

Appendix 7.2: Noise Monitoring Results

1.1.1 Attended daytime noise monitoring was carried out during the following periods:

- Between 11.00 and 17.00 hours on the 6th September 2012;
- Between 07.15 and 13.45 hours on the 7th September 2012.

1.1.2 Attended night-time noise monitoring was carried out during the following period:

- Between 02.00 and 05.30 hours on the 12th September 2012.

1.1.3 Road traffic is the dominant source of noise in the western part of the development site i.e immediately adjacent to the A361. To quantify this, traffic noise measurements were carried out, in accordance with the shortened measurement procedure in CRTN, at monitoring location 1. This requires that traffic noise is measured over 3 consecutive hours between 1000 and 1700 hours. Measurements were taken over 1 hour periods, over 3 consecutive hours. The L_{10} (18 hour) is then calculated from the L_{10} (3 hour) by subtracting 1dB(A). The L_{A10} is then converted to a L_{Aeq} by subtracting 2 dB (A).

1.1.4 During the daytime noise survey, roving attended measurements were also taken at monitoring locations 2 to 5. Measurements were taken over 20-minute periods during the daytime survey.

1.1.5 During the night-time noise survey, roving attended measurements were taken at monitoring locations 1 to 5. Measurements were taken over 10-minute periods during the night-time survey.

1.1.6 All noise measurements were made using precision grade, integrating sound level meters mounted vertically on tripods 1.5 metres above the ground and more than 3.5 metres away from any other reflecting surface. At monitoring location 1 the tripod was positioned 10m from the edge of the road. All measurements were made under dry, calm weather conditions. The sound level meter was calibrated to a reference level of 94dB at 1kHz both before, and on completion of, the noise surveys. No drift in calibration was noted.

1.1.7 'A' weighted¹ L_{eq} ², L_{10} ³ and L_{90} ⁴ values were recorded to comply with the requirements of WHO 1999 and CRTN. The maximum and minimum sound pressure levels were also recorded to provide additional information.

1.1.8 The daytime and night-time noise measurements have been arithmetically averaged to give a single daytime and night-time level for each location. In accordance with the shortened measurement procedures specified in CRTN, the measured daytime noise level at monitoring location 1 i.e. in the immediate vicinity of the A361, has been adjusted to predict the daytime level of road traffic noise at this location.

Average Daytime and Night-time Noise Monitoring Results (Figures in dB L_{Aeq})		
Monitoring Location	Time	Average Measured Noise Levels
1	0700-2300	59.0
	2300-0700	51.6
2	0700-2300	48.0
	2300-0700	33.3
3	0700-2300	47.7
	2300-0700	32.8
4	0700-2300	45.1
	2300-0700	33.5
5	0700-2300	48.0
	2300 - 0700	37.3

* Daytime noise levels calculated in accordance with the shortened measurement procedure in CRTN 1988.

¹ 'A' Weighting: An electronic filter in a sound level meter which mimics the human ear's response to sounds at different frequencies under defined conditions

² L_{eq} : Equivalent continuous noise level; the steady sound pressure which contains an equivalent quantity of sound energy as the time-varying sound pressure levels.

³ L_{10} : The noise level which is exceeded for 10% of the measurement period.

⁴ L_{90} : The noise level which is exceeded for 90% of the measurement period.

Noise Measurements.

Time	L _{Aeq} (dB(A))	L _{AMIN} (dB(A))	L _{AMAX} (dB(A))	L _{A90} (dB(A))	L _{A10} (dB(A))	Comments
Monitoring Location 1						
Daytime Period – 07.09.12						
09.36 – 10.36	62.8	38.9	93.5	49.0	62.0	Tripod 10m from edge of road Road traffic noise from near constant vehicle movements on A361 and regular overhead aircraft flights. Wind speed 0.1 m/s.
10.37 – 11.37	58.7	40.1	77.8	49.5	62.0	Tripod 10m from edge of road Road traffic noise from near constant vehicle movements on A361 and regular overhead aircraft flights. Wind speed 0.1 m/s.
11.38 – 12.38	58.9	39.0	84.7	49.0	62.0	Tripod 10m from edge of road Road traffic noise from near constant vehicle movements on A361 and regular overhead aircraft flights. Wind speed 0.1 m/s.
Night-time Period -12.09.12						
03.29 – 03.39	46.1	24.6	66.6	26.0	41.0	Car – 03.32 hr Car – 03.36 hr Wind speed 0.1 m/s.
05.35 – 05.45	56.8	29.9	68.8	39.0	62.0	Lorry – 05.39 hr Wind speed 0.1 m/s.
Monitoring Location 2						
Daytime Period– 06.09.12						
12.00 - 12.20	46.6	37.5	60.3	40.5	50.0	Distant traffic and regular aircraft overflights. Wind speed 0.1 m/s.
15.00 – 15.20	48.9	40.8	65.2	44.0	51.0	Distant traffic and regular aircraft overflights. Wind speed 1.8 m/s.
Daytime Period– 07.09.12						
07.21 – 07.41	48.6	39.9	61.9	44.0	51.0	Distant traffic and regular aircraft overflights. Wind speed 0.1 m/s.
Night-time Period– 12.09.12						
02.08 - 02.18	34.6	25.1	67.0	27.0	34.0	Wind speed 0.1 m/s.

Time	L _{Aeq} (dB(A))	L _{AMIN} (dB(A))	L _{AMAX} (dB(A))	L _{A90} (dB(A))	L _{A10} (dB(A))	Comments
03.54 – 04.14	32.0	25.1	49.1	27.0	34.5	Car alarm stopped 03.58 hr – started again at 04.01 hr. Wind speed 0.1 m/s.
Monitoring Location 3						
Daytime -06.09.12						
11.25 – 11.45	45.6	38.4	63.9	41.5	48.0	Wind speed 0.8 m/s.
15.00 – 15.20	48.9	40.8	65.2	44.0	51.0	Wind speed 1.8 m/s.
Daytime -07.09.12						
07.21 - 07.41	48.6	39.9	61.9	44.0	51.0	Wind speed 0.2 m/s.
Night-time Period– 12.09.12						
02.31 - 02.41	33.1	23.4	60.6	24.5	31.5	Wind speed 0.1m/s.
04.16 - 04.26	32.4	23.2	53.2	24.5	34.5	Wind speed 0.1m/s.
Monitoring Location 4						
Daytime -06.09.12						
12.29 - 12.49	48.0	36.6	64.5	40.5	50.5	Wind speed 0.1 m/s.
15.57 – 16.17	46.7	32.0	75.3	35.0	44.5	Wind speed 1.8 m/s.
Daytime -07.09.12						
08.25 – 08.45	40.6	36.6	56.9	38.5	42.5	Wind speed 0.2 m/s.
Night-time Period– 12.09.12						
02.47 – 02.57	31.8	25.0	47.3	27.0	35.0	Aircraft overflight at 02.53 hr. Wind speed 0.1m/s.
04.33 – 04.43	35.1	24.1	66.1	27.0	34.0	Wind speed 0.1m/s.
Monitoring Location 5						
Daytime -06.09.12						
16.35 - 16.55	46.3	37.5	60.7	43.0	48.5	Wind speed 1.8 m/s.
Daytime -07.09.12						
09.01 – 09.21	48.9	37.6	64.1	43.0	49.5	Wind speed 0.2 m/s.
12.47 – 13.07	48.7	39.2	82.6	43.0	48.5	Wind speed 0.2 m/s.

Time	L_{Aeq} (dB(A))	L_{AMIN} (dB(A))	L_{AMAX} (dB(A))	L_{A90} (dB(A))	L_{A10} (dB(A))	Comments
Night-time Period– 12.09.12						
03.12 - 03.22	34.9	25.4	49.5	27.5	33.0	Wind speed 0.1m/s.
04.58 – 05.08	39.6	24.6	61.5	27.0	44.0	Lorry pass. Wind speed 0.1m/s.