

A15.2: Baseline Noise Monitoring Results

1 Introduction

- 1.1.1 This appendix details the results of the baseline noise monitoring undertaken for the proposed scheme.
- 1.1.2 Measurements were undertaken at seven locations to inform validation/verification of modelled noise results, using a class 1 sound level meter (Rion NL52 or Cirrus 811B). Monitoring was generally undertaken on one day per location, though the survey duration was extended at two of the seven locations to provide longer term data to inform the model verification process.
- 1.1.3 The instrument was set up in a free field location at a height of approximately 1.5m above ground level at each location. The instrument was calibrated at the start of each survey and checked at the end. There was no significant change in calibration at any monitoring location.

2 Monitoring Results

Holm Cottage

- 2.1.1 During the survey, noise sources noted included, road traffic, aircraft, tractor and an ambulance siren. Weather conditions were dry, cloudy with a light wind. Weather conditions were dry, cloudy with a light wind.

Table 1: Noise Monitoring Results – Holm Cottage (Tuesday 04 June 2013)

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
14:03 – 15:03	65.6	84.4	72.2	69.2	52.6
15:03 – 16:03	65.7	77.0	72.2	69.2	53.6
16:03 – 16:50	66.2	82.0	72.4	69.4	53.5
Averaged Levels	66	81	72	69	53

Ordie View

- 2.1.2 During the survey, noise sources noted included, road traffic noise, grass cutting, train and distant aircraft. It can be seen from Table 2 that the first hour of noise monitoring was unduly affected by grass cutting activities. Weather conditions were dry and calm with some cloud cover.

Table 2: Noise Monitoring Results – Ordie View (Tuesday 04 June 2013)

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
11.03 – 12:03	62.2	84.9	74.3	62.0	51.4
12:03 – 13:03	55.9	75.0	61.7	58.5	50.4
13:03 – 13:50	56.8	70.6	62.5	59.7	49.2
Averaged Levels	59	77	66	60	50
12:03 – 14:03	56	73	62	59	50

Gellywood

- 2.1.3 During the survey, noise sources noted included, road traffic noise, aircraft and birdsong. Weather conditions were dry, overcast with a light wind.

A9 Dualling: Luncarty to Pass of Birnam
 DMRB Stage 3 Environmental Statement
Appendix A15.2: Baseline Noise Monitoring Results

Table 3: Noise Monitoring Results – Gellywood (Monday 10 June 2013)

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
14:15 – 15:15	52.3	72.5	62.4	53.5	45.4
15:15 – 16:15	50.4	59.0	55.1	52.9	44.3
16:15 – 16:45	49.5	63.0	54.1	52.0	45.4
Averaged Levels	51	65	57	53	45

Hilton Cottage

2.1.4 During the survey, noise sources noted included, road traffic noise, leaf blower, tractor and a JCB. Weather conditions were dry, overcast with a light wind.

Table 4: Noise Monitoring Results – Hilton Cottage (Monday 10 June 2013)

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
10:48 – 11:48	66.1	77.9	73.8	69.3	54.2
11:48 – 12:48	65.8	78.0	73.3	69.2	53.6
12:48 – 13:48	66.1	77.9	73.5	69.2	55.0
Averaged Levels	66	78	74	69	54

Broompark Cottage

2.1.5 During the survey, noise sources noted included, distant road traffic, goats, pigs, aircraft and a cockerel crowing. Weather conditions were overcast and windy, dry at the start of the survey. It started to rain midway through survey, with increased wind and rain towards the end of the survey. However, this does not appear to have affected the measured noise levels.

Table 5: Noise Monitoring Results – Broompark Cottage (Tuesday 11 June 2013)

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
12:25 – 13:25	52.3	62.7	57.6	55.3	46.7
13:25 – 14:25	53.1	63.3	58.1	55.9	47.4
14:25 – 14:45	50.8	55.1	54.4	52.7	47.4
Averaged Levels	52	60	57	55	47

Loakmill

2.1.6 During set up of the survey, road traffic noise was noted. Weather conditions were calm, dry and overcast.

Table 6: Noise Monitoring Results – Loakmill (Monday 03 to Thursday 06 June 2013)

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
Monday 03 June 2013					
15:15 – 16:00	51.9	67.7	58.5	54.0	46.5
16:00 – 17:00	53.1	72.0	60.5	54.5	47.0
17:00 – 18:00	52.2	59.2	57.0	55.0	46.0
18:00 – 19:00	51.8	76.4	56.5	54.0	44.0
19:00 – 20:00	51.9	65.7	59.5	55.0	44.0
20:00 – 21:00	53.9	64.9	61.5	58.0	44.0
21:00 – 22:00	50.4	67.1	57.5	54.0	41.5

A9 Dualling: Luncarty to Pass of Birnam
DMRB Stage 3 Environmental Statement
Appendix A15.2: Baseline Noise Monitoring Results

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
22:00 – 23:00	47.5	59.6	55.5	52.0	35.5
23:00 – 00:00	44.3	60.9	54.0	49.0	32.0
Tuesday 04 June 2013					
00:00 – 01:00	42.7	59.0	53.0	47.5	32.0
01:00 – 02:00	43.4	59.7	53.5	48.0	32.5
02:00 – 03:00	45.1	71.3	53.5	48.5	32.5
03:00 – 04:00	46.0	63.3	54.5	50.5	34.0
04:00 – 05:00	50.2	68.4	56.5	53.0	43.0
05:00 – 06:00	50.2	74.3	56.5	52.5	41.5
06:00 – 07:00	52.0	72.7	58.5	55.0	44.0
07:00 – 08:00	52.9	65.2	59.0	56.0	46.0
08:00 – 09:00	53.6	67.2	59.5	56.0	48.0
09:00 – 10:00	53.6	62.3	59.0	56.5	46.5
10:00 – 11:00	53.5	71.8	60.0	56.0	46.5
11:00 – 12:00	54.5	72.5	60.5	57.0	46.5
12:00 – 13:00	53.9	62.4	59.5	57.0	46.0
13:00 – 14:00	61.7	91.8	62.0	59.0	47.0
14:00 – 15:00	56.6	69.5	62.5	59.5	49.0
15:00 – 16:00	57.7	72.2	63.5	60.5	51.5
16:00 – 17:00	56.5	64.9	62.0	59.5	50.0
17:00 – 18:00	57.9	72.4	64.0	61.0	50.5
18:00 – 19:00	57.7	65.2	63.0	61.0	51.0
19:00 – 20:00	56.3	64.7	63.0	60.0	46.0
20:00 – 21:00	54.8	67.1	62.5	58.5	44.0
21:00 – 22:00	53.7	75.9	62.0	57.5	41.5
22:00 – 23:00	52.8	73.4	62.5	55.5	39.0
23:00 – 00:00	47.7	63.3	57.5	52.5	34.5
Wednesday 05 June 2013					
00:00 – 01:00	44.0	65.4	54.0	48.5	32.5
01:00 – 02:00	43.6	63.3	54.0	48.5	32.0
02:00 – 03:00	49.4	79.1	56.0	49.5	32.5
03:00 – 04:00	48.4	65.6	61.0	51.5	32.5
04:00 – 05:00	51.2	68.5	58.5	54.5	43.5
05:00 – 06:00	52.0	65.7	60.0	55.5	43.5
06:00 – 07:00	52.5	66.0	59.0	56.0	43.5
07:00 – 08:00	53.6	70.1	61.0	56.5	46.0
08:00 – 09:00	53.9	69.0	59.5	56.0	49.0
09:00 – 10:00	52.9	72.5	59.5	55.0	46.5
10:00 – 11:00	54.6	69.5	61.5	58.0	47.0
11:00 – 12:00	55.9	72.6	63.0	58.5	48.5
12:00 – 13:00	70.4	94.4	82.0	71.0	57.0
13:00 – 14:00	58.8	72.6	62.5	60.0	57.0
14:00 – 15:00	60.4	72.7	65.5	62.5	57.0
15:00 – 16:00	58.3	72.3	64.0	61.0	52.0
16:00 – 17:00	59.0	69.0	65.5	62.5	52.5
17:00 – 18:00	58.3	66.3	64.0	61.0	51.5
18:00 – 19:00	58.2	72.7	64.5	61.0	50.0
19:00 – 20:00	57.5	75.1	63.5	61.0	48.5
20:00 – 21:00	54.9	64.7	62.0	59.0	44.0
21:00 – 22:00	53.0	65.2	60.5	57.0	42.5
22:00 – 23:00	50.4	74.4	57.5	54.0	36.5
23:00 – 00:00	45.9	57.3	54.5	50.5	33.0
Thursday 06 June 2013					

A9 Dualling: Luncarty to Pass of Birnam
DMRB Stage 3 Environmental Statement
Appendix A15.2: Baseline Noise Monitoring Results

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
00:00 – 01:00	46.7	66.3	57.0	51.0	32.0
01:00 – 02:00	44.4	59.5	54.0	49.0	32.0
02:00 – 03:00	44.4	58.5	54.0	49.5	31.5
03:00 – 04:00	45.5	64.5	54.5	50.0	32.5
04:00 – 05:00	55.2	78.7	68.0	53.0	42.0
05:00 – 06:00	51.9	74.1	63.0	54.5	41.0
06:00 – 07:00	51.2	66.8	58.0	54.5	43.0
07:00 – 08:00	51.6	64.1	57.0	55.0	44.0
08:00 – 09:00	53.7	67.6	59.0	56.0	47.5
09:00 – 10:00	53.4	72.8	61.0	55.0	46.5
10:00 – 11:00	54.2	72.1	66.0	54.5	46.5
11:00 – 12:00	51.9	69.9	57.0	54.0	46.0
12:00 – 13:00	54.1	71.9	59.0	57.0	47.0
13:00 – 14:00	58.5	72.1	63.0	60.5	56.5
14:00 – 14:44	57.9	71.3	63.0	58.5	56.0

57 Innewan Gardens

2.1.7 During set up of the survey, road traffic noise was noted. Weather conditions were calm, dry with a hazy sun.

Table 7: Noise Monitoring Results – 57 Innewan Gardens (Monday 03 June to Friday 07 June 2013)

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
Monday 33 June 2013					
15:35 – 16:00	54.5	77.0	61.7	57.7	45.5
16:00 – 17:00	55.1	74.8	62.9	58.4	44.9
17:00 – 18:00	54.5	66.9	62.4	57.8	43.0
18:00 – 19:00	53.4	70.6	62.0	56.9	41.0
19:00 – 20:00	52.8	66.9	61.2	56.8	40.0
20:00 – 21:00	53.8	70.3	62.8	58.0	39.8
21:00 – 22:00	51.4	67.5	61.3	55.8	37.0
22:00 – 23:00	49.5	68.3	60.4	54.0	32.0
23:00 – 00:00	46.5	65.5	58.6	50.4	27.9
Tuesday 04 June 2013					
00:00 – 01:00	46.3	64.5	59.7	48.0	26.1
01:00 – 02:00	46.5	63.8	59.5	48.9	26.6
02:00 – 03:00	47.1	63.9	60.3	49.3	27.8
03:00 – 04:00	50.4	67.3	61.9	54.7	32.0
04:00 – 05:00	49.8	67.0	61.2	54.1	30.2
05:00 – 06:00	52.5	74.0	63.1	56.3	31.8
06:00 – 07:00	53.9	73.5	63.6	58.2	37.8
07:00 – 08:00	55.1	71.0	63.6	59.2	41.2
08:00 – 09:00	55.5	72.0	63.5	58.9	44.3
09:00 – 10:00	54.6	82.4	62.6	58.2	41.3
10:00 – 11:00	55.0	68.2	63.1	58.6	42.2
11:00 – 12:00	55.3	67.8	63.5	59.0	42.2
12:00 – 13:00	54.3	71.4	62.3	57.8	40.7
13:00 – 14:00	56.3	82.8	63.1	58.2	41.7
14:00 – 15:00	54.9	71.8	62.8	58.3	42.3
15:00 – 16:00	55.3	71.5	63.5	58.4	44.2
16:00 – 17:00	55.1	74.6	62.6	58.2	43.8

A9 Dualling: Luncarty to Pass of Birnam
DMRB Stage 3 Environmental Statement
Appendix A15.2: Baseline Noise Monitoring Results

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
17:00 – 18:00	55.6	70.5	63.4	58.8	45.5
18:00 – 19:00	54.9	70.5	62.9	58.3	42.8
19:00 – 20:00	53.7	71.0	62.8	58.1	37.4
20:00 – 21:00	52.1	73.4	62.3	56.4	33.6
21:00 – 22:00	50.8	72.9	61.2	55.4	33.7
22:00 – 23:00	49.9	66.7	60.7	54.5	31.6
23:00 – 00:00	47.9	66.3	60.7	51.6	26.4
Wednesday 05 June 2013					
00:00 – 01:00	47.2	66.0	60.2	50.4	25.8
01:00 – 02:00	46.3	66.3	59.9	47.5	25.6
02:00 – 03:00	47.6	66.9	60.9	50.6	25.6
03:00 – 04:00	50.0	70.5	62.0	53.9	28.7
04:00 – 05:00	52.9	71.4	63.9	56.6	30.7
05:00 – 06:00	52.0	69.7	63.0	56.6	32.9
06:00 – 07:00	53.6	73.9	63.2	58.3	36.6
07:00 – 08:00	54.6	67.2	62.9	58.4	41.1
08:00 – 09:00	55.4	74.5	62.7	58.6	45.8
09:00 – 10:00	54.9	73.3	63.0	58.5	42.4
10:00 – 11:00	54.9	67.8	62.7	58.3	43.5
11:00 – 12:00	54.9	72.6	63.2	58.3	43.1
12:00 – 13:00	55.0	69.6	63.2	58.4	42.2
13:00 – 14:00	55.1	72.0	63.2	58.7	42.7
14:00 – 15:00	55.6	71.8	63.8	59.0	43.7
15:00 – 16:00	55.6	69.5	63.2	58.8	45.0
16:00 – 17:00	55.5	69.2	62.6	58.8	45.4
17:00 – 18:00	55.5	76.8	63.0	58.7	44.1
18:00 – 19:00	54.6	68.3	62.5	58.1	43.9
19:00 – 20:00	54.5	73.8	63.6	58.2	40.2
20:00 – 21:00	52.3	67.1	61.7	56.7	34.0
21:00 – 22:00	50.5	67.6	61.1	55.2	31.1
22:00 – 23:00	49.0	67.8	60.0	53.6	29.5
23:00 – 00:00	48.1	67.5	60.0	52.6	26.7
Thursday 06 June 2013					
00:00 – 01:00	47.3	64.5	60.2	50.9	25.4
01:00 – 02:00	47.5	68.0	60.4	50.6	25.5
02:00 – 03:00	49.1	74.8	61.0	51.4	25.4
03:00 – 04:00	47.7	73.6	60.5	50.2	28.6
04:00 – 05:00	49.8	66.3	61.4	54.0	28.5
05:00 – 06:00	52.0	69.5	63.1	56.5	31.5
06:00 – 07:00	53.2	68.4	63.2	57.8	35.3
07:00 – 08:00	55.2	76.5	63.2	58.8	39.8
08:00 – 09:00	55.0	70.5	63.0	58.5	42.8
09:00 – 10:00	55.2	70.5	63.2	58.8	42.6
10:00 – 11:00	54.4	69.9	62.7	57.9	41.4
11:00 – 12:00	54.1	68.0	62.2	57.6	41.3
12:00 – 13:00	59.3	96.1	61.4	57.2	42.1
13:00 – 14:00	54.1	68.5	62.5	57.4	42.0
14:00 – 15:00	54.2	73.5	61.9	57.5	43.0
15:00 – 16:00	54.9	69.7	62.8	57.9	44.6
16:00 – 17:00	55.5	69.4	63.2	58.6	45.5
17:00 – 18:00	56.4	73.1	64.1	59.3	46.8
18:00 – 19:00	56.0	76.8	64.3	59.2	45.2
19:00 – 20:00	55.2	74.8	63.1	58.8	41.8

A9 Dualling: Luncarty to Pass of Birnam
DMRB Stage 3 Environmental Statement
Appendix A15.2: Baseline Noise Monitoring Results

Period	Measured Noise Level dB				
	L _{Aeq}	L _{Amax}	L _{A1}	L _{A10}	L _{A90}
20:00 – 21:00	54.3	76.4	63.5	58.2	38.6
21:00 – 22:00	52.5	72.6	61.9	56.8	37.0
22:00 – 23:00	50.6	66.7	60.9	55.2	35.9
23:00 – 00:00	49.3	66.8	60.5	53.6	30.9
Friday 07 June 2013					
00:00 – 01:00	48.6	64.2	60.3	52.8	29.3
01:00 – 02:00	48.0	65.0	60.2	51.7	27.2
02:00 – 03:00	48.3	65.6	61.3	51.1	27.8
03:00 – 04:00	52.8	68.4	63.6	58.3	33.4
04:00 – 05:00	52.2	70.9	63.7	55.8	34.1
05:00 – 06:00	52.9	69.7	63.3	57.7	35.0
06:00 – 07:00	54.5	71.2	63.8	59.0	39.7
07:00 – 08:00	55.3	71.8	63.6	59.0	43.5
08:00 – 09:00	55.0	70.9	63.0	58.3	43.1
09:00 – 10:00	55.3	70.5	63.0	58.8	43.2
10:00 – 11:00	56.4	75.5	64.6	59.2	45.9
11:00 – 12:00	55.4	76.0	62.1	58.4	45.0
12:00 – 13:00	56.0	70.8	63.4	58.9	46.8
13:00 – 14:00	57.0	74.2	63.1	59.5	51.6
14:00 – 15:00	56.5	68.6	63.1	59.3	49.8
15:00 – 16:00	55.9	69.3	61.8	58.7	48.5
16:00 – 17:00	56.4	71.6	63.1	58.9	49.0
17:00 – 18:00	56.3	74.9	63.0	58.8	48.3
18:00 – 19:00	55.6	75.5	62.3	58.4	44.9
19:00 – 20:00	54.8	67.8	61.8	58.2	42.3
20:00 – 21:00	53.6	68.4	61.3	57.3	40.9
21:00 – 21:29	53.2	68.5	62.4	57.2	39.9