.8	80.6	61.1	
27.02.13	15:37	15:52	57	62.1	80.5	60.2	
27.02.13	15:52	16:07	55.4	61.2	75.2	58.9	
27.02.13	16:07	16:22	55.5	61.1	73.9	58.7	
27.02.13	16:22	16:37	56.0	61.2	75.2	59.2	
27.02.13	16:37	16:52	53.5	58.0	70.8	56.2	
27.02.13	16:52	17:07	53.6	57.4	63.8	55.7	
27.02.13	17:07	17:22	53.2	56.8	65.7	55.2	
27.02.13	17:22	17:37	53.1	57.7	65.7	55.6	
27.02.13	17:37	17:52	52.4	58.5	78.0	57.8	
27.02.13	17:52	18:07	52.3	56.5	69.4	54.7	
27.02.13	18:07	18:22	52.3	55.8	67.5	54.2	
27.02.13	18:22	18:37	52.1	54.9	66.0	53.6	

Date	Time		Noise Level, dB (A)				Comments
	Start	Finish	L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.02.13	18.37	18.52	53.0	56.4	79.1	58.5	
27.02.13	18.52	19.07	52.6	56.0	70.0	54.5	
27.02.13	19.07	19.22	52.2	57.2	70.4	55.1	
27.02.13	19.22	19.37	52.0	55.2	64.2	53.8	
27.02.13	19.37	19.52	53.2	56.7	78.4	56.3	
27.02.13	19.52	20.07	53.7	56.7	68.5	55.4	
27.02.13	20.07	20:22	54.1	57.4	74.5	56.1	
27.02.13	20:22	20:37	53.7	56.5	62.8	55.2	
27.02.13	20:37	20.52	53.6	56.6	62.9	55.1	
27.02.13	20.52	21.07	53.7	56.9	65.7	55.4	
27.02.13	21.07	21.22	53.9	57.0	67.4	55.6	
27.02.13	21.22	21.37	53.7	57.1	76.5	56.1	
27.02.13	21.37	21.52	52.9	56.6	63.1	54.9	
27.02.13	21.52	22.07	52.7	55.6	63.0	54.2	
27.02.13	22.07	22.22	52.8	56.1	69.1	54.8	
27.02.13	22.22	22.37	53.3	57.5	72.1	55.9	-----Unattended measurement-----
27.02.13	22.37	22.52	52.6	56.4	64.4	54.8	
27.02.13	22.52	23.07	52.4	55.7	64.6	54.2	
27.02.13	23.07	23.22	52.6	55.5	79.5	57.7	
27.02.13	23.22	23.37	52.3	55.4	62.7	54.0	

Date	Time		Noise Level, dB (A)				Comments
	Start	Finish	L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.02.13	23.37	23.52	52.0	54.9	65.5	53.5	
27.02.13	23.52	00.07	52.1	54.5	61.8	53.3	
28.02.13	00.07	00.22	51.9	54.4	60.4	53.3	
28.02.13	00.22	00.37	51.5	54.0	57.8	52.8	
28.02.13	00.37	00.52	51.7	54.3	59.7	53.0	
28.02.13	00.52	01.07	52.3	54.9	60.4	53.7	
28.02.13	01.07	01.22	52.0	54.0	59.7	53.0	
28.02.13	01.22	01.37	52.4	54.5	61.9	53.5	
28.02.13	01.37	01.52	52.7	55.1	64.3	54.0	
28.02.13	01.52	02.07	53.3	55.4	60.7	54.4	
28.02.13	02.07	2.22	53.0	55.1	59.1	54.1	
28.02.13	2.22	2.37	52.5	54.8	58.2	53.7	
28.02.13	2.37	2.52	51.8	54.7	66.9	53.7	-----Unattended measurement-----
28.02.13	2.52	3.07	51.8	59.1	70.5	56.4	
28.02.13	3.07	3.22	51.8	54.2	61.9	53.1	
28.02.13	3.22	3.37	51.9	54.3	63.7	53.3	
28.02.13	3.37	3.52	52.4	64.7	88.8	64.6	
28.02.13	21:22	21:37	53.7	57.1	76.5	56.1	
28.02.13	23:52	00:07	52.1	54.5	61.8	53.3	
29.02.13	00:52	01:07	52.3	54.9	60.4	53.7	

Date	Time		Noise Level, dB (A)				Comments
	Start	Finish	L ₉₀	L ₁₀	L _{max}	L _{eq}	
29.02.13	01:52	02:07	53.3	55.4	60.7	54.4	

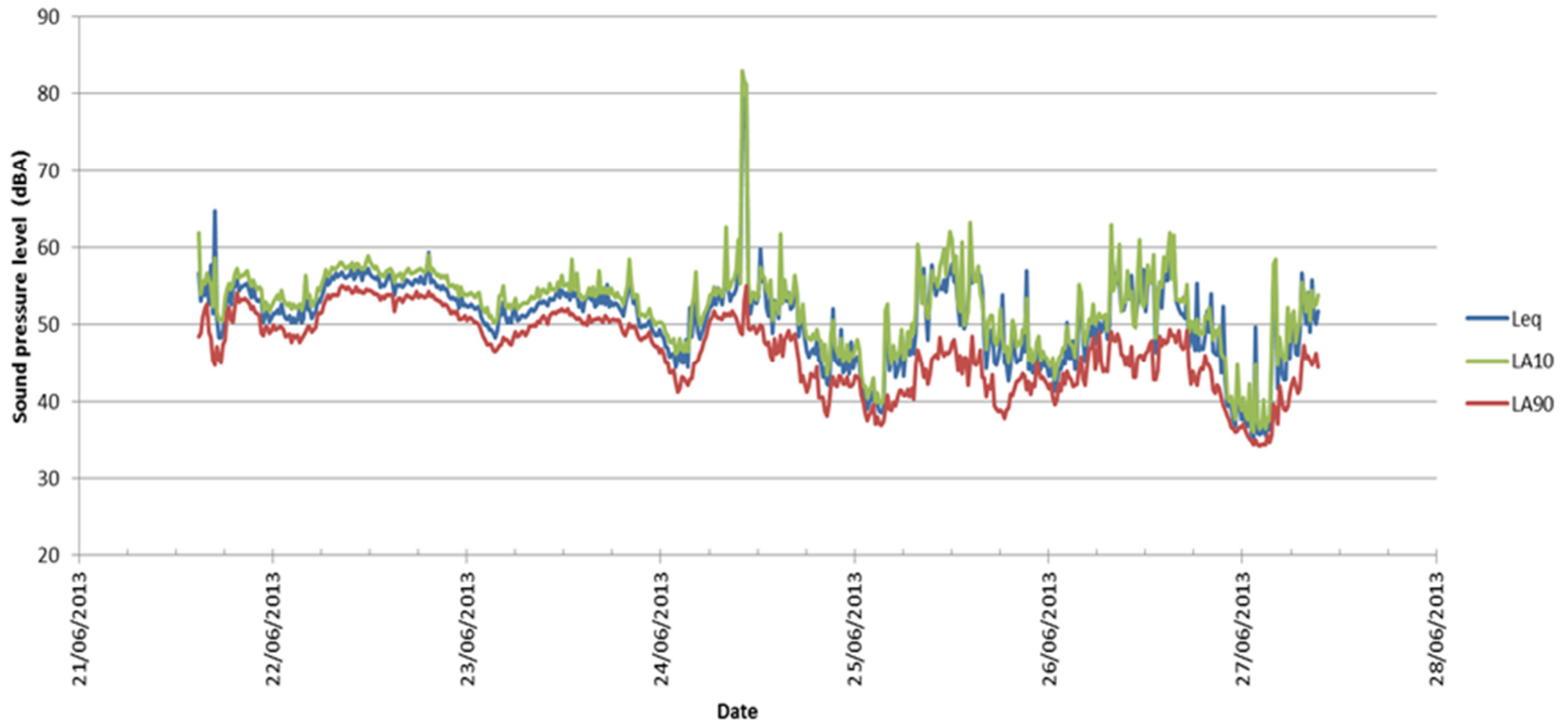


Figure A1

Vol 2 Appendix 7.2 Table 2: Attended measurement results at location 1

Date	Time		Wind Speed		Noise Level. dB (A)				Comments
	Start	End	Speed (ms ⁻¹)	Direction	L _{A90}	L ₁₀	L _{max}	L _{eq}	
27.02.13	13:52	14:07	1.9 m/s	N	54.9	60.4	93.5	63.0	Large plant machines at work to north of site
27.06.13	20:42	20:52	0.5m/s	S	40.9	53.8	76.0	52.6	Traffic can be heard on A103 and trains can be heard in distance when wind changes direction. Background is dominated by roads to west of location. No pass traffic on Russell Road
27.06.13	01:37	01:42	0.2m/s	S	37.1	39.8	76.5	48.8	Now traffic is lighter water movement can be heard above distant road noise. Quiet location at back of house on Russell road, rural bungalows and 1930s bay window houses. Water noise is on par with road noise in distance. Russell road no traffic during measurement
27.06.13	03:08	03:13	0.3m/s	SW	46.6	49.0	69.2	44.3	Distance you can hear the A406 to the south, but when the background levels have dropped you now can clearly hear running water from this location
27.06.13	11:49	12:01			50.7	54.5	72.6	53.0	No roads can be heard above heavy plant working s/w of location (Thames Water). All type of earth movers are on site, quiet location apart from this background
27.06.13	13:21	13:36	0.5m/s	N	47.1	52.1	67.6	50.1	Plant on site not running, so A406 can now be heard plus 747 over flying location

Vol 2 Appendix 7.2 Table 3: Further attended measurement results at location 1

Date	Time		Wind Speed	Noise Level. dB (A)				Comments
	Start	End		L _{A90}	L ₁₀	L _{max}	L _{eq}	
23.06.13	10:07	10:17	Windspeed 2-3 m/s increased to ~5 m/s gusts in middle of measurement.	52	55	66	54	Constant high speed road traffic - distant but dominant noise source. 3 no. aircraft passbys. Plants/grass rustling in wind and rattling against fence. Birdsong.
23.06.13	11:33	11:43	Wind ~3 m/s.	52	56	74	56	Low helicopter - passby for 2 minutes. 2 no. distant aircraft. Very light rain in last 2 minutes of measurement. Occasional distant bangs from direction of EcoPark.
23.06.13	12:58	13:13	Low windspeed	53	56	64	55	Constant road traffic. Motorcycle acceleration 3 times in measurement on distant road. 1 no. aircraft passby.
24.06.13	00:59	01:04	Low wind speed <2 m/s.	47	50	62	49	Distant road traffic - Walthamstow Ave and closer Waltham Way. Constant traffic flow, but less heavy flow than daytime.
24.06.13	02:34	02:39	Low windspeed.	44	48	51	46	Traffic less consistent flow than previous measurements. Some distant, quiet industrial banging sounds from direction of EcoPark, possibly from Lower Hall pumping station.

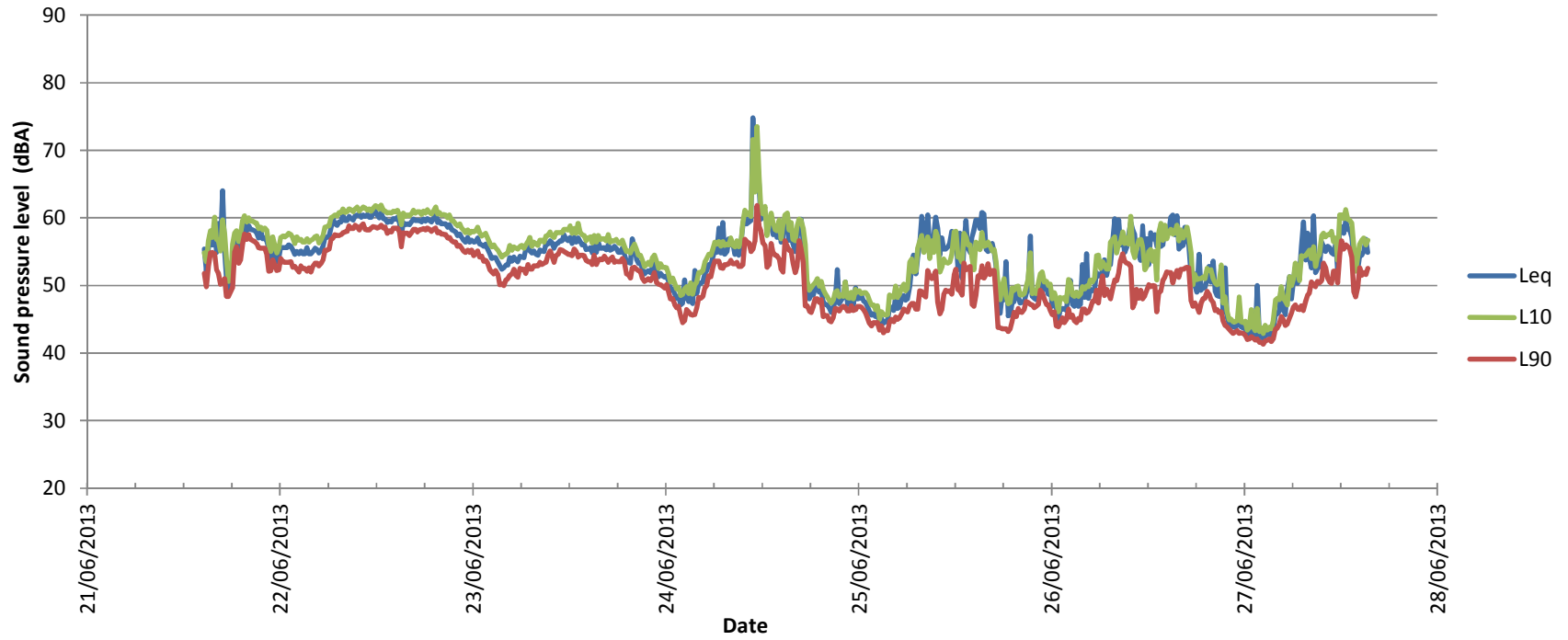


Figure A2

Vol 2 Appendix 7.2 Table 4 Attended measurement results at location 2

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
28.02.13	14:07	14:22	1.8 m/s	N	48.5	57.2	70.9	53.9	Residential traffic movements passing location parking and leaving flats on lower hall lane and (A406) road noise levels can be heard to south.
28.02.13	15:30	15:45	1.9 m/s	N/E	50.0	54.6	71.2	53.0	No roads can be heard above heavy plant working NW of location (Thames Water). All type of earth movers are on site, quiet location apart from this background Earth moves at work on site
28.02.13	16:37	16:52	1.4m/s	N	50.1	54.5	75.2	53.1	Large plant machines at work to north of site (Thames water)
28.02.13	20:36	20:46	1.8 m/s	N	45.4	47.9	59.4	46.7	Road traffic from Walthamstow Ave and other nearby busy roads. Some low noise coming from Lower Hall Pumping Station. Vehicle movements on nearby residential road - car door slams.
28.02.13	21:27	21:37	0.9m/s	N	44.4	47.6	56.1	46.0	Road traffic from Walthamstow Ave and other nearby busy roads. Occasional vehicle movements around residential estate.
01.03.13	00:00	00:05	0.0m/s	N/A	41.3	44.9	64.7	44.3	Traffic in distance to N/W from (A1009) and road noise (A406) to south of location. Apart from this background, no other noise can be heard
01.03.13	01:17	01:23	0.1m/s	N	40.7	43.2	55.1	42.2	Road noise is all coming from the (A406) north circular. Two cars passbys during measurement on lower hall lane turning around and dead end of lane.
01.03.13	02:25	02:30	0.3m/s	NE	41.6	45.3	52.6	43.6	Background noise from Eco Park can now be heard. Traffic on A406 is lighter than before, also traffic is audible north west of location.
27.06.13	20:58	21:08	0.2m/s	S	43.8	46.4	62.3	45.3	Quiet, no through road, no passing traffic during measurement. Background dominated by A406 to south of location. Some noise from open windows in flats voices can be heard.
27.06.13	22:33	22:43	0.8m/s	S	42.8	46.0	76.6	47.4	Road noise in distance to N/W and road noise south of location. Apart from this background, no other noise can be heard.

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.06.13	01:49	01:54	0.0m/s	N/A	42.4	44.7	62.0	43.8	Background noise is all coming from the A406 north circular. Small amount of traffic on Lower hall Lane turning around and dead end of lane.
27.06.13	03:20	03:25	0.0m/s	N/A	42.1	45.6	50.2	44.1	Plant noise from Eco Park can now be heard. Traffic on A406 is slightly lighter than before, also traffic is audible north west of location.
27.06.13	12:12	12:27	2.2m/s	S	58.3	42.0	69.7	60.3	Heavy plant can be seen to S/W of location working on Thames water site and dominating background noise. Quiet location apart from this.
27.06.13	13:52	14:07	0.0m/s	N/A	51.6	55.0	73.1	53.9	No plant running on Thames water site, so A406 becomes the dominant background noise for this location

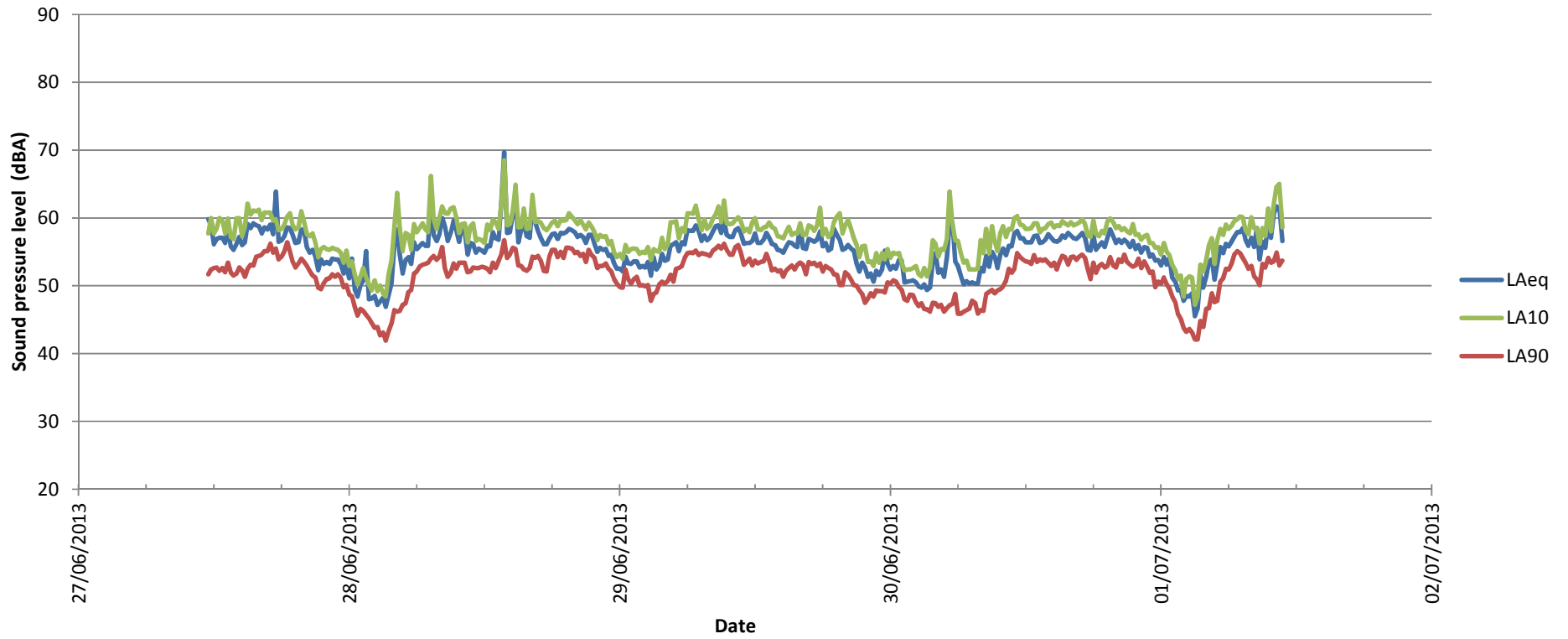


Figure A3

Vol 2 Appendix 7.2 Table 5 Further measurement results at location 2

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
23.06.13	10:31	10:46	Sheltered from wind - occasional low speed gusts.	56	59	71	58	Constant high speed (~50mph) road traffic from Walthamstow Ave and other nearby busy roads. Use of power tools or heavy plant from Lower Hall Pumping Station. Vehicle movements on nearby residential road - car door slams, low speed engine noise, horn around corner. 4x4 towing mini digger and unloading - banging sounds ~20m away.
23.06.13	11:47	12:02	Windspeed 3-4 m/s with faster bursts.	55	59	64	57	Constant high speed (~50mph) road traffic from Walthamstow Ave and other nearby busy roads. Banging from car park/scrap yard (?) at end of Lower Hall Ln. Distant plant movements from Lower Hall Pumping Station. Occasional vehicle movements around residential estate. Car playing loud music passed and parked - 30 sec. 2 no. distant light aircraft passbys.
23.06.13	13:19	13:34	-	55	59	70	58	Constant high speed (~50mph) road traffic from Walthamstow Ave and other nearby busy roads. Motorcycle acceleration on closer road. 2 no. aircraft passbys. 3 car movements nearby - parking, engine noise, door slams.
24.06.13	01:10	01:15	Minimal wind.	48	52	60	51	Distant road traffic - Walthamstow Ave. Lower traffic flow than daytime, but still constant and dominant noise source. One car movement on Mandeville Court (~10m away). Occasional traffic on Hall Ln.
24.06.13	02:48	02:53	Light wind.	48	53	59	51	Distant road traffic - Walthamstow Ave. Lower traffic flow than daytime, but still constant and dominant noise source. 1 no. distant train. 2 no. Cars on nearby residential roads.

Vol 2 Appendix 7.2 Table 6 Attended measurement results at location 3

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
28.02.13	14:34	14:49	3.8m/s	N	62.5	65.9	79.2	65.3	Helicopter fly over @4.2mins. Road noise from A406 is very high
28.02.13	15:55	16:10	2.0m/s	N/E	62.5	65.2	69.7	64.0	Background noise is all coming from the A406 north circular. Small amount of traffic on Harbet Road, which goes through industrial estate. Car movements at other end of car park
28.02.13	16:58	17:13	0.9m/s	N	62.0	64.5	69.8	63.3	Road noise levels mask any plant noise from ECO power plant. Traffic levels at A406 are still very high.
28.02.13	20:54	21:04	0.7m/s	N	60.2	63.1	67.2	61.8	Clear line of sight to A406 (north circular) traffic still is the dominant noise source at this location. No other noise can be heard
28.02.13	21:44	21:54	0.9m/s	N	59.0	63.3	67.1	61.5	No other background noise apart from constant road noise from A406
01.03.13	00:11	00:16	0.0m/s	N/A	56.0	61.1	64.8	59.0	Traffic flows on Angel Road and Walthamstow Avenue (A406) are dropping.
01.03.13	01:28	01:33	0.1m/s	SW	49.0	59.1	62.8	56.4	Traffic flows on Angel Road and Walthamstow Avenue (A406) are dropping but still the dominate background. Distant plant noise from retail units can be heard.
01.03.13	02:36	02:41	0.0m/s	N/A	51.4	58.9	62.4	56.3	Road noise levels are still masking any plant noise from ECO power plant. Traffic levels are A406 lighter but still constant.
27.06.13	21:23	21:33	0.1m/s	S	55.1	58.6	65.3	57.1	No other background noise apart from constant road noise from A406
27.06.13	22:49	22:59	0.2m/s	S	54.0	58.9	66.4	56.8	Background noise is all coming from the A406 north circular. Small amount of traffic on Harbet Road, which goes through industrial estate
27.06.13	02:04	02:09	0.1m/s	SW	50.5	57.0	62.4	54.3	Clear line of sight to A406 (north circular) traffic still is the dominant noise source at this location. No other noise can be heard

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.06.13	03:31	03:36	0.0m/s	N/A	47.5	58.3	70.7	55.1	Bird song in tress. Road noise from A406
27.06.13	12:35	12:50	2.5m/s	S/W	54.8	59.0	75.1	57.4	Local traffic on Harbet Road, local traffic/high flyovers by 747-400. Total dominated by A406. Car door shutting nearby.
27.06.13	14:04	14:19	0.1m/s	S	54.9	59.5	70.6	57.8	Bird song in trees and bushes. A406 still very busy, no other noise can be heard above Traffic noise, airbus 380 @12:30. Car movements at other end of car park.
27.06.13	14:46	15:01	0.1m/s	S	54.8	57.9	65.2	56.6	Bird song from trees, 747 overfly at 10,000ft @10:30 mins. A406 still dominating noise source

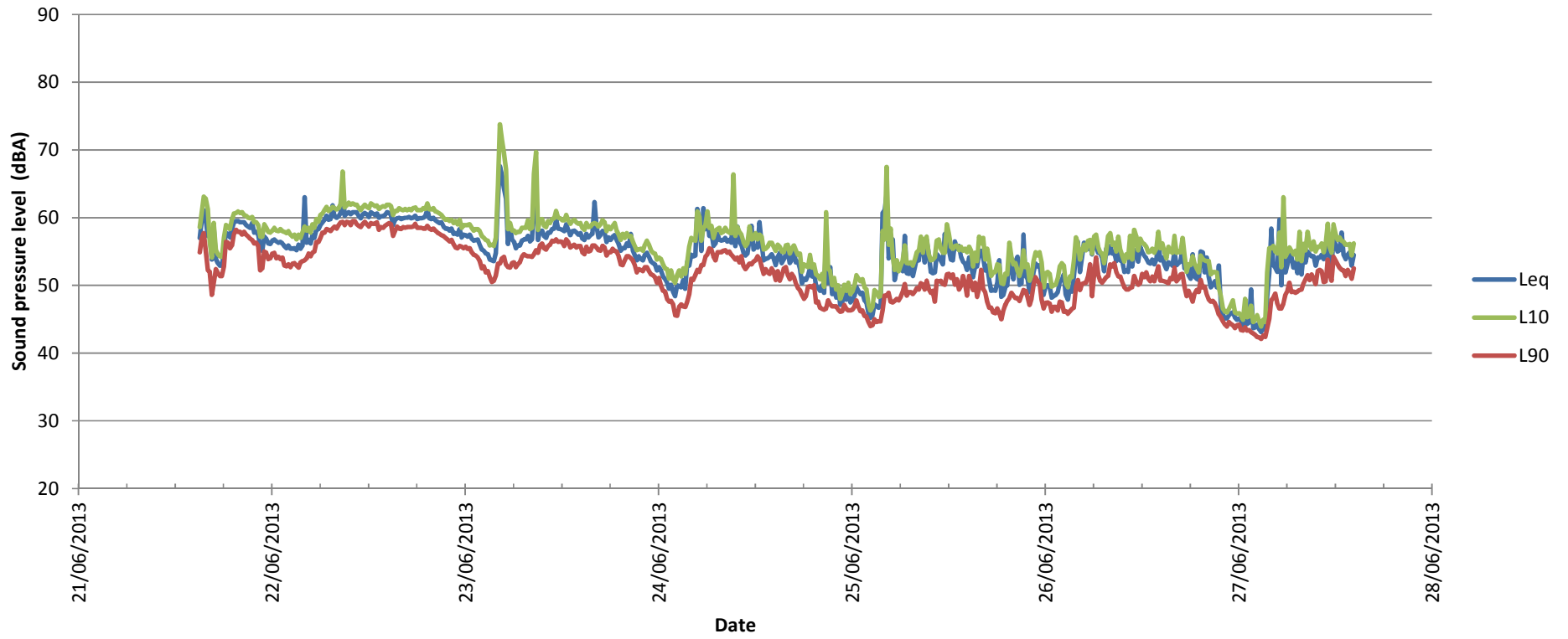


Figure A4

Vol 2 Appendix 7.2 Table 7 Further attended measurement results at location 3

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
23.06.13	10:52	11:02	Occasional gusts of strong wind (>6 m/s).	59	76	86	72	65 Vehicles in 10min measurement on Harbet Rd. Avg. speed ~25mph and accelerating. Gate rattling in wind 2m away. Flags outside shops flapping in wind. Constant road traffic noise from screened Walthamstow Way and other distant busy roads. Horn from passing car. 3 no. HGVs accessing carpark ~10m away. Trolley on Blackwood avenue approaching measurement position - 2 minutes of noise from wheels.
23.06.13	12:06	12:16	Brief gusts of wind causing gate to squeak/rattle (2m away).	59	75	83	70	72 vehicle passbys in 10 minute measurement. Avg. speed ~20mph, accelerating and braking at roundabout. Bangs from industrial estate opposite. Pedestrians talking nearby while passing. Very light rain at end of measurement.
23.06.13	13:41	13:56	-	61	75	88	72	85 vehicles passed - 5mph avg (slow moving queue). Car parked nearby - 3m away. 2 Door slams, engine idling. Pedestrians talking and walking by. Engine start near (3m). Queue of traffic from roundabout back to microphone position. Car alarm down the road - out of sight. Loud music from a car in the queue of traffic - 30 seconds.
23.06.13	19:35	-	-	56	67	84	66	Traffic noise from main road. 10 no. cars on Harbet Rd. Started raining. Noise from rain hitting boat/clipboard/puddles. Wet roads affecting high frequency measurement. Rain too heavy - abandoned measurements.
24.06.13	01:24	01:29	Minimal wind.	50	57	84	61	3 no. vehicles on Harbet Rd. Distant road traffic - lower traffic flow but consistent still. Motorbike accelerating on A406. HGV engine starting and idling for 2 minutes, 20m away (parked).
24.06.13	03:00	03:05	-	44	53	81	59	HGV with chiller on for 25 seconds of measurement. 2 no. cars on Harbet Rd. Distant road traffic - similar to previous measurement at this location.

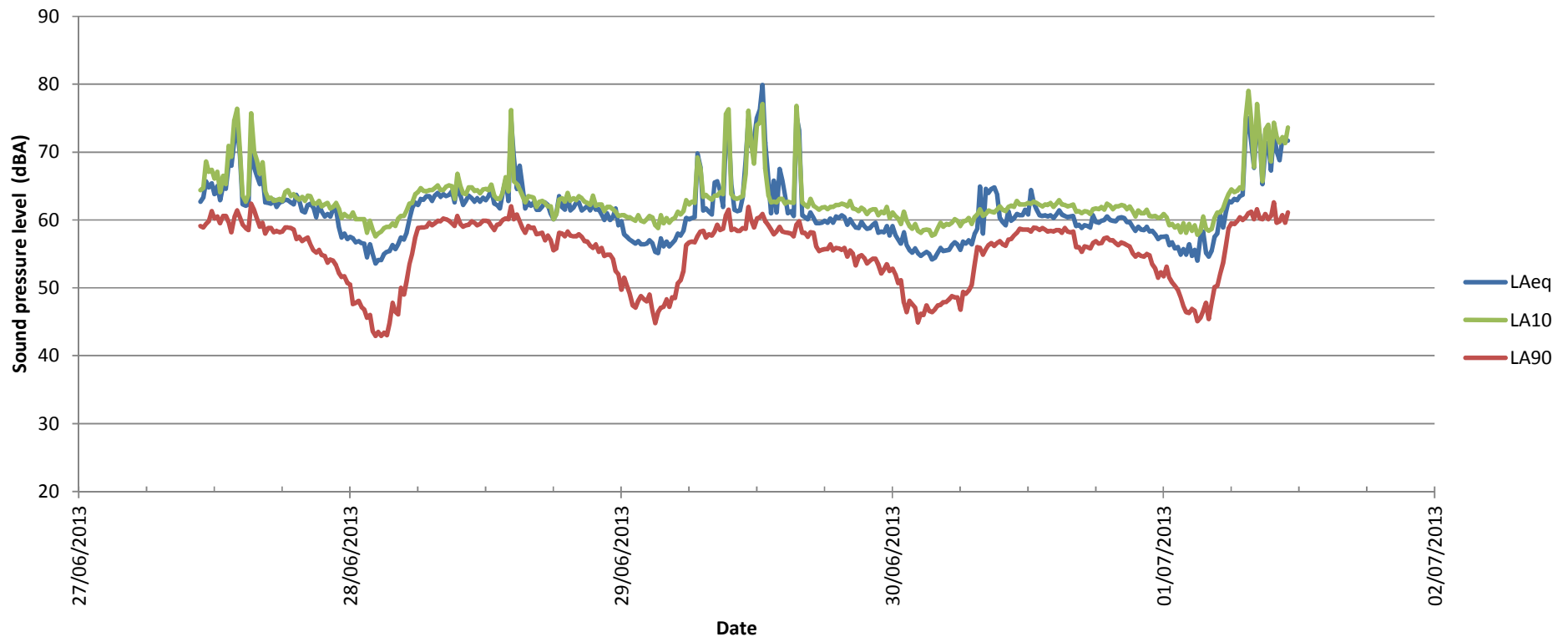


Figure A5

Vol 2 Appendix 7.2 Table 8 Attended measurement results at location 4

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
28.02.13	15:00	15:15	1.5m/s	N/E	75.9	80.2	84.3	78.4	Police car @02:45mins, police car at 09:40mins. Noise from A406 as before very high flow.
28.02.13	16:14	16:29	1.8m/s	N	76.7	80.1	85.8	78.7	Traffic passbys using retail outlets, but measurement level not affect because of high level of traffic noise from (A406).
28.02.13	17:19	17:34	0.9m/s	N	75.7	79.2	82.3	77.7	Local traffic movements passed location parking and leaving using Next and Argos shopping outlet and the (A406) road noise levels mask any plant noise. Road still very busy with traffic.
28.02.13	20:10	21:20	0.7m/s	N	73.6	79.6	84.3	77.4	Traffic flow on A406 very heavy, approx. 150 cars and HGV-LDV per min. No other noise sources can be heard above traffic drone
28.02.13	21:59	22:09	1.1 m/s	N	71.7	78.9	82.5	76.3	This location is totally dominated by A406, approx. 75 cars per min. No other noise can be heard above road noise.
01.03.13	00:21	00:26	0.0m/s	N/A	66.5	77.6	82.5	74.3	No plant noise can be heard from the retail shopping outlet and the road noise levels mask any plant noise from ECO power plant. Traffic levels on A406 are still very high.
01.03.13	01:40	01:45	0.1m/s	S	61.1	74.4	81.9	70.7	Traffic flows on Angel Road and Walthamstow Avenue (A406) are dropping.
01.03.13	02:46	02:51	0.0m/s	N/A	61.9	74.3	81.4	70.7	Traffic flows on Angel Road and Walthamstow Avenue (A406) are dropping but still the dominate background. So some plant noise from retail units can be heard.
27.06.13	21:38	21:48	0.1m/s	S	71.2	79.3	85.7	76.2	Location totally dominated by A406, approx. 60 cars per min. No other noise can be heard above road noise!!
27.06.13	23:05	23:15	0.1m/s	S	68.4	77.5	90.7	74.8	Location dominated by A406 (north circular road) levels are so high, no other sounds can be heard.

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.06.13	02:15	02:20	0.0m/s	N/A	60.9	74.5	82.7	70.8	No plant noise can be heard from the Next and Argos shopping outlet and the road noise levels mask any plant noise from ECO power plant. Road still very busy with traffic
27.06.13	03:43	03:48	0.0m/s	N/A	61.6	73.7	77.6	69.6	Traffic is building up on A406 and dust carts are starting to leave ECO park .Traffic flows on Angel Road and Walthamstow Avenue (A406) are starting to increase again.
27.06.13	11:24	11:39	0.1m/s	S	76.7	80.7	94.4	79.1	Location totally dominated by pass traffic on A406, six lane 50mph passing mixed vehicles car LGV-HGV, buses
27.06.13	12:56	13:11	0.2m/s	SE	76.0	80.4	89.7	78.8	Traffic flow on A406 very heavy, approx. 150 cars and HGV-LDV per min. No other noise sources can be heard above traffic drone
27.06.13	14:25	14:40	0.1m/s	S	75.0	79.4	89.9	77.7	Ambulance @04:00, A406 still running at full flow per minute. Police at @14:02 mins
27.06.13	15:07	15:22	0.0m/s	N/A	75.7	79.9	87.5	78.1	Police car @02:34mins, police car at @09:30mins. Noise from A406 as before

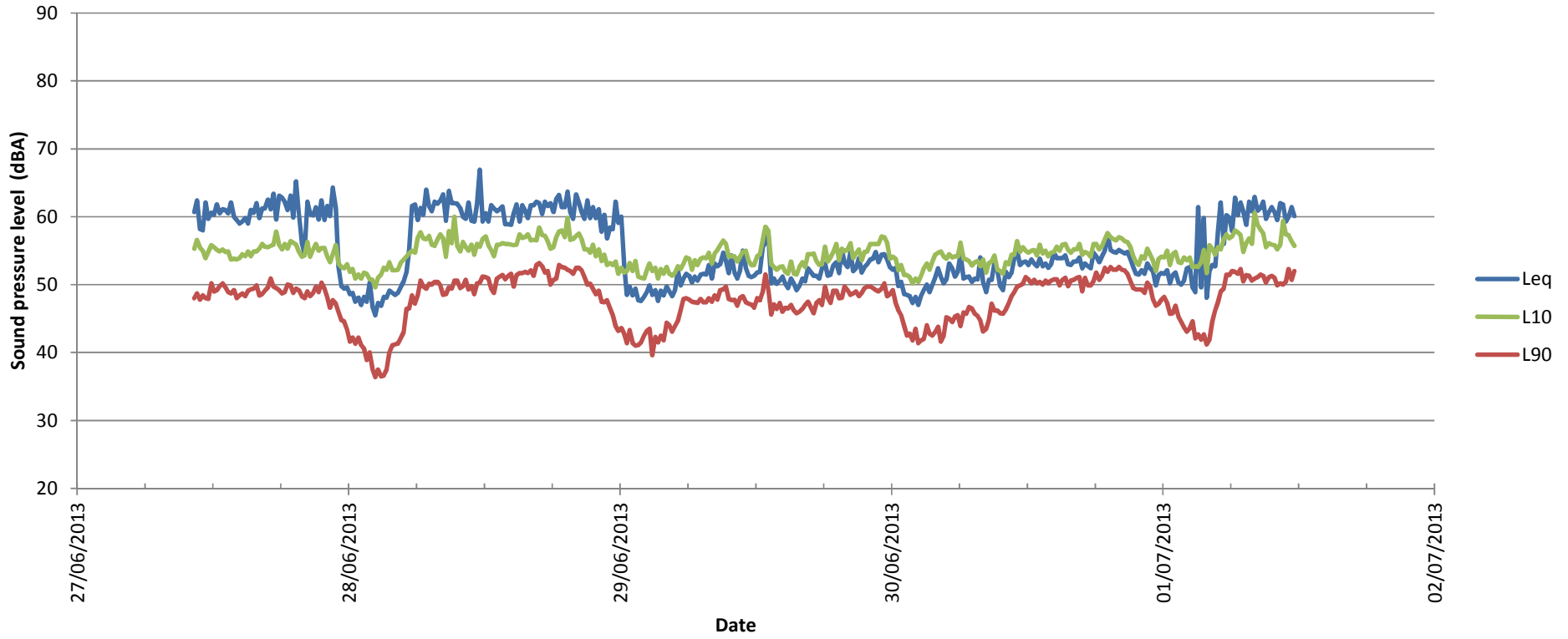


Figure A6

Vol 2 Appendix 7.2 Table 9 Further attended measurement results at location 4

Date	Time		Wind Speed	Statistical Indices				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
23.06.13	14:20	14:35	Light wind, generally <3m/s except occasional gusts	73	77	79	75	Argon Rd, A406 and Advent Way (10 lanes of traffic). Nearest lane ~15m away. Average speed of vehicles 50mph. Retail advertisement flags flapping in wind - metal on rope hitting the pole.
23.06.13	15:15	15:30	Constant wind 3-4m/s.	74	78	80	76	Busy Road dominant. Consistent flow of 115 vehicles per minute. Vehicle movements in car-park - door slams, engines idling. Quiet compared to busy roads.
23.06.13	16:35	16:50	Flags rattling in wind.	75	78	85	77	Traffic flow ~120 cars per minute over 10 lanes of traffic. Minimal car park movements - shops closed.
24.06.13	01:37	01:42	Flags still hitting poles in breeze.	62	76	80	72	~22 cars per minute on all lanes of traffic. Plant noise (?) from direction of Eco Park - just audible in absence of road traffic.
24.06.13	03:11	03:16	Very light breeze.	62	74	81	71	21 cars per minute. 1 no. aircraft - distant. Plant noise (?) from direction of Eco Park - just audible in absence of road traffic.

Vol 2 Appendix 7.2 Table 10 Attended measurement results at location 5

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
01.03.13	00:31	00:36	0m/s	NE	53.5	56.9	67.2	55.6	Traffic flows on Angel Road and Walthamstow Avenue (A406) are dropping, so plant noise from London waste Eco park is starting to dominate background.
01.03.13	01:48	01:53	0.1m/s	N	51.5	55.3	60.0	53.6	Traffic flows on Angel Road and Walthamstow Avenue (A406) are dropping, so plant noise from London waste Eco park is starting to dominate background.
01.03.13	02:57	03:02	0.2 m/s	N	51.0	56.6	61.9	54.3	The plant noise on roof of London waste Eco park dominates Background noise above Angel Road (A406) to south of location. Very quiet to the east measurement location.
01.03.13	12:29	12:44	3.3m/s	NE	59.4	62.1	70.8	60.9	Plant machines at work on east of site and Angel Road (A406) to the south of measurement location. Fork lifts moving about and constant stream of dust cart going into plant building loading bay
01.03.13	13:45	14:00	4.3m/s	N	58.6	61.4	76.0	60.2	Road traffic from Angel Road (A406) / North Circular dominates background. Plant from Eco Park audible, affecting background. fork lifts- constant stream of dust cart going into plant building loading bay Some birdsong audible
01.03.13	15:03	15:08	3.5m/s	N	59.9	62.9	72.4	61.9	The plant noise on roof of London waste Eco park dominates Background noise above Angel Road (A406) to south of location. Heavy plant working east of location on Thames water site. All types of plant are on site.
01.03.13	20:00	20:10	0.2 m/s	N	57.8	60.4	64.1	59.2	Road traffic from Angel Road and Walthamstow Avenue (A406) dominates background. Roof top plant and intermittent dust cart engine noise from EcoPark audible, affecting background.narrow boat pass by but quietly. Some birdsong audible.
01.03.13	20:59	21:09	0.1m/s	NE	55.7	60.1	67.2	58.3	Road traffic from North Circular dominates background.

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
									Plant and intermittent engine noise from EcoPark audible, affecting background. Narrow boat engine running, but quietly. Some birdsong audible.
27.06.13	01:24	01:29	0.1m/s	S	48.2	50.5	68.2	49.8	Measurement location is equally dominated by A406/North and London Waste Eco Park. Noisy plant running on roof.
27.06.13	02:54	02:59	021m/s	S	38.6	44.5	62.3	48.1	The plant noise on roof of London waste Eco park dominates Background noise above Angel Road (A406) to south of location.

Vol 2 Appendix 7.2 Table 11 Further attended measurement results at location 5

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
23.06.13	11:10	11:25	High windspeeds. 3-6 m/s with stronger bursts - noticeably affecting measurement below 100Hz.	60	63	70	62	High speed road traffic from A406 (screened, distant sounding). Whirring noise from EcoPark - Road sweep on access ramp at high level. HGVs at plant area/carpark below measurement position.
23.06.13	12:26	12:41	Windspeed constant ~4 m/s with strong gusts of wind.	59	63	73	61	Canal boat engine on, idling at mooring location for entire measurement. A406 screened road traffic noise - 50mph. HGV in EcoPark carpark below. No audible plant from EcoPark this time.
23.06.13	12:38	12:53	Windspeed constant ~4 m/s with strong gusts of wind.	60	63	70	62	Repeat of last measurement. Similar conditions. Aircraft passby. Cyclist bells on canal towpath below. Distant siren on A406.
23.06.13	14:01	14:16	-	60	63	66	62	Plant noise from Eco Park - not visible and very low level (possibly behind). Road traffic as before.
24.06.13	01:50	01:55	Windspeed 2-3m/s, not constant.	52	55	59	54	Distant road traffic & constant plant noise from Eco Park determine background noise level. Occasional HGVs on road bridge down the canal (250m away)
24.06.13	03:26	03:31	-	50	56	60	53	Distant road traffic & constant plant noise from Eco Park determine background noise level. Additional whistling sound occasionally from the south - possibly from plant items.
24.06.13	03:32	03:37	-	52	56	61	54	Constant plant noise from Eco Park determines background noise level. Birds starting to sing. Plant noise and road traffic as previous.

Vol 2 Appendix 7.2 Table 12 Further attended measurement results at location 5

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.06.13	11:45	12:00	Wind: ~6m/s	56	61	72	59	Road traffic from North Circular dominates background. Plant from EcoPark audible, affecting background. Some birdsong audible. 11:56 cyclist passes quietly. 11:59 cyclist passes quietly. 11:59 DIY rotary tool noise from nearby narrow boat.
27.06.13	12:54	13:09	Wind: ~6m/s	56	59	65	58	Road traffic from North Circular dominates background. Plant and intermittent engine noise from EcoPark audible, affecting background. Engine running on narrow boat, but quietly. Some birdsong audible. 12:58 cyclist passby talking. 13:08 cyclist passes quietly.
27.06.13	14:04	14:19	Wind: ~6m/s	55	58	68	56	Road traffic from North Circular dominates background. Plant from EcoPark audible, affecting background. Some birdsong audible. 14:07 cyclist passes, almost silently. 14:13 impulsive event from narrow boat. 14:19 four cyclists pass quietly.

Vol 2 Appendix 7.2 Table 13 Attended measurement results at location 6

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
01.03.13	00:50	00:55	0.1m/s	NNE	50.7	63.9	70.7	59.6	Road traffic from Conduit Lane dominates noise environment. Some background noise just audible from North Circular. Lorries occasionally passing on Kenninghall Road.
01.03.13	02:01	02:06	0.1m/s	NE	48.5	62.7	71.6	59.1	Road traffic from Conduit Lane dominates noise environment. Some Lorries occasionally passing on Kenninghall Road to park-up for the night. Occasional HGV doors closing up for the night. Occasional car horns causing the max level.
01.03.13	03:09	03:14	0.1m/s	NE	49.3	67.4	75.0	62.5	Bird song form trees overlooking location. Conduit Lane has lighter traffic flows now, but still dominated by HGV. Fewer cars, Traffic light at cross roads of Conduit Lane and Montague Road (B137) are not changing at the same frequency as before, due to traffic on Montague Road (B137) is very light, so no traffic is being stopped on Conduit Lane.
01.03.13	12:55	13:10	0.5m/s	N	59.3	68.1	85.8	65.2	Noise from Conduit Lane. Very heavy traffic and stop start at traffic lights south.
01.03.13	14:14	14:39	0.5m/s	NNE	63.0	71.4	79.7	68.2	Fridge lorry with chillier running at 20m from meter location. HGV's moving around location .Very heavy traffic and stop start at traffic lights south.
01.03.13	15:30	15:45	2.1m/s	NE	59.2	67.2	86.8	65.3	HGV's moving around location and parking up for the night. Noise from Conduit Lane. Very heavy traffic and stop start at traffic lights south.
01.03.13	20:19	20:29	0.1m/s	N	57.1	63.6	72.2	61.2	Traffic on Conduit Lane and the junction of Montague Road (B137), is constant. Cars and HGVs slowing at traffic lights and then accelerating away from junction. Mixed traffic LGV and cars.

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
01.03.13	21:17	21:27	0.1m/s	NNE	57.5	64.2	84.8	61.8	Location is totally dominated by traffic on Conduit Lane and the junction of Montague Road (B137), Traffic level has slightly eased from last measurement.
27.06.13	20:21	20:31	0.9m/s	S	55.3	64.2	71.6	61.0	Heavy traffic on Conduit Lane and junction of Montague Road (B137), approx. 225 car pass buy at 10min per cars and HGVs slowing at traffic lights and then accelerating away from junction. Mixed traffic LGV and cars.
27.06.13	22:15	22:25	0.1m/s	S	51.1	64.1	75.9	60.7	Location dominated by traffic starting and stopping at lights at Conduit Lane and the junction of Montague Road (B137). More HGV using Conduit Lane during this measurement.
27.06.13	01:10	01:15	0.2m/s	S	48.6	64.1	79.9	60.1	Road still dominates background, more HGV running on Conduit Lane, when break in traffic, large transformer next to Conduit Lane can be heard humming.
27.06.13	02:41	02:46	0.3m/s	S	44.5	59.1	66.7	55.4	Conduit Lane not too busy, but still dominated by HGV. Fewer cars, Traffic light at cross road, not changing as frequent as before, due to traffic on Montague Road (B137) is very light.

Vol 2 Appendix 7.2 Table 14 Further attended measurement results at location 6

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
23.06.13	14:39	14:54	-	59	63	70	61	Road traffic on Conduit Lane. Car Horns, accelerating traffic from traffic lights. Quiet while cars are stopped at lights. Vehicle movements from inside Edmonton Auto and movement/stacking of metal - very brief impact events. Tree knocking against metal fence in wind.
23.06.13	15:31	15:46	Occasional gusts of strong wind (>5m/s) - slightly affecting measurement below 100Hz.	58	63	71	61	Horns from junction nearby. Similar road traffic to previous measurement. Helicopter overhead for 30 seconds - low frequency engine sound and propeller noise.
23.06.13	16:16	16:31	Wind <5m/s with occasional strong gusts - did not noticeably affect the measurement.	58	63	67	61	Loud engine idling & accelerating at traffic lights. Constant distant road traffic (not visible but from direction of North Circular/Angel Road - A406). HGVs at traffic lights accelerating & engine idling. 2 no. distant aircraft.
24.06.13	02:05	02:20	-	46	57	65	54	Distant HGVs, occasionally crossing junction with Kenninghall Rd, accelerating from lights. Periods of no traffic nearby, only very distant sounding road traffic. Vehicles on Conduit Lane/Montague Rd are mainly HGVs with a few small vehicles.
24.06.13	03:44	03:59	-	49	64	72	60	Loud acceleration from car at traffic lights. HGVs at lights. Road traffic becoming more noticeable (distant roads and some closer roads)

Vol 2 Appendix 7.2 Table 15 Further attended measurement results at location 6

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.06.13	12:10	12:25	Wind: ~1m/s	59	68	80	65	Road traffic from Conduit Lane dominates noise environment. Some background noise audible from North Circular. Lorries occasionally passing on Kenninghall Road. 12:12 car horns. 12:29 car/truck horns.
27.06.13	13:18	13:33	Wind: ~1m/s	59	68	75	65	Road traffic from Conduit Lane dominates noise environment. Some background noise audible from North Circular. Lorries occasionally passing on Kenninghall Road. Frequent impulsive 'clangs' from recycling yard. 13:30 car horn causing the max event.
27.06.13	14:42	14:57	Wind: ~1m/s	59	68	76	65	Road traffic from Conduit Lane dominates noise environment. Some background noise audible from North Circular. Lorries occasionally passing on Kenninghall Road. Occasional impulsive 'clangs' from recycling yard. Occasional car horns causing the max level.

Vol 2 Appendix 7.2 Table 16 Attended measurement results at location 7

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
01.03.13	01:02	01:07	0.1m/s	N	43.4	54.5	60.6	50.7	Trains are on overhead power lines, train passbys are relatively quiet due to road noise from Meridian way (A1055). No car passbys during measurement.
01.03.13	02:11	02:16	0.0m/s	N/A	41.6	51.4	58.8	47.8	Background is dominated by general road traffic, particularly from Meridian way (A1055 and probably Montagu Road (B137). No car passbys during measurement
01.03.13	03:20	03:25	0.1m/s	N	43.6	56.0	61.7	51.7	Car passbys during measurement @3:30 mins Traffic on Meridian way (A1055) can be heard and dominates background levels
01.03.13	13:19	13:34	1m/s	N	53.2	60.3	85.2	62.2	Road noise from Meridian way (A1055) and construction breaker from North. Train pass @3:50 mins, @5:02mins, @8:32mins, @10:32 mins
01.03.13	14:36	14:51	4.4m/s	N	53.8	61.2	85.9	62.2	Car passbys during measurement @12:30 mins. Train @3:30 mins, @3:5 mins, @ 6:06 mins, @8:36 mins, @8:56 mins and @14:15mins
01.03.13	15:56	16:11	2.4m/s	NE	53.2	60.1	86.3	62.5	Train slow & quiet @13:33 mins, @14:54 mins. construction breaker noise. No car passbys during measurement.
01.03.13	20:39	20:49	0.1m/s	NE	49.5	60.0	85.5	63.6	Trains @30 secs, @2:19 mins, @3:48 mins, @4:48 mins, @6:48 mins quiet engine running for 3:45 mins, now is switched off.
01.03.13	21:36	21:46	0.1m/s	N	50.4	59.4	87.1	64.1	Train @3:09 mins, @3:45 mins, @6:35 mins, 8:10 mins, @8:48 mins. Plant noise from industrial park and earth land fill to the east of location.
27.06.13	20:02	20:12	1.1m/s	S	46.9	53.8	71.5	51.9	Traffic on Meridian way (A1055) can be heard and dominates background levels, no other roads can be heard to the north of location. Slow train @ 06:53mins and @08:35mins, helicopter at @9:45mins

Date	Time		Wind		Noise Level, dB (A)				Comments
	Start	Finish	Speed (ms ⁻¹)	Direction	L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.06.13	21:59	22:09	0.1m/s	S	43.5	53.4	67.9	49.9	Dead end road. No house noise, background dominated by Meridian way (A1055), plane over fly @5:30mins No car passbys during measurement
27.06.13	00:59	01:04	0.7m/s	S	39.2	49.0	55.0	45.2	Road noise coming from N/E of location dominated by quite new build flats and town houses, Approx. construction date 2000. No car passbys during measurement.
27.06.13	02:30	02:35	0.2m/s	S	35.9	49.6	74.1	48.3	Traffic levels on Meridian way (A1055) to the N/E of location are now lighter, no trains running during measurement, bird song from trees. No car passbys during measurement

Vol 2 Appendix 7.2 Table 17 Further attended measurement results at location 7

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
23.06.13	14:56	15:06	-	50	54	70	53	Children shouting - playing on bikes ~20m down the road. Distant road traffic (Meridian Way, and more distant A406). 3 no. aircraft in 10 min measurement. 2 no. car movements on Zambezie Dr. Pedestrians and residents outside talking 15m away. Distant music from a house. Hoarding up all along road - possible screening that wasn't present in the last survey.
23.06.13	15:48	16:02	-	51	56	72	56	Infrequent road traffic on Zambezie Dr (2no. Cars total). Low flying light aircraft caused L _{max} . Residents opening/closing doors, taking bins out - not loud. Distant aircraft. Road traffic on Montagu Rd dominant. 3 minutes of minimal road traffic. Distant ice cream van.
23.06.13	15:59	16:14	-	51	57	92	66	5 no. cars on Zambezie Dr, 2 parking 10m away with quiet door open/close, car engine idling for 1 min. Car door slam 5m away. Ice cream van music on this road caused L _{max} . Also engine idling 3m away for last 10 seconds of measurement.
24.06.13	02:16	02:21	-	40	45	50	43	Humming sound from other side of hoarding - quiet but constant. Occasional road traffic on Montagu Rd. Distant road traffic - not a consistent flow. 4 no. car door slams from around the corner - distant. 2 no. metal sliding/banging sounds - distant, not sure of the location of the source.
24.06.13	03:54	03:59	-	43	47	55	46	Humming sound from other side of hoarding. Less road traffic - 1 minute with no obvious traffic noise. Empty passenger train passby at end of Zambezie Dr.

Vol 2 Appendix 7.2 Table 18 Further attended measurement results at location 7

Date	Time		Wind Speed	Noise Level, dB (A)				Comments
	Start	End		L ₉₀	L ₁₀	L _{max}	L _{eq}	
27.06.13	12:31	12:46	Wind: ~5m/s	48	57	78	56	Background is dominated by general road traffic, particularly from Montague Road and probably Meridian Way, although this was not visible. Some continuous construction noise audible. 12:34 pedestrian passes. 12:36 nearby residents holding elevated conversation. 12:40 train. 12:41 light van passes and parks up. Reversing beeper causes max event. 12:42 train. 12:44 train (slow & quiet). 12:45 train.
27.06.13	13:38	13:53	Wind: ~5m/s	47	53	73	52	Background is dominated by general road traffic, particularly from Montague Road and probably Meridian Way, although this was not visible. Some continuous construction noise audible. 13:40 train. 13:41 resident moving refuse bin nearby. 13:42 train. 13:44 pedestrian passes. 13:45 train. 13:51 train.
27.06.13	15:02	15:17	Wind: ~5m/s	48	56	70	53	Background is dominated by general road traffic, particularly from Montague Road and probably Meridian Way, although this was not visible. Some continuous construction noise audible. 15:04 car door shutting. 15:06 car passes. 15:07 a quiet engine that had been running is switched off. 15:07 some DIY impulsive events from nearby. 15:09 train. 15:10 train (quiet). 15:13 pedestrian pass, children whistling. 15:14 fairly loud aeroplane passing overhead. 15:16 car passes.