



NEW HOPE
GROUP

G.7 Noise and Vibration





NEW HOPE
GROUP

G.7.1 Daily Average Noise Monitoring Results



Appendix G.7.1

Daily Average Noise Monitoring Results

Daily average LA90 and ABL numbers are provided in Tables 1 to 3 below for noise monitoring campaigns 2, 3, and 4 respectively.

■ **Table 1 Daily average noise levels for Campaign 2**

Monitoring location	Date	Day average dB(A)		Evening average dB(A)		Night average dB(A)	
		LA90	ABL	LA90	ABL	LA90	ABL
Site D	20/11/1998	NA	NA	38	35	28	26
	21/11/1998	37	34	41	40	35	31
	22/11/1998	40	39	37	36	33	31
	23/11/1998	38	36	38	35	34	32
	24/11/1998	38	34	39	37	34	33
	25/11/1998	35	31	51	48	36	31
	26/11/1998	35	32	47	45	36	31

■ **Table 2 Daily average noise levels for Campaign 3**

Monitoring location	Date	Day average dB(A)		Evening average dB(A)		Night average dB(A)	
		LA90	ABL	LA90	ABL	LA90	ABL
Site 1	1/03/2007	33	29	34	30	34	30
	2/03/2007	30	27	35	32	29	27
	3/03/2007	30	26	33	29	27	26
	4/03/2007	31	28	31	30	27	25
	5/03/2007	32	28	33	30	29	26
	6/03/2007	39	32	43	40	33	30
	7/03/2007	39	35	28	27	25	20
Site 2	1/03/2007	37	32	42	38	34	30
	2/03/2007	32	29	41	37	41	35

Monitoring location	Date	Day average dB(A)		Evening average dB(A)		Night average dB(A)	
		L _{A90}	ABL	L _{A90}	ABL	L _{A90}	ABL
	3/03/2007	35	31	41	40	35	29
	4/03/2007	34	29	40	38	38	32
	5/03/2007	37	34	41	39	44	41
	6/03/2007	43	40	46	44	36	34
	7/03/2007	43	37	38	33	36	31
Site 3	1/03/2007	36	32	38	35	34	31
	2/03/2007	29	26	37	34	33	30
	3/03/2007	32	30	39	37	33	28
	4/03/2007	34	29	38	35	34	32
	5/03/2007	35	31	38	36	37	30
	6/03/2007	39	32	44	42	35	30
	7/03/2007	42	37	36	35	32	28
Site 4	1/03/2007	34	31	37	34	30	27
	2/03/2007	27	24	39	36	32	25
	3/03/2007	28	22	36	33	27	22
	4/03/2007	28	23	36	32	26	23
	5/03/2007	31	27	34	33	29	26
	6/03/2007	36	31	38	37	30	27
	7/03/2007	38	33	32	30	26	22
Site 5	1/03/2007	41	39	38	37	33	28
	2/03/2007	31	28	37	28	33	30
	3/03/2007	32	28	39	36	30	28
	4/03/2007	33	28	42	37	32	29
	5/03/2007	34	30	38	35	33	28
	6/03/2007	43	37	49	46	38	34
	7/03/2007	45	40	38	36	33	30

■ **Table 3 Daily average noise levels for Campaign 4**

Monitoring location	Date	Day average dB(A)		Evening average dB(A)		Night average dB(A)	
		L _{A90}	ABL	L _{A90}	ABL	L _{A90}	ABL
Site D	24/12/2012	25		33		27	
	25/12/2012	25		36		43	
	26/12/2012	37		36		31	
	27/12/2012	30		38		35	
	28/12/2012	39		35		31	
	29/12/2012	27		37		33	
	30/12/2012	33		38		30	
	31/12/2012	35		35		30	
	1/01/2013	29		NA		NA	

THIS PAGE IS INTENTIONALLY LEFT BLANK



NEW HOPE
GROUP

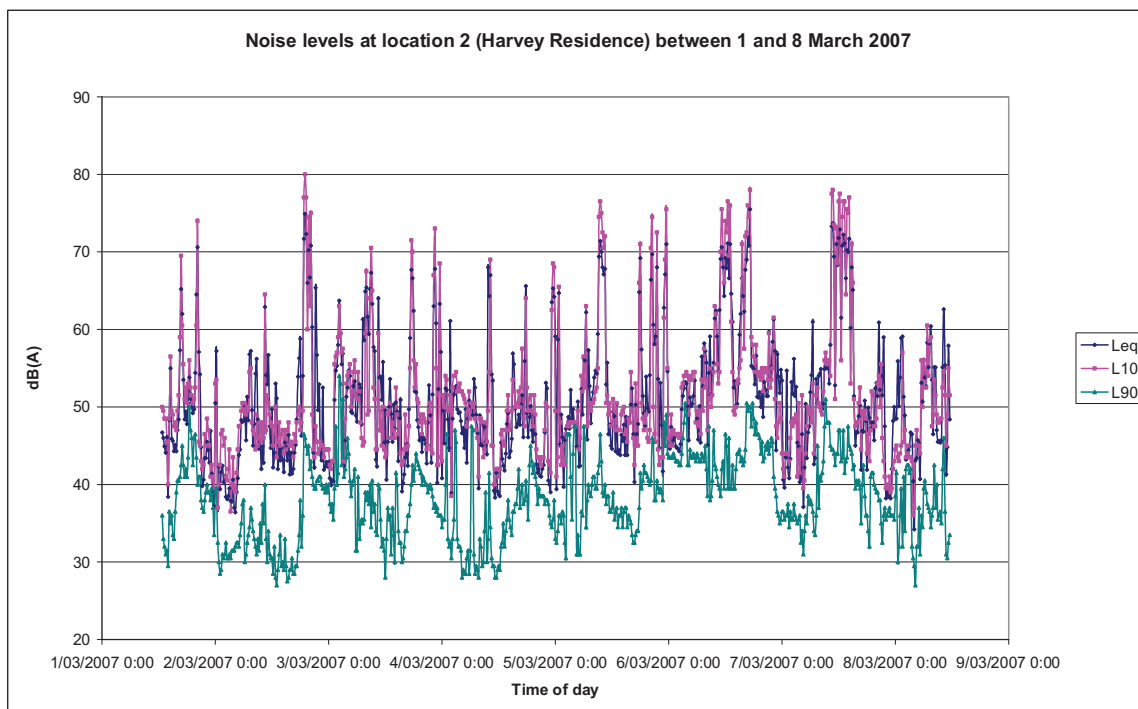
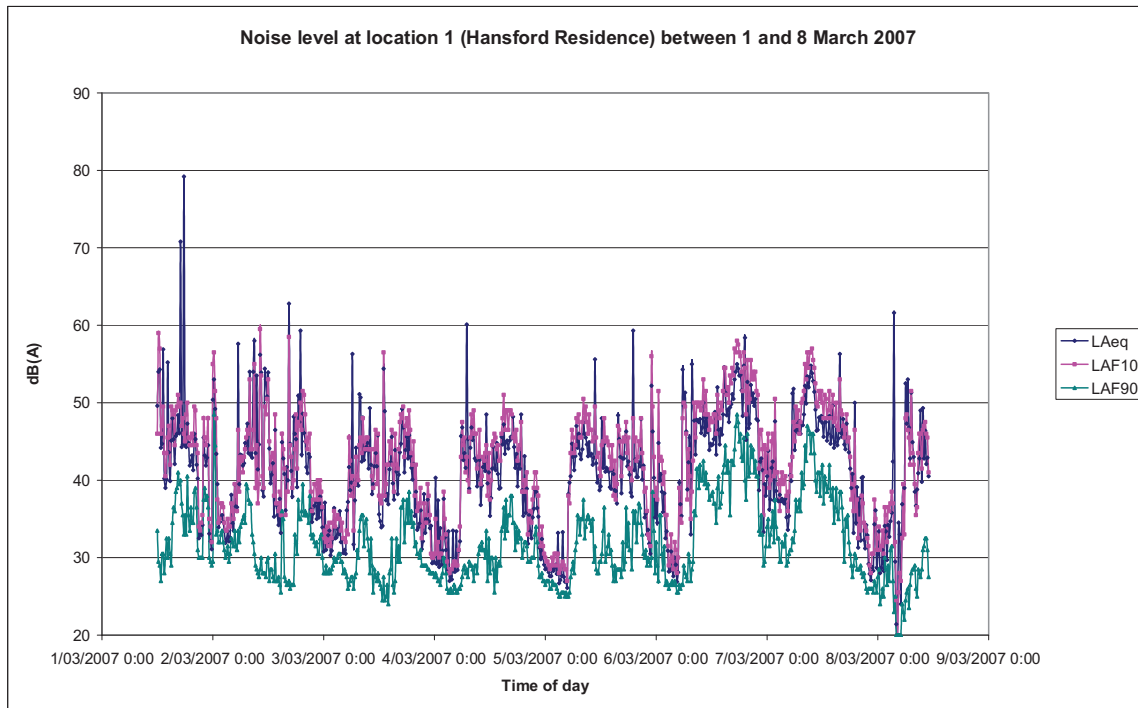
G.7.2 Continuous Noise Level Traces

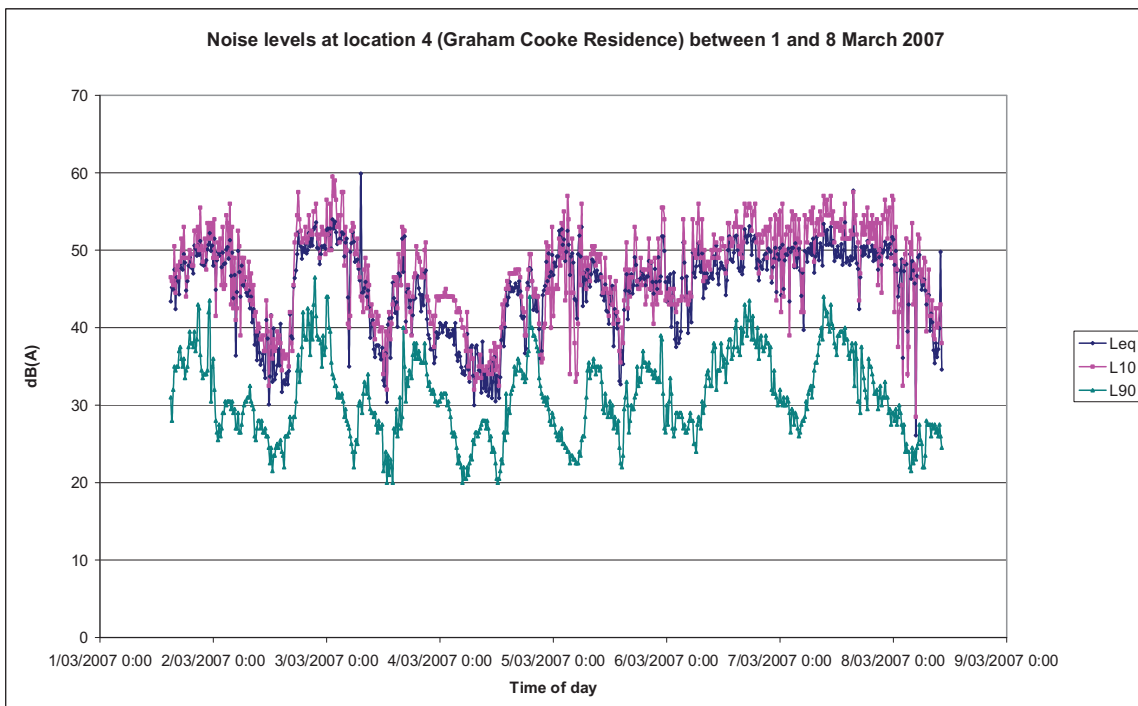
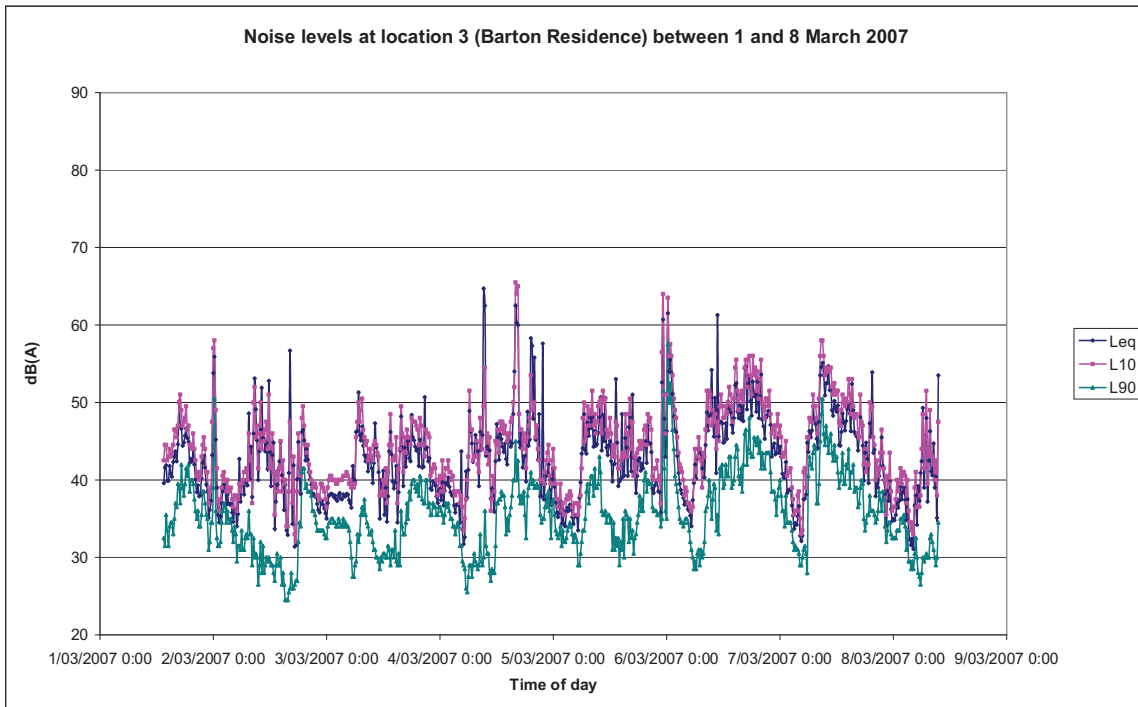


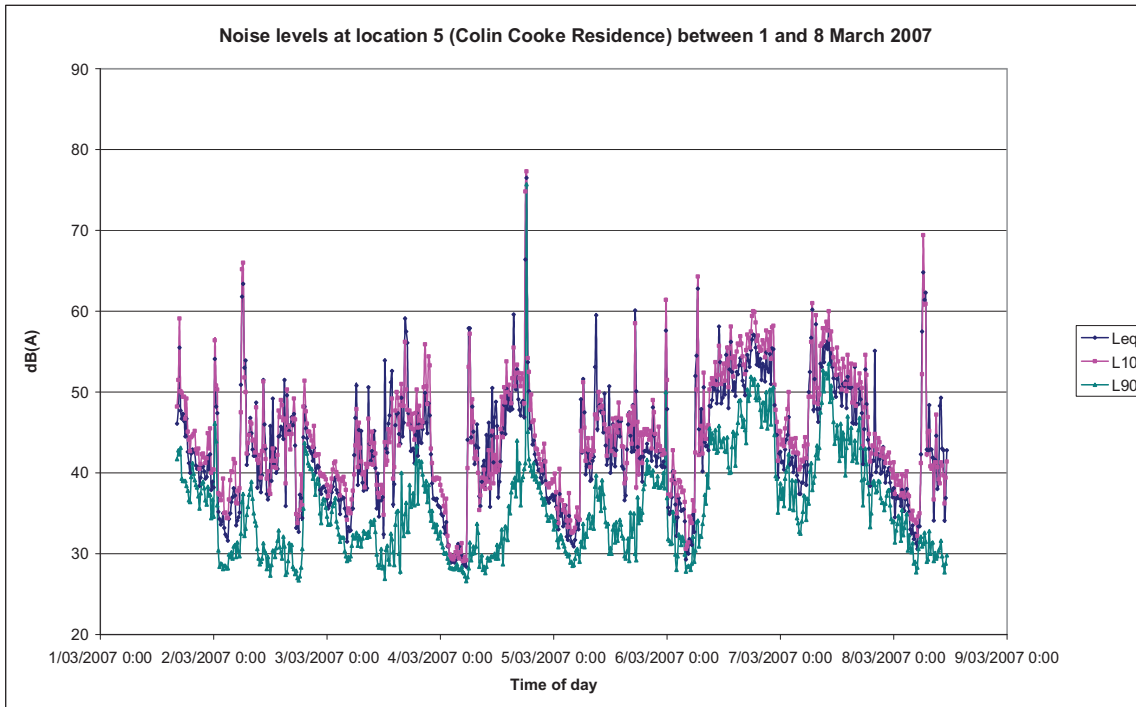
Appendix G.7.2

Campaign 3 Continuous Noise Level Traces

Weekly noise traces are shown below for 1 March to 8 March 2007.









NEW HOPE
GROUP

G.7.3 Noise Modelling Results



Appendix G.7.3 Noise Modelling Results

- Table 1 Assessment of Predicted Day and Evening $L_{Aeq,adj,1\text{ hr}}$ Stability Class F Noise Levels Against EPP Noise Limits

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
1	38	41	42	Daytime and evening - $L_{Aeq,adj,1\text{ hr}}$ 42dB(A)
2	39	40	40	
3*				
4	34	34	34	
5	20	20	20	
6	35	35	35	
7	34	35	34	
8	35	35	35	
9	33	33	32	
10	31	31	30	
11	30	30	27	
12	20	19	18	
13	25	24	22	
14	26	25	22	
15	31	29	26	
16	34	31	27	
17	20	19	28	
18	27	31	34	
19	27	30	34	
20	21	27	25	
21	13	15	19	
22	13	16	19	
23	12	14	17	
24	13	16	18	

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
25	13	15	17	
26	14	16	18	
27	16	18	20	
28	18	19	21	
29	16	17	19	
30	11	11	14	
31	4	7	8	
32	12	12	13	
33	19	20	21	
34	21	21	23	
35	31	33	33	
36	34	35	36	
37	30	31	31	
38	30	30	28	
39	30	30	29	
40	27	27	27	
41	24	25	24	
42	20	21	20	
43	21	21	20	
44	27	27	27	
45	25	25	25	

(Compliance with day time criteria are coloured in green)

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 2 Assessment of Predicted Night Time $L_{Aeq,adj,1\text{ hr}}$ Stability Class D Noise Levels Against EPP Noise Limits**

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
1	32	32	31	Night - $L_{Aeq,adj,1\text{ hr}}$ 37dB(A)
2	32	32	31	
3*				
4	28	28	28	
5	15	14	14	
6	30	30	30	
7	28	29	28	
8	29	30	29	
9	26	27	26	
10	24	24	24	
11	22	22	21	
12	13	13	12	
13	17	17	15	
14	19	17	15	
15	25	21	18	
16	28	24	20	
17	14	12	23	
18	20	24	28	
19	20	24	29	
20	10	20	17	
21	6	8	13	
22	7	9	12	
23	6	8	10	
24	8	9	11	
25	7	8	10	
26	9	10	11	

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
27	11	12	13	
28	12	13	14	
29	11	11	12	
30	6	6	8	
31	1	3	3	
32	7	7	7	
33	14	14	15	
34	15	16	17	
35	26	27	27	
36	28	30	31	
37	24	25	25	
38	25	25	22	
39	24	25	23	
40	22	21	21	
41	18	19	18	
42	15	15	14	
43	15	15	14	
44	21	21	21	
45	20	20	20	

(Compliance with day time criteria are coloured in green)

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 3 Assessment of Predicted Night Time $L_{Aeq,adj,1\text{ hr}}$ Stability Class F Noise Levels Against EPP Noise Limits**

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
1	37	37	37	Night - $L_{Aeq,adj,1\text{ hr}}$ 37dB(A)
2	37	37	37	
3				
4	34	33	33	
5	20	20	20	
6	35	35	35	
7	34	34	33	
8	35	35	34	
9	32	32	32	
10	30	30	29	
11	27	27	26	
12	18	18	17	
13	23	22	21	
14	25	23	20	
15	30	27	24	
16	33	29	26	
17	19	18	28	
18	26	30	33	
19	25	29	34	
20	15	26	23	
21	11	13	18	
22	12	14	17	
23	11	13	15	
24	12	14	16	
25	12	13	15	
26	14	15	16	

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
27	16	17	18	
28	18	18	19	
29	16	16	18	
30	11	11	13	
31	4	7	8	
32	12	12	12	
33	19	19	21	
34	21	21	22	
35	31	33	33	
36	34	35	36	
37	30	30	31	
38	30	30	28	
39	30	30	29	
40	27	27	27	
41	24	25	24	
42	20	20	20	
43	21	20	19	
44	27	27	26	
45	25	25	25	

(Compliance with day time criteria are coloured in green)

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 4 Assessment of Predicted Night Time L_{Amax} Stability Class F Noise Levels Against Planning for Noise Control Guideline’s sleep Disturbance Criteria**

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
1	43	44	43	L_{Amax} 52dB(A)
2	45	45	44	
3				
4	37	37	37	
5	24	23	23	
6	39	39	39	
7	37	38	37	
8	38	39	38	
9	36	36	35	
10	33	33	33	
11	32	31	31	
12	23	21	21	
13	28	26	26	
14	30	27	26	
15	35	31	30	
16	37	34	33	
17	24	21	31	
18	29	34	38	
19	28	34	39	
20	20	29	32	
21	16	18	23	
22	18	20	24	
23	17	19	22	
24	18	20	23	
25	18	19	21	
26	20	21	23	

Receiver	Year 2019 dB(A)	Year 2023 dB(A)	Year 2029 dB(A)	Noise criteria dB(A)
27	22	23	25	
28	24	25	27	
29	22	23	25	
30	16	19	20	
31	11	15	16	
32	18	20	19	
33	25	27	29	
34	26	28	30	
35	37	40	38	
36	38	41	40	
37	35	36	35	
38	34	35	34	
39	34	35	34	
40	31	32	32	
41	28	30	29	
42	24	25	25	
43	25	25	25	
44	32	31	31	
45	29	32	31	

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

THIS PAGE IS INTENTIONALLY LEFT BLANK



NEW HOPE
GROUP

G.7.4 Predicted Un-Weighted Modelling Results



Appendix G.7.4 Predicted un-weighted modelling results

- Table 1 Predicted A-weighted and un-weighted Day and Evening Leq, Stability Class F Noise Levels in 2019

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	38	49	No		
2	39	50	No		
3*					
4	34	45	No		
5	20	35	No		
6	35	46	No		
7	34	46	No		
8	35	46	No		
9	33	44	No		
10	31	43	No		
11	30	42	No		
12	20	34	No		
13	25	38	No		
14	26	39	No		
15	31	43	No		
16	34	44	No		
17	20	37	No		
18	27	39	No		
19	27	39	No		
20	21	35	No		
21	13	28	No		
22	13	29	No		
23	12	28	No		
24	13	29	No		
25	13	29	No		
26	14	30	No		
27	16	32	No		
28	18	33	No		
29	16	31	No		
30	11	26	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
31	4	19	No		
32	12	27	No		
33	19	33	No		
34	21	34	No		
35	31	42	No		
36	34	44	No		
37	30	42	No		
38	30	42	No		
39	30	42	No		
40	27	40	No		
41	24	38	No		
42	20	35	No		
43	21	35	No		
44	27	39	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 2 Predicted A-weighted and un-weighted Day and Evening Leq, Stability Class F Noise Levels in 2023**

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	41	51	No		
2	40	51	No		
3*					
4	34	45	No		
5	20	35	No		
6	35	46	No		
7	35	46	No		
8	35	46	No		
9	33	44	No		
10	31	43	No		
11	30	41	No		
12	19	34	No		
13	24	38	No		
14	25	38	No		
15	29	41	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
16	31	42	No		
17	19	35	No		
18	31	42	No		
19	30	41	No		
20	27	38	No		
21	15	30	No		
22	16	31	No		
23	14	30	No		
24	16	31	No		
25	15	30	No		
26	16	31	No		
27	18	33	No		
28	19	34	No		
29	17	32	No		
30	11	26	No		
31	7	23	No		
32	12	26	No		
33	20	34	No		
34	21	35	No		
35	33	44	No		
36	35	47	No		
37	31	43	No		
38	30	42	No		
39	30	43	No		
40	27	40	No		
41	25	38	No		
42	21	35	No		
43	21	35	No		
44	27	40	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 3 Predicted A-weighted and un-weighted Day and Evening Leq, Stability Class F Noise Levels in 2029**

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	42	52	No		
2	40	50	No		
3*					
4	34	45	No		
5	20	34	No		
6	35	46	No		
7	34	46	No		
8	35	46	No		
9	32	43	No		
10	30	42	No		
11	27	40	No		
12	18	33	No		
13	22	36	No		
14	22	36	No		
15	26	39	No		
16	27	40	No		
17	28	40	No		
18	34	45	No		
19	34	46	No		
20	25	38	No		
21	19	33	No		
22	19	33	No		
23	17	32	No		
24	18	32	No		
25	17	32	No		
26	18	32	No		
27	20	34	No		
28	21	35	No		
29	19	33	No		
30	14	29	No		
31	8	24	No		
32	13	28	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
33	21	35	No		
34	23	36	No		
35	33	44	No		
36	36	47	No		
37	31	43	No		
38	28	40	No		
39	29	41	No		
40	27	40	No		
41	24	38	No		
42	20	34	No		
43	20	34	No		
44	27	39	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ Table 4 Predicted A-weighted and un-weighted Night time Leq, Stability Class D Noise Levels in 2019

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	32	45	No		
2	33	46	No		
3*					
4	28	42	No		
5	15	31	No		
6	30	43	No		
7	28	43	No		
8	29	43	No		
9	26	40	No		
10	24	39	No		
11	22	37	No		
12	13	29	No		
13	17	33	No		
14	19	34	No		
15	25	39	No		
16	28	40	No		
17	14	33	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
18	20	34	No		
19	20	34	No		
20	10	29	No		
21	6	22	No		
22	7	24	No		
23	6	23	No		
24	8	24	No		
25	7	24	No		
26	9	25	No		
27	11	27	No		
28	12	28	No		
29	11	26	No		
30	6	22	No		
31	1	15	No		
32	7	23	No		
33	14	29	No		
34	15	30	No		
35	26	39	No		
36	28	41	No		
37	24	38	No		
38	25	39	No		
39	24	39	No		
40	22	36	No		
41	18	34	No		
42	15	31	No		
43	15	31	No		
44	21	36	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 5 Predicted A-weighted and un-weighted Night time Leq, Stability Class D Noise Levels in 2023**

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	32	46	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
2	33	46	No		
3*					
4	28	42	No		
5	14	31	No		
6	30	43	No		
7	29	42	No		
8	30	43	No		
9	27	40	No		
10	24	39	No		
11	22	36	No		
12	13	29	No		
13	17	33	No		
14	17	33	No		
15	21	36	No		
16	24	38	No		
17	12	31	No		
18	24	37	No		
19	24	37	No		
20	20	33	No		
21	8	24	No		
22	9	25	No		
23	8	24	No		
24	9	25	No		
25	8	25	No		
26	10	26	No		
27	12	28	No		
28	13	29	No		
29	11	27	No		
30	6	22	No		
31	3	19	No		
32	7	22	No		
33	14	30	No		
34	16	31	No		
35	27	41	No		
36	30	44	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
37	25	39	No		
38	25	39	No		
39	25	39	No		
40	21	36	No		
41	19	34	No		
42	15	31	No		
43	15	31	No		
44	21	36	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 6 Predicted A-weighted and un-weighted Night time Leq, Stability Class D Noise Levels in 2029**

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	31	44	No		
2	31	45	No		
3*					
4	28	42	No		
5	14	30	No		
6	30	43	No		
7	28	42	No		
8	29	43	No		
9	26	40	No		
10	24	39	No		
11	21	36	No		
12	12	29	No		
13	15	31	No		
14	15	31	No		
15	18	33	No		
16	20	35	No		
17	23	37	No		
18	28	42	No		
19	29	42	No		
20	17	34	No		
21	13	28	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
22	12	28	No		
23	10	27	No		
24	11	27	No		
25	10	26	No		
26	11	27	No		
27	13	29	No		
28	14	30	No		
29	12	28	No		
30	8	24	No		
31	3	20	No		
32	7	22	No		
33	15	31	No		
34	17	32	No		
35	27	41	No		
36	31	44	No		
37	25	39	No		
38	22	37	No		
39	23	37	No		
40	21	36	No		
41	18	34	No		
42	14	30	No		
43	14	30	No		
44	21	35	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 7 Predicted A-weighted and un-weighted Night time Leq, Stability Class F Noise Levels in 2019**

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	37	48	No		
2	37	49	No		
3*					
4	34	45	No		
5	20	34	No		
6	35	46	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
7	34	45	No		
8	35	46	No		
9	32	43	No		
10	30	42	No		
11	27	40	No		
12	18	33	No		
13	23	37	No		
14	25	38	No		
15	30	42	No		
16	33	43	No		
17	19	36	No		
18	26	37	No		
19	25	37	No		
20	15	32	No		
21	11	26	No		
22	12	28	No		
23	11	27	No		
24	12	28	No		
25	12	28	No		
26	14	29	No		
27	16	30	No		
28	18	32	No		
29	16	30	No		
30	11	26	No		
31	4	19	No		
32	12	27	No		
33	19	33	No		
34	21	34	No		
35	31	42	No		
36	34	44	No		
37	30	42	No		
38	30	42	No		
39	30	42	No		
40	27	39	No		
41	24	37	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
42	20	35	No		
43	21	35	No		
44	27	39	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 8 Predicted A-weighted and un-weighted Night time Leq, Stability Class F Noise Levels in 2023**

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	37	48	No		
2	37	49	No		
3*					
4	33	45	No		
5	20	34	No		
6	35	46	No		
7	34	45	No		
8	35	45	No		
9	32	43	No		
10	30	42	No		
11	27	40	No		
12	18	33	No		
13	22	36	No		
14	23	36	No		
15	27	39	No		
16	29	41	No		
17	18	34	No		
18	30	40	No		
19	29	40	No		
20	26	37	No		
21	13	27	No		
22	14	29	No		
23	13	28	No		
24	14	29	No		
25	13	29	No		
26	15	30	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
27	17	32	No		
28	18	33	No		
29	16	31	No		
30	11	26	No		
31	7	23	No		
32	12	26	No		
33	19	34	No		
34	21	35	No		
35	33	44	No		
36	35	47	No		
37	30	42	No		
38	30	42	No		
39	30	42	No		
40	27	40	No		
41	25	38	No		
42	20	35	No		
43	20	35	No		
44	27	39	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.

■ **Table 9 Predicted A-weighted and un-weighted Night time Leq, Stability Class F Noise Levels in 2029**

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
1	37	47	No		
2	37	48	No		
3*					
4	33	44	No		
5	20	34	No		
6	35	46	No		
7	33	45	No		
8	34	45	No		
9	32	43	No		
10	29	42	No		
11	26	39	No		

Receiver	dB(A)	dB(Lin)	dB(Lin) > 55 dB?	dB(Lin) & dB(A) Difference	Difference > 15 dB
12	17	32	No		
13	21	35	No		
14	20	35	No		
15	24	37	No		
16	26	39	No		
17	28	40	No		
18	33	45	No		
19	34	45	No		
20	23	37	No		
21	18	31	No		
22	17	32	No		
23	15	30	No		
24	16	31	No		
25	15	30	No		
26	16	31	No		
27	18	33	No		
28	19	33	No		
29	18	32	No		
30	13	28	No		
31	8	24	No		
32	12	26	No		
33	21	35	No		
34	22	35	No		
35	33	44	No		
36	36	47	No		
37	31	42	No		
38	28	40	No		
39	29	40	No		
40	27	39	No		
41	24	37	No		
42	20	34	No		
43	19	34	No		
44	26	38	No		

* Sensitive receptor 3 (in Muldu) has been removed because NAC have reached agreement to relocate the current tenant and purchase this property.