

REPORT REFERENCE:

SA – 8074

NOISE IMPACT ASSESSMENT

INSTALLATION OF PLANT

British Standard 4142:2014+A1:2019

CLIENT:

Chalk Creatives

SITE:

Trevanion
1 Beach Road
Emsworth
Hampshire
PO10 7JS

SURVEY DATE:

5th – 10th June 2025

Report By



Mr. B. J. Scrivener MIOA.

Sound Advice Acoustics Ltd

2 West Links, Tollgate, Chandlers Ford, Hampshire, SO53 3TG

Tel: 02380 641357

soundadviceacoustics.co.uk

1	EXECUTIVE SUMMARY	5
1.1	INSTRUCTION	5
1.2	SCOPE OF REPORT.....	5
1.3	MEASURED BACKGROUND NOISE LEVELS	5
1.4	PROPOSED PLANT	6
1.4.1	<i>External Plant.....</i>	6
1.5	ASSESSMENTS PRIOR TO MITIGATION	6
1.5.1	<i>Daytime (07:00 – 23:00)</i>	6
1.5.2	<i>Night Time (23:00 – 07:00)</i>	6
1.6	MITIGATION	7
1.7	ASSESSMENTS POST MITIGATION.....	7
1.7.1	<i>Daytime (07:00 – 23:00)</i>	7
1.7.2	<i>Night Time (23:00 – 07:00)</i>	7
1.8	CONCLUSIONS.....	8
1.9	NPPF 2024	8
1.10	PLANNING APPROVAL RECOMMENDATION	8
2	INTRODUCTION.....	9
2.1	INSTRUCTION	9
2.2	AMBIENT AND BACKGROUND MEASUREMENTS	9
2.3	BS 4142: 2014+A1:2019	9
2.4	NATIONAL PLANNING POLICY FRAMEWORK 2024 & NOISE POLICY STATEMENT FOR ENGLAND 2010	10
2.5	“SIGNIFICANT ADVERSE” AND “ADVERSE”	10
2.6	NOEL – NO OBSERVED EFFECT LEVEL	10
2.7	LOAEL – LOWEST OBSERVED ADVERSE EFFECT LEVEL	10
2.8	SOAEL – SIGNIFICANT OBSERVED ADVERSE EFFECT LEVEL	10
3	SITE LOCATION.....	11
3.1	POSITION OF SITE IN WIDER AREA.....	11
3.2	ASSESSMENT POSITION AND BACKGROUND POSITION	11
4	RESULTS	12
4.1	DOWNLOADED RESULTS, AND AVERAGES	12
4.1.1	<i>07:00 – 07:00 5th – 6th June 2025</i>	12
4.1.2	<i>07:00 – 07:00 6th – 7th June 2025</i>	12
4.1.3	<i>07:00 – 07:00 7th – 8th June 2025</i>	12
4.1.4	<i>07:00 – 07:00 8th – 9th June 2025</i>	12
4.1.5	<i>07:00 – 07:00 9th – 10th June 2025</i>	12
4.2	L90 MODAL EVALUATION	14
4.2.1	<i>Daytime.....</i>	14

4.2.2	Night Time.....	15
5	APPARATUS	16
5.1	EQUIPMENT CALIBRATION	16
5.2	POSITION 1.....	16
6	MANUFACTURERS DATA	17
6.1	SAMSUNG AE160RXYDEG	17
6.2	DAIKIN RXM50A5V1B.....	18
6.3	DAIKIN RZASG100M7V1B	19
7	CALCULATIONS	20
7.1	PROPOSED PLANT	20
7.2	INPUTTED NOISE LEVELS.....	20
7.3	3D VIEW OF PLANT.....	20
7.4	CALCULATED FAÇADE LEVELS PRIOR TO MITIGATION	21
7.4.1	Mitigation	21
7.5	3D VIEW OF 1.6M HIGH ACOUSTIC SCREEN	22
7.6	ACOUSTIC SCREEN	22
7.7	CALCULATED FAÇADE LEVELS POST MITIGATION	23
7.8	CROSS SECTION	23
8	BS 4142:2014+A1:2019 NOISE ASSESSMENT	24
8.1	SCOPE OF BRITISH STANDARD 4142: 2014+A1:2019	24
8.2	TERMS AND DEFINITIONS	24
8.3	ASSESSMENT POSITION	24
8.4	RATING LEVELS (CHARACTER CORRECTION)	24
8.5	SUBJECTIVE METHOD	25
8.6	ASSESSMENT CRITERION.....	25
8.7	ASSESSMENTS PRIOR TO MITIGATION	26
8.7.1	Daytime (07:00 – 23:00).	26
8.7.2	Night time (23:00 – 07:00).	26
8.8	TONAL PENALTY	26
8.9	INTERMITTENCY PENALTY	26
8.10	ASSESSMENT CONCLUSION	26
8.11	ASSESSMENTS POST MITIGATION.....	27
8.11.1	Daytime (07:00 – 23:00).	27
8.11.2	Night time (23:00 – 07:00).	27
8.12	TONAL PENALTY	27
8.13	INTERMITTENCY PENALTY	27
8.14	ASSESSMENT CONCLUSION	27

9	NPPF & NPSE.....	28
10	CONCLUSIONS.....	29
10.1	MEASURED BACKGROUND NOISE LEVELS	29
10.2	PROPOSED PLANT	29
10.2.1	<i>External Plant.....</i>	29
10.3	ASSESSMENTS PRIOR TO MITIGATION	30
10.3.1	<i>Daytime (07:00 – 23:00)</i>	30
10.3.2	<i>Night Time (23:00 – 07:00)</i>	30
10.4	MITIGATION	30
10.5	ASSESSMENTS POST MITIGATION.....	31
10.5.1	<i>Daytime (07:00 – 23:00)</i>	31
10.5.2	<i>Night Time (23:00 – 07:00)</i>	31
10.6	CONCLUSIONS	32
10.7	NPPF 2024	32
10.8	PLANNING APPROVAL RECOMMENDATION	32
11	APPENDIX A – UNCERTAINTY BUDGET	33
11.1	SCOPE	33
11.2	UNCERTAINTY OF MEASURED VALUES.....	33
11.3	UNCERTAINTY IN CALCULATIONS.....	34
11.4	UNCERTAINTY FROM OTHER FACTORS.....	34
11.5	COMBINED REPORTED EXPANDED UNCERTAINTY	34
12	APPENDIX B – RESULTS	35
12.1	5 TH – 6 TH JUNE 2025	35
12.2	6 TH – 7 TH JUNE 2025	36
12.3	7 TH – 8 TH JUNE 2025	37
12.4	8 TH – 9 TH JUNE 2025	38
12.5	9 TH – 10 TH JUNE 2025	39
13	APPENDIX C – WEATHER CONDITIONS	40
14	APPENDIX D – BS 4142:2019+A1:2019 INFORMATION	41
14.1	PROFESSIONAL COMPETENCE	41
14.2	SITE STATUS.....	41
14.3	MEASUREMENT INFORMATION – LOCATION 1.....	41

1 EXECUTIVE SUMMARY

1.1 Instruction

Sound Advice Acoustics Ltd have been instructed by Chalk Creatives to undertake a background noise survey at the existing premises at Trevanion, 1 Beach Road, Emsworth, Hampshire, PO10 7JS to understand the level of impact at the existing site in relation to four new pieces of plant being installed, and calculate the resultant noise level at the nearest affected windows at the development and carry out assessments to BS 4142:2014+A1:2019.

1.2 Scope of Report

The measurements have been undertaken in accordance with British Standard 4142:2014+A1:2019 and ISO 1996 – Part 2: 2017 to establish if the proposed site has a demonstrable adverse effect in terms of noise that outweigh the benefits of the development. This report aims to establish the following:

- Existing background noise levels at the residential façade (L_{A90});
- Noise levels from the Proposed Plant (L_{Aeq});
- Impact on the nearest noise sensitive property.
- Mitigation Levels if Required

1.3 Measured Background Noise Levels

Continuous background noise measurements were undertaken between the 5th – 10th June 2025 at the Assessment Position 1. The day time representative background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}}$ 46.0 dB and the night time background noise level between 23:00 and 07:00 found to be $L_{A90,15 \text{ MIN}}$ 40.0 dB at the assessment position. This background noise level has been assessed during daytime and night time hours.

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 46.0 dB
Night time Equivalent Existing Background Noise Levels 5 days (23:00 – 07:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 40.0 dB

The proposed units will have the potential to operate during night time hours and therefore the modal for this period has been used as per BS 4142: 2014 +A1:2019.

1.4 Proposed Plant

The following plant is to be located externally, generally as detailed on the drawing within this report. The plant has the following sound power data supplied by the manufacturer.

1.4.1 External Plant

Make & Model	Number of Units	Location	Sound Power Level dB (Lw)
Samsung AE160RXYDEG	1	Roof of Garage	65.0
Daikin RXM50A5V1B	2	Roof of Garage	63.0
Daikin RZASG100M7V1B	1	Roof of Garage	70.0

1.5 Assessments Prior to Mitigation

1.5.1 Daytime (07:00 – 23:00)

Rating Level	53 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	46 dB	8.1	Modal Background Noise Level (07:00 – 23:00)
Assessment Level	+7 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	+7 dB		
Conclusion	The assessment level is 'Adverse Impact'		

1.5.2 Night Time (23:00 – 07:00)

Rating Level	53 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	40 dB	8.1	Modal Background Noise Level (23:00 – 07:00)
Assessment Level	+13 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	+13 dB		
Conclusion	The assessment level is 'Significant Adverse Impact'		

1.6 Mitigation

Based on the above assessment it will be necessary to install a 1.6m high acoustic screen around the 4 units on the roof of the garage. This should be designed to have the following minimum attenuation values and be a minimum mass of 14kg/m² and be continuous in length and sealed to the floor with no gaps.

1.7 Assessments Post Mitigation

1.7.1 Daytime (07:00 – 23:00)

Rating Level	37 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level LA90,1 hour	46 dB	8.1	Modal Background Noise Level (07:00 – 23:00)
Assessment Level	-9 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	-9 dB		
Conclusion	The assessment level is 'Low Impact'		

1.7.2 Night Time (23:00 – 07:00)

Rating Level	37 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level LA90,1 hour	40 dB	8.1	Modal Background Noise Level (23:00 – 07:00)
Assessment Level	-3 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	-3 dB		
Conclusion	The assessment level is 'Significant Adverse Impact'		

1.8 Conclusions

The operation of the proposed units has been assessed to establish if the proposed units will have a demonstrable adverse effect in terms of noise that outweigh the benefits of the development. Measurements have been undertaken in accordance with British Standard 4142:2014+A1:2019 and ISO 1996 – Part 2: 2017. This report has established the existing background noise levels at the closest residential façade to the proposed units and the assessment of the impact of the operation on nearby residential properties. The resulting emissions from the site running on a worst-case scenario show no conflict with ‘low impact’ criteria and give a strong indication that complaint and impact on the local amenity is unlikely, provided that the mitigation measures are implemented.

1.9 NPPF 2024

National Planning Policy Framework 2024 suggests that planning permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the framework taken as a whole, or specific policies in the framework indicate the application should be restricted.

1.10 Planning Approval Recommendation

Based on the calculations and assessments made within this report it is the professional opinion of Sound Advice Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2024, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

2 INTRODUCTION

2.1 Instruction

Sound Advice Acoustics Ltd have been instructed by Chalk Creatives to undertake a background noise survey at the existing premises at Trevanion, 1 Beach Road, Emsworth, Hampshire, PO10 7JS to understand the level of impact at the existing site in relation to four new pieces of plant being installed, and calculate the resultant noise level at the nearest affected windows at the development and carry out assessments to BS 4142:2014+A1:2019.

The purpose of this assessment is to ensure the acoustic protection of noise sensitive premises closest to the proposed new plant. Noise sensitive premises are not restricted to residential dwellings as offices can be affected by unwanted external noise. However, the residential accommodation next door 1c Beach Road has been identified as the nearest noise sensitive and therefore all calculations and assessments are to be made to these positions.

2.2 Ambient and Background Measurements

External noise levels are to be recorded over, what has been considered for the site, an average / typical time period in order to assess the daytime noise levels. Levels have been recorded over more than one day in order to ensure the uncertainty of measurement aspects of BS 4142:2014+A1:2019 have been satisfied and that the data recorded is representative for the purpose of a robust assessment.

2.3 BS 4142: 2014+A1:2019

British Standard 4142:2014+A:2019 is to be adopted for the basis of this background noise level assessment. A BS 4142:2014+A1:2019 noise assessment will be carried out in order to demonstrate the proposed acoustic impact the proposed plant could have on the nearest affected residential and make suitable recommendations in order to demonstrate that these units will not have a significant and demonstrable adverse impact on the nearest noise sensitive premises in accordance with the National Planning Policy Framework, once remedial works are completed. BS 4142:2014+A1:2019 supersedes the 2014 version and has been developed to move more in-line with The National Planning Policy Framework 2023 (NPPF) and the Noise Policy Statement for England 2010 (NPSE).

2.4 National Planning Policy Framework 2024 & Noise Policy Statement for England 2010

References and evaluations are to be made to the National Planning Policy Framework 2024 (NPPF) and the Noise Policy Statement for England 2010 (NPSE). The purpose of this document is to include all aspects of environmental noise within assessments i.e. environmental noise, neighbour noise and neighbourhood noise. Noise is to be considered alongside other relevant issues relating to the site and should not be considered in isolation, according to the NPSE.

There are several key phrases within the NPSE aims and these are discussed below.

2.5 “Significant adverse” and “adverse”

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

2.6 NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

2.7 LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

2.8 SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.

3 SITE LOCATION

3.1 Position of Site in Wider Area

The site is located in Emsworth.



3.2 Assessment Position and Background Position

Continuous measurements were undertaken at the assessment position between the 5th – 10th June 2025. Measurement was undertaken at first floor level at the representative nearest noise sensitive premises / receptor in accordance with ISO1996 part 2: 2017.

4 RESULTS

4.1 Downloaded results, and averages

4.1.1 07:00 – 07:00 5th – 6th June 2025

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	60.6	96.8	49.0	59.8	53.8	54.9	57.5	56.8	52.5	46.7	48.0	36.3
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	52.3	74.5	36.0	47.3	41.1	38.9	40.6	43.5	41.3	49.2	43.6	21.5

4.1.2 07:00 – 07:00 6th – 7th June 2025

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	57.7	100.7	50.0	59.6	54.0	52.5	53.8	54.8	49.2	42.1	40.6	29.0
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	53.0	76.9	47.0	47.4	40.2	38.7	41.8	44.7	43.7	49.2	44.7	27.3

4.1.3 07:00 – 07:00 7th – 8th June 2025

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	62.4	104.0	46.0	62.7	56.2	53.8	57.9	57.9	53.6	53.8	52.2	41.1
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	53.1	75.7	41.0	47.3	39.9	36.9	39.7	43.5	41.7	50.3	44.5	21.9

4.1.4 07:00 – 07:00 8th – 9th June 2025

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	54.3	87.1	47.0	59.2	51.6	48.5	49.2	51.2	45.9	42.9	38.4	24.2
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	52.6	87.8	31.0	56.5	45.2	40.0	42.2	43.9	43.2	48.9	43.8	21.9

4.1.5 07:00 – 07:00 9th – 10th June 2025

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	60.3	97.7	46.0	60.6	53.3	51.0	54.9	56.7	53.0	49.4	47.7	37.7
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	51.9	80.4	38.0	55.3	46.9	41.1	42.9	44.7	41.6	47.6	44.2	24.7

Continuous background noise measurements were undertaken between the 5th – 10th June 2025 at the Assessment Position 1. The day time representative background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}}$ 46.0 dB and the night time background noise level between 23:00 and 07:00 found to be $L_{A90,15 \text{ MIN}}$ 40.0 dB at the assessment position. This background noise level has been assessed during daytime and night time hours.

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 46.0 dB
Night time Equivalent Existing Background Noise Levels 5 days (23:00 – 07:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 40.0 dB

The proposed units will have the potential to operate during night time hours and therefore the modal for this period has been used as per BS 4142: 2014 +A1:2019.

4.2 L90 Modal Evaluation

The following table demonstrates the overall modal L90 across all 5 figures.

Daytime	Night Time
46	40

4.2.1 Daytime

The following table demonstrates the L90 for each of the 5 days for the daytime period.

Time Period	L90 (Fig.1)	L90 (Fig.2)	L90 (Fig.3)	L90 (Fig.4)	L90 (Fig.5)
07:00 - 08:00	49	49	46	44	47
08:00 - 09:00	52	51	48	45	47
09:00 - 10:00	62	50	49	47	46
10:00 - 11:00	58	55	49	47	46
11:00 - 12:00	63	53	63	47	46
12:00 - 13:00	50	53	65	48	47
13:00 - 14:00	46	49	64	47	47
14:00 - 15:00	47	50	60	48	49
15:00 - 16:00	49	50	63	47	51
16:00 - 17:00	50	51	48	48	54
17:00 - 18:00	49	50	54	48	48
18:00 - 19:00	48	50	48	47	48
19:00 - 20:00	48	48	47	46	46
20:00 - 21:00	46	46	46	45	46
21:00 - 22:00	45	44	46	42	43
22:00 - 23:00	42	41	45	40	40

4.2.2 Night Time

The following table demonstrates the L90 for each of the 5 days for the night time period.

Time Period	L90 (Fig.1)	L90 (Fig.2)	L90 (Fig.3)	L90 (Fig.4)	L90 (Fig.5)
23:00 - 23:15	41	38	46	39	41
23:15 - 23:30	40	41	44	38	40
23:30 - 23:45	39	41	44	36	38
23:45 - 00:00	38	38	43	36	37
00:00 - 00:15	37	38	41	34	38
00:15 - 00:30	37	38	40	33	40
00:30 - 00:45	36	39	40	32	40
00:45 - 01:00	36	40	40	32	38
01:00 - 01:15	36	39	39	31	38
01:15 - 01:30	36	36	38	30	40
01:30 - 01:45	35	35	38	31	39
01:45 - 02:00	36	45	39	30	38
02:00 - 02:15	35	39	38	32	38
02:15 - 02:30	35	36	37	31	38
02:30 - 02:45	35	32	37	28	37
02:45 - 03:00	34	33	36	30	36
03:00 - 03:15	34	43	36	31	37
03:15 - 03:30	34	45	36	31	38
03:30 - 03:45	35	56	37	31	36
03:45 - 04:00	36	47	37	34	36
04:00 - 04:15	39	41	40	40	39
04:15 - 04:30	41	41	42	40	43
04:30 - 04:45	41	48	41	39	41
04:45 - 05:00	41	47	41	40	42
05:00 - 05:15	42	43	40	40	42
05:15 - 05:30	44	40	41	43	43
05:30 - 05:45	43	39	42	43	43
05:45 - 06:00	44	40	41	44	44
06:00 - 06:15	45	47	43	44	45
06:15 - 06:30	46	47	44	45	47
06:30 - 06:45	47	44	45	47	47
06:45 - 07:00	49	47	45	47	48

5 APPARATUS

5.1 Equipment Calibration

The equipment was calibrated using a sound pressure level of 114.0 dB at an octave band centre frequency of 1000Hz with reference to $2 \times 10^{-5} \text{ Nm}^{-2}$ before and after the tests and the equipment set to have no inaccuracy greater than 0.2 dB.

All the following equipment was calibrated in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS) on the following dates. Calibration schedules are implemented within Sound Advice Acoustics Ltd in accordance with UKAS directive LAB 23.

5.2 Position 1

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	140	1402941	2 YEARS	30.07.2024	30.07.2026
12.5mm Microphone (with windshield)	GRAS	40AF	179711	2 YEARS	30.07.2024	30.07.2026
Microphone Pre – Amplifier	Norsonic	1209	30479	2 YEARS	30.07.2024	30.07.2026
Calibrator	Norsonic	1251	31310	1 YEAR	30.07.2024	30.07.2025

The noise meter was calibrated before and after the assessment period and found to be within the tolerance of the manufacturer's guidance. Full Calibration certificates are available upon request.

6 MANUFACTURERS DATA

6.1 Samsung AE160RXYDEG

Outdoor unit specification

Type	Unit	AE080RXYDEG	AE120RXYDEG	AE160RXYDEG
Power source	-	1Φ, 220~240VAC 50Hz	1Φ, 220~240VAC 50Hz	1Φ, 220~240VAC 50Hz
Refrigerant	g	1,150 (R-32)	2,200 (R-32)	2,200 (R-32)
Noise (Heat/Cool, Pressure)	dB(A)	48/48	50/50	52/54
Water connection (In/Out)	Inch	1.0	1.0	1.0
Leaving water temperature	°C	Heating : 15~65 Cooling : 5~25	Heating : 15~65 Cooling : 5~25	Heating : 15~65 Cooling : 5~25
Operating range (Heat/Cool)	°C	-25~35/10~46	-25~35/10~46	-25~35/10~46
Weight (net/gross)	kg	76.0/84.5	110/119	110/119
Size (WxHxD, net)	mm	940 x 998 x 330	940 x 1,420 x 330	940 x 1,420 x 330

Type	Unit	AE080RXYDGG	AE120RXYDGG	AE160RXYDGG
Power source	-	3Φ, 380~415VAC 50Hz	3Φ, 380~415VAC 50Hz	3Φ, 380~415VAC 50Hz
Refrigerant	g	1,150 (R-32)	2,200 (R-32)	2,200 (R-32)
Noise (Heat/Cool, Pressure)	dB(A)	48/48	50/50	52/54
Water connection (In/Out)	Inch	1.0	1.0	1.0
Leaving water temperature	°C	Heating : 15~65 Cooling : 5~25	Heating : 15~65 Cooling : 5~25	Heating : 15~65 Cooling : 5~25
Operating range (Heat/Cool)	°C	-25~35/10~46	-25~35/10~46	-25~35/10~46
Weight (net/gross)	kg	75.0/83.5	111/120	111/120
Size (WxHxD, net)	mm	940 x 998 x 330	940 x 1,420 x 330	940 x 1,420 x 330

6.2 Daikin RXM50A5V1B



RXM-A

2 Specifications

2 - 1 Specifications

Technical Specifications				RXM20A	RXM25A	RXM35A	RXM42A	RXM50A	RXM60A	RXM71A			
Casing	Colour			Ivory white									
Dimensions	Unit	Height	mm	678				734					
		Width	mm	923				954					
		Depth	mm	347				431					
	Packed unit	Height	mm	675				829					
		Width	mm	1,807				1,650					
		Depth	mm	450				488					
Weight	Unit		kg	36		40		48	55				
	Packed unit		kg	40		43		53	60				
Packing	Weight		kg			4		5					
Heat exchanger	Length			869				920					
	Rows	Quantity						2					
	Fins pitch							1.4					
	Stages	Quantity		26				32					
	Passes	Quantity		4.3				2.2					
	Tube type			ø7/6-ID									
	Tube material			Copper									
	Tube diameter			7									
Fan	Fin	Type		Waffle fin (PF)									
	Type			Propeller fan									
Fan	Air flow rate	Cooling	High	m³/min	38.1		40.1		58	-	-		
				cfm	1,381		1,406		2,048	-	-		
		Nom.	m³/min	38.5		38.1		40.1	58	46.6	-		
			cfm	1,368		1,381		1,406	2,048	1,645	1,738		
		Medium	m³/min	36.5				38.5	56.3	-	49		
			cfm	1,289				1,360	1,988	-	-		
		Low	m³/min			26.4				56.3	-	-	
			cfm			932				1,988	-	-	
		Silent operation	m³/min			26.4				36.6	-	-	
			cfm			932				1,293	-	-	
		Heating	High	m³/min	38.1				40.1	54.7	-	-	
				cfm	1,381				1,406	1,932	-	-	
			Nom.	m³/min	35.9		38.0		38	54.7	44.1	-	
				cfm	1,214		1,342		1,302	1,557	1,632	-	
	Medium	m³/min	21.3				35.0	36.6	-	46.2			
		cfm	752				1,236	1,293	-	-			
	Fan	Air flow rate	Heating	Low	m³/min	16.3		26.4		36.6	-	-	
					cfm	576		932		1,293	-	-	
Fan motor	Model			DFC05A7WA				DF5F-31		DFC05A7WA			
	Output			50				40		55	128		
	Speed	Cooling	High	rpm	858		879		760		888		
			Nom.	rpm	840	858		879		760	740	789	
			Medium	rpm	800		846		740		-	-	
			Low	rpm			680		740		648	769	
			Super low	rpm			680		568		-	-	
		Heating	High	rpm	818		879		720		780		
			Nom.	rpm	770		830		720		740		
			Low	rpm	408		608		568		668	688	
			Medium	rpm	508		770		568		-	-	
Compressor	Model			199H86201PFD				29C42/33HD	29C43/33HD	29C48/33PFD	29C48/33PFC		
	Oil Amount			375				658					
	Type			Hermetically sealed swing compressor									
	Output			806				1,330					
								2,480					
Operation range	Oil type			F198AB8A									
		Cooling	Ambient	Min.	°CDB				-16				
			Max.	°CDB		58		50 (16 / 46 (1))		50	46		
	Heating	Ambient	Min.	°CWB		-21		-21 (10 / -15 (1))		-21	-15		
			Max.	°CWB		-28		-20 (1) / -15 (1)		-20	-15		
			Max.	°CDB				18					
Sound power level	Cooling	Max		dBA	61		62		63		-	-	
			Nom.	dBA	58		61		62		63	65	
		Night quiet mode	dBA	56		58		58		-	-		
			Total adjustment	dBA			8				-	-	
		Heating	Max	dBA	61		62		63		-	-	
			Nom.	dBA	58		60		61		62	63	67
			Night quiet mode	dBA	56		58		58		-	-	
			Total adjustment	dBA			8				0	-	-
											-	-	
											-	-	



RXM-A

5

6.3 Daikin RZASG100M7V1B



Sky Air Advance-series • RZASG-MV1

2 Specifications

2 - 1 Specifications

Technical Specifications				RZASG71MV1		RZASG100MV1		RZASG125MV1		RZASG140MV1		
Casing	Colour			Ivory white								
	Material			Painted galvanized steel plate								
Dimensions	Unit	Height	mm	770		990		990				
		Width	mm	900		940		940				
		Depth	mm			320						
	Packed unit	Height	mm	900		1,170		1,170				
		Width	mm	980		1,070		1,070				
		Depth	mm	410		422						
Weight	Unit	kg	60		70				78			
	Packed unit	kg	64		78		79			87		
Packing	Weight	kg	4				9					
Heat exchanger	Fin	Type	WF-8i									
		Treatment	Anti-corrosion treatment (PE)									
Fan	Type	Propeller										
	Discharge direction	Horizontal										
	Quantity	1										
	Air flow rate	Cooling	Hom.	m³/min	56		69		71		76	
		Heating	Hom.	m³/min	50				82			
			Partial	m³/min		-			55 (U)		55	
Fan motor	Quantity	1										
	Model	Brushless DC motor										
	Output	W		94				200				
	Drive	Direct drive										
Compressor	Quantity	1										
	Type	Hermetically sealed swing compressor										
Operation range	Cooling	Ambient	Min.	°CDB				-15				
			Max.	°CDB				46				
			Min.	°CWB				-15				
	Heating	Ambient	Min.	°CWB				15.5				
			Max.	°CWB								
			Max.	°CWB								
Sound power level	Cooling			dBA	65		70		71	73		
	Heating			dBA		-			71 (U)	73		
Sound pressure level	Cooling	Hom.		dBA	46			53		54		
	Heating	Hom.		dBA	47			57				
Refrigerant	Type	R-32										
	Charge		kg	2.45				2.60		2.90		
	Control	Expansion valve (electronic type)										
Refrigerant	GNP	675										
Refrigerant oil	Oricants	Quantity	1									
	Type	F/MCDA										
	Charged volume		l			0.90			1.15			
Piping connections	Liquid	Quantity	1									
			Type	Flare connection								
			OD	mm	9.52							
	Gas	Quantity	1									
			Type	Flare connection								
			OD	mm	15.9							
	Drain	Quantity	3				5					
			Type	Male								
			OD	mm	26							
	Piping length	OU - IU	Min.	m	5							
			Max.	m	50							
		System	Equivalent	m	20							
			Chargeless	m	30							
		Additional refrigerant charge			kg/m	See installation manual						
		Level	IU - OU	Max.	m	30.0						
	difference	IU - IU	Max.	m	0.5							
	Heat insulation			Both liquid and gas pipes								
	Defrost method	Reversed cycle										
Defrost control	Sensor for outdoor heat exchanger temperature											
Capacity control	Method	Inverter controlled										
PEI	Category	Category II										
Safety devices	Item	B1	High pressure switch									
		B2	Low pressure switch									
		B3	Fan driver overload protector									
		B4	Fuse									
		B5	Compressor motor thermal protector									

Standard accessories: Installation manual/Quantity: 1;

Standard accessories: Refrigerant label for F-gas regulation/Quantity: 1;

Standard accessories: General safety precautions/Quantity: 1;

Standard accessories: LOTUS Energy Label/Quantity: 1;

Standard accessories: Peel off F-gas label/Quantity: 1;



Sky Air Advance-series • RZASG-MV1

5

7 CALCULATIONS

7.1 Proposed Plant

The following plant are to be located externally, generally as detailed on the drawing within this report. The plant has the following sound power data supplied by the manufacturer and worst case Cooling has been used.

Make & Model	Number of Units	Location	Sound Power Level dB (Lw)
Samsung AE160RXYDEG	1	Roof of Garage	65.0
Daikin RXM50ASV1B	2	Roof of Garage	63.0
Daikin RZASG100M7V1B	1	Roof of Garage	70.0

7.2 Inputted Noise Levels

Based on the above noise levels, the following values have been inputted into the CADNA A 3D modelling software.

Point Source

Close

Edit...

Sync. Graphic

Copy...

Print...

Font...

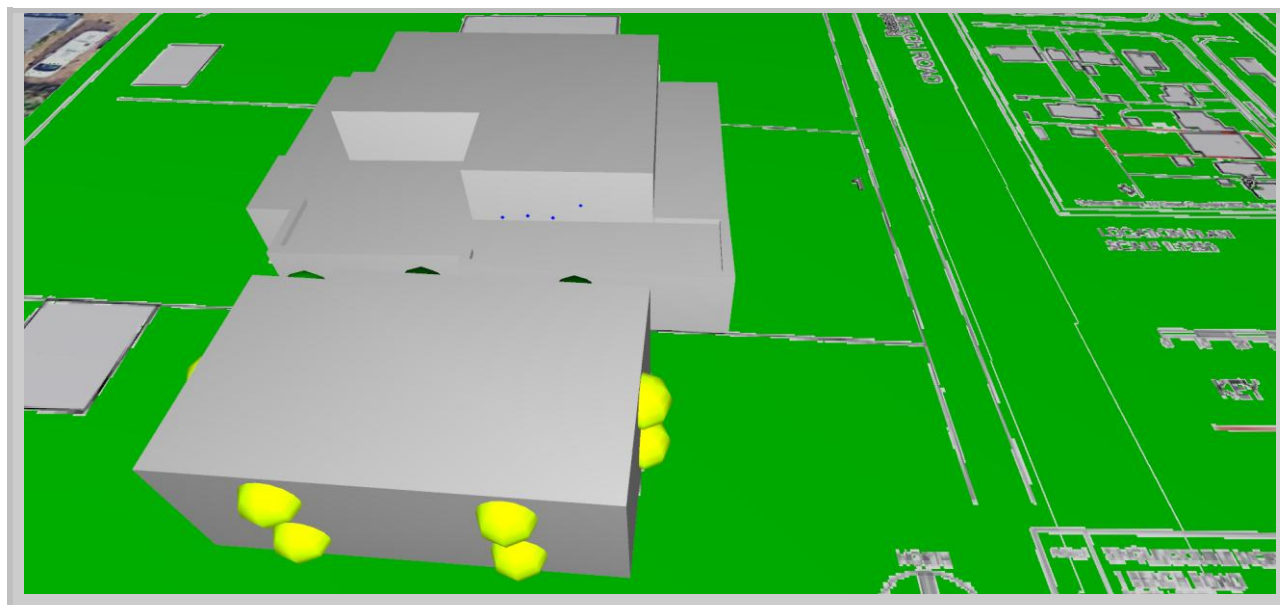
Help

Name	M.	ID	Result. PWL			Lw / Li		Correction				Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night		(Hz)		
			(dBA)	(dBA)	(dBA)				dB(A)	dB(A)	dB(A)		(m²)		(min)	(min)	(min)	(dB)		(none)	(m)
Daikin RXM50ASV1B			63.0	63.0	63.0	Lw	63		0.0	0.0	0.0							0.0	1000	(none)	0.45 g
Daikin RZASG100M7V1B			70.0	70.0	70.0	Lw	70		0.0	0.0	0.0							0.0	1000	(none)	0.55 g
Daikin RXM50ASV1B			63.0	63.0	63.0	Lw	63		0.0	0.0	0.0							0.0	1000	(none)	0.45 g
Samsung 16kW Monobloc Heat Pump			65.0	65.0	65.0	Lw	65		0.0	0.0	0.0							0.0	1000	(none)	1.20 g

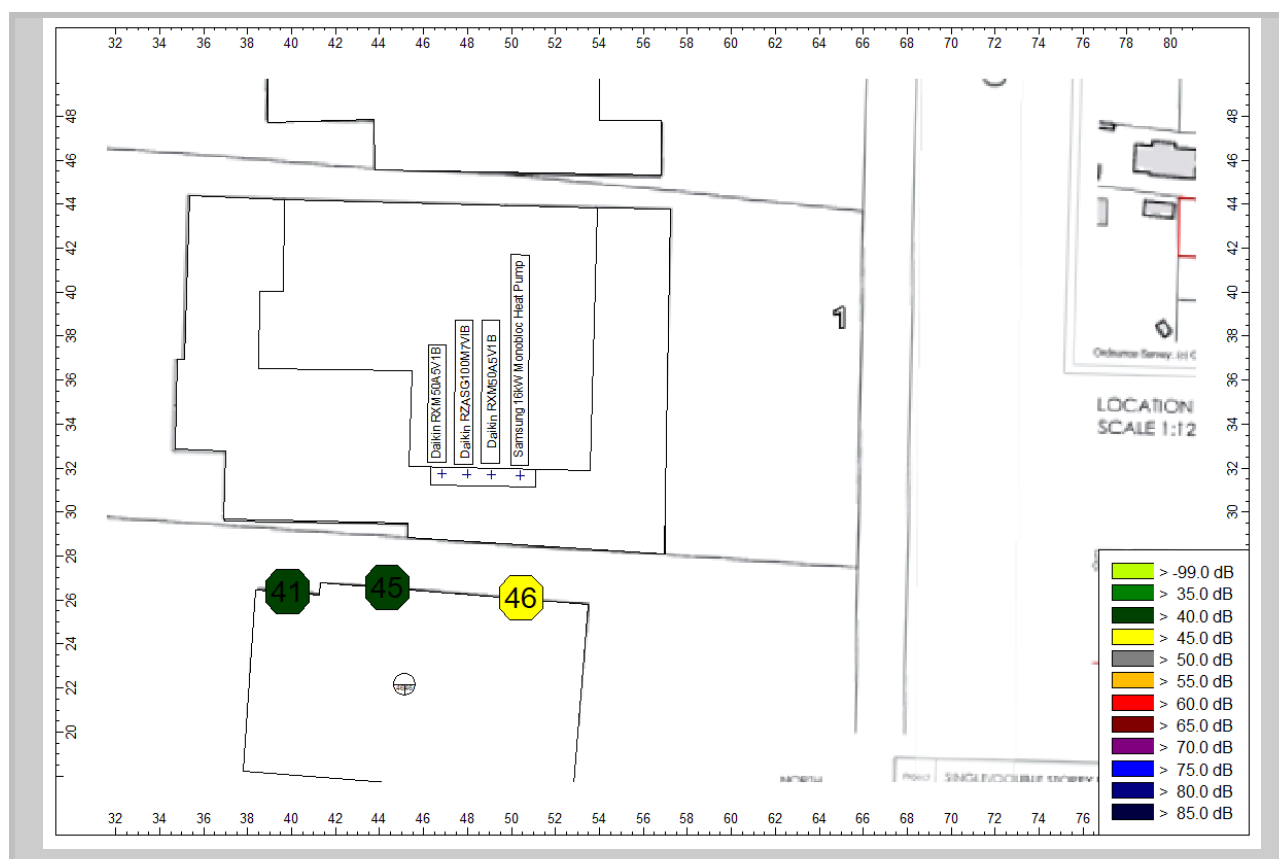
INPUTTED NOISE LEVELS

INPUTTED NOISE LEVELS

7.3 3D View of Plant



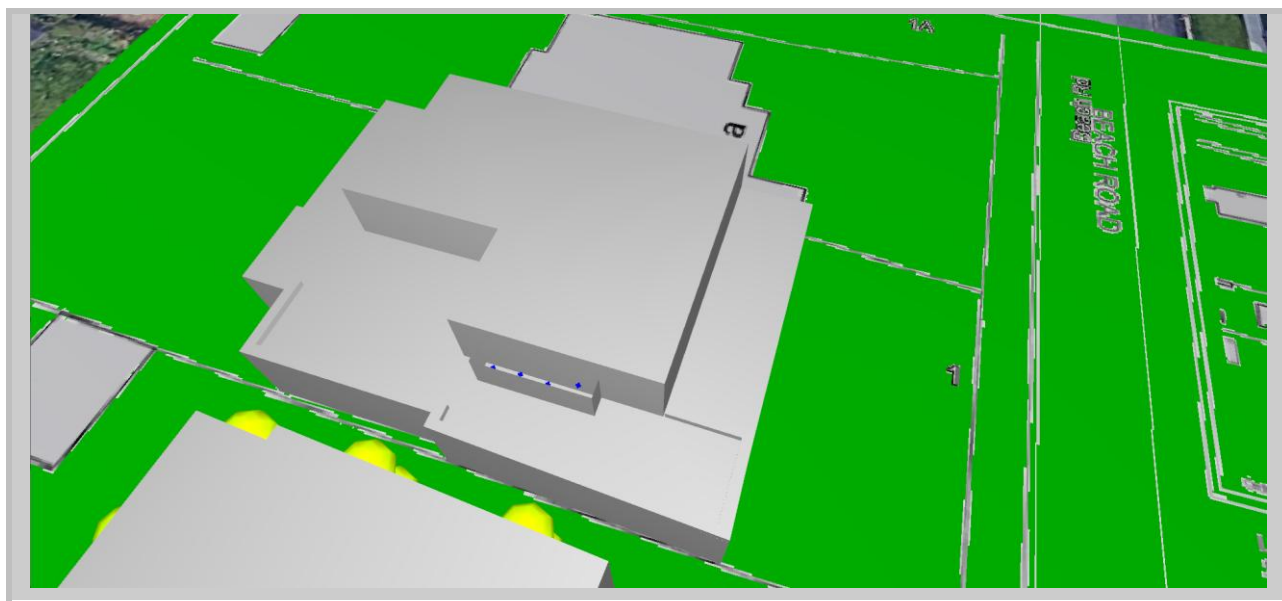
7.4 Calculated Façade Levels Prior to Mitigation



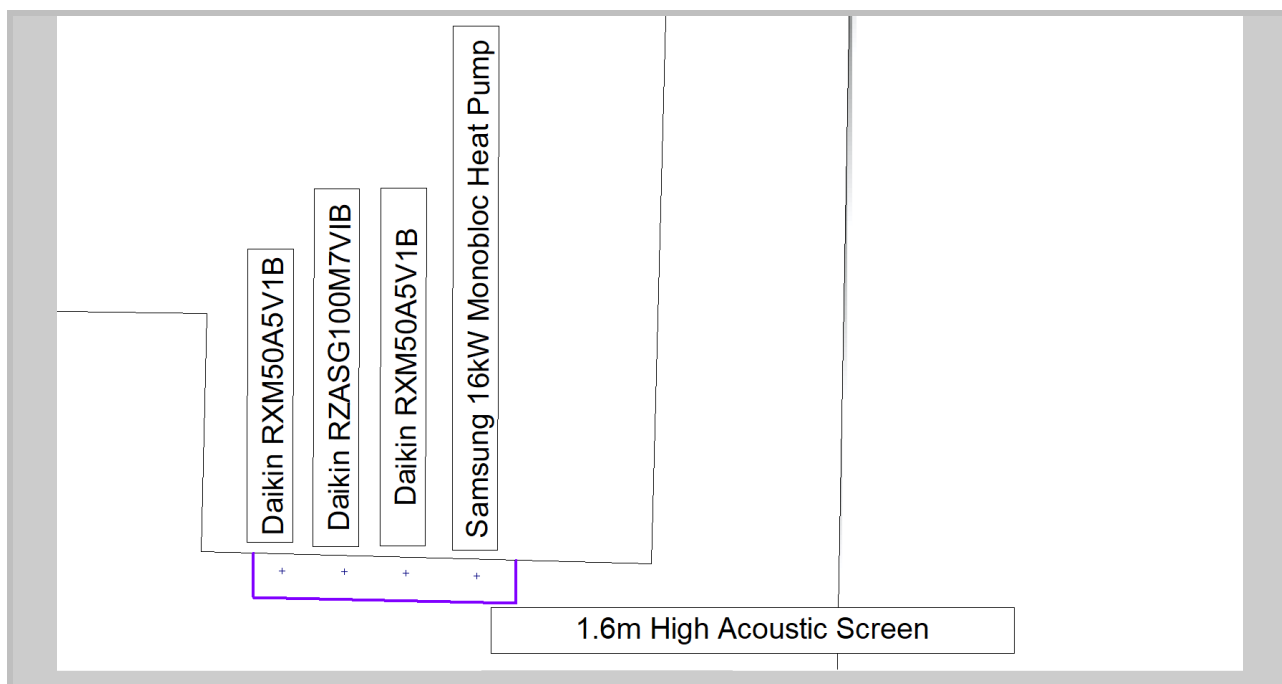
7.4.1 Mitigation

Based on the above assessment it will be necessary to install a 1.6m high acoustic screen around the 4 units on the roof of the garage. This should be designed to have the following minimum attenuation values and be a minimum mass of 14kg/m^2 and be continuous in length and sealed to the floor with no gaps.

7.5 3D View of 1.6m High Acoustic Screen

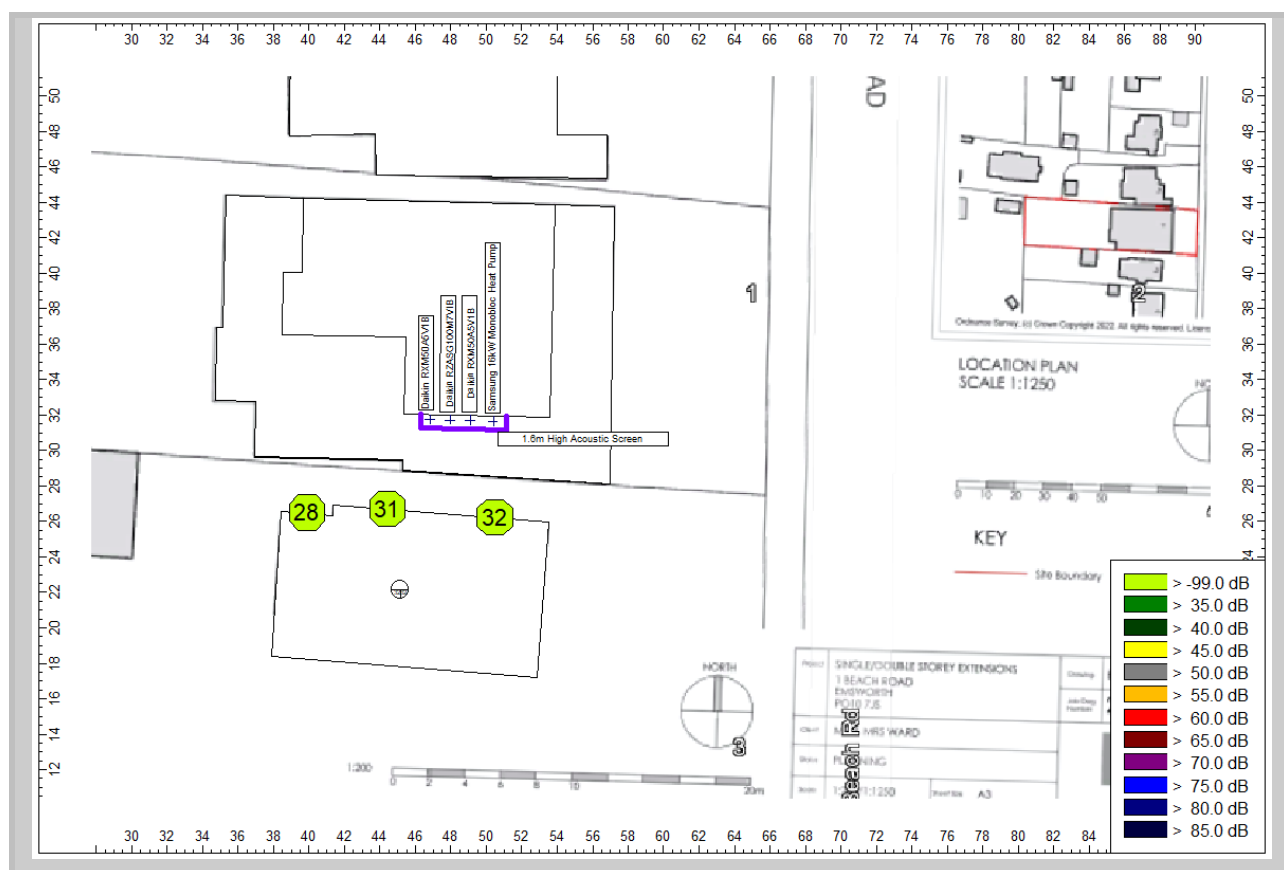


7.6 Acoustic Screen

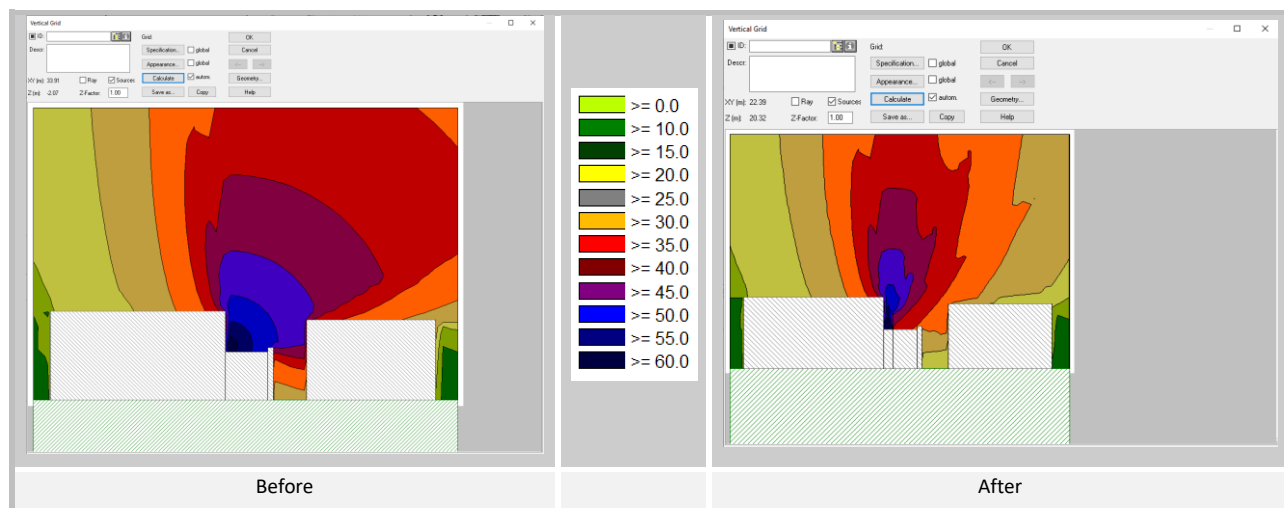


The following screenshot, demonstrate the resultant façade levels with the impact of the proposed 1.6m high acoustic screen having been installed.

7.7 Calculated Façade Levels Post Mitigation



7.8 Cross Section



Based on these recommendations, the following assessments can be made:-

8 BS 4142:2014+A1:2019 NOISE ASSESSMENT

8.1 Scope of British Standard 4142: 2014+A1:2019

In the assessment of the existing surrounding commercial premises, consideration has been given to the scope of British Standard 4142: 2014+A1: 2019, which in section 1, details applicability of this standard to rating assessing sound of an industrial and/or commercial nature. It is considered appropriate that both the background noise levels and the rating noise levels obtained fall within the scope of British Standard 4142: 2014 +A1:2019 by using outdoor sound levels to assess the effect of sound on local residents.

8.2 Terms and Definitions

Symbol	Term	Definition
AP	Assessment Position	Position externally at the façade property under investigation at which the assessment is undertaken which is usually 1m from the 1 st floor bedroom window.
EP	Equivalent Position	Position at which the background noise levels are measured if there is no access to the assessment position or if source under investigation is audible.
$L_s = L_{Aeq, T}$	Specific Level	The average continuous equivalent sound pressure level of the source at the assessment position.
$L_{Ar, Tr}$	Rating Level	The average continuous equivalent sound pressure level of the source at the assessment position with a correction to account for the characteristic features.
$L_r = L_{Aeq, T}$	Residual Level	The average continuous equivalent sound pressure level at the assessment position without the source operating.
$L_{A90, T}$	Background Level	The sound pressure level that is not exceeded 90% of the time at the assessment position.
$L_a = L_{Aeq, T}$	Ambient Level	The totally encompassing sound at the assessment position including the residual and specific noise.

8.3 Assessment Position

The assessment position was established as the existing residential accommodation premises and no closer than 5m from the proposed plant.

8.4 Rating Levels (Character Correction)

It is appropriate to add a character correction where there is a new source that cannot be measured in line with BS4142: 2014+A1: 2019. There are 3 methods for approaching this.

- Subjective method
- Objective method (for tonality)
- Reference method

8.5 Subjective Method

The subjective method establishes a rating penalty that is added to the specific noise level if any of the following is present at the assessment position. If a tone is expected to be present a character correction of 0 dB to 6 dB is added depending on how perceptible it is at noise sensitive locations.

BS 4142:2014+A1:2019 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Tonality Ranging from not tonal to prominently tonal	Not tonal	+0
	Just perceptible	+2
	Clearly perceptible	+4
	Highly perceptible	+6

If the source is expected to be impulsive a character correction of 0 dB to 9 dB is added depending on how perceptible it is at noise sensitive locations.

BS 4142:2014+A1:2019 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Impulsivity Considering both the rapidity and any overall change in sound levels	Not impulsive	+0
	Just perceptible	+3
	Clearly perceptible	+6
	Highly perceptible	+9

When the sound features are neither tonal nor impulsive, a character correction of +3 is added for the readily distinctive quality against the acoustic environment or for the intermittency of the source.

BS 4142:2014+A1:2019 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Readily Distinctive	Is not present	+0
	Is present	+3
Intermittency	Is not present	+0
	Is present	+3

8.6 Assessment Criterion

The significance of the resulting noise on the residential property depends on the margin by which it exceeds the background noise levels. British Standard 4142:2014+A1:2019 provides the following guidance within section 11.

Difference	Assessment of Impact
+10 dB	Indication of a significant adverse impact
+5 dB	Indication of an adverse impact
+0 dB	Indication of low impact

8.7 Assessments Prior to Mitigation

8.7.1 Daytime (07:00 – 23:00).

Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1 \text{ hour}}$	46 dB	7	Calculated using ISO 9613:1996 ^[3] .
Tonality	+4 dB	8.1	Tonality Characteristic
Intermittency	+3 dB	8.1	Intermittency Characteristic
Rating Level	53 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	46 dB	8.1	Modal Background Noise Level
Assessment Level	+7 dB	11	The background level is subtracted from the rating level.
Assessment	+7 dB		
Conclusion	The assessment level is 'Adverse Impact'		

8.7.2 Night time (23:00 – 07:00).

Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1 \text{ hour}}$	46 dB	7	Calculated using ISO 9613:1996 ^[3] .
Tonality	+4 dB	8.1	Tonality Characteristic
Intermittency	+3 dB	8.1	Intermittency Characteristic
Rating Level	53 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	40 dB	8.1	Modal Background Noise Level
Assessment Level	+13 dB	11	The background level is subtracted from the rating level.
Assessment	+13 dB		
Conclusion	The assessment level is 'Significant Adverse Impact'		

8.8 Tonal Penalty

A penalty has been applied to the specific noise level to allow for any tonal elements that may be present from any proposed plant.

8.9 Intermittency Penalty

A penalty has been applied to the specific noise level to allow for any intermittent elements that may be present from any proposed plant.

8.10 Assessment Conclusion

It can be seen from the above assessments that the proposed plant has returned an assessment conclusion of Significant Adverse Impact.

8.11 Assessments Post Mitigation

8.11.1 Daytime (07:00 – 23:00).

Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1 \text{ hour}}$	32 dB	7	Calculated using ISO 9613:1996 ^[3] .
Tonality	+2 dB	8.1	Tonality Characteristic
Intermittency	+3 dB	8.1	Intermittency Characteristic
Rating Level	37 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	46 dB	8.1	Modal Background Noise Level
Assessment Level	-9 dB	11	The background level is subtracted from the rating level.
Assessment	-9 dB		
Conclusion	The assessment level is 'Low Impact'		

8.11.2 Night time (23:00 – 07:00).

Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1 \text{ hour}}$	32 dB	7	Calculated using ISO 9613:1996 ^[3] .
Tonality	+2 dB	8.1	Tonality Characteristic
Intermittency	+3 dB	8.1	Intermittency Characteristic
Rating Level	37 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	40 dB	8.1	Modal Background Noise Level
Assessment Level	-3 dB	11	The background level is subtracted from the rating level.
Assessment	-3 dB		
Conclusion	The assessment level is 'Low Impact'		

8.12 Tonal Penalty

A penalty has been applied to the specific noise level to allow for any tonal elements that may be present from any proposed plant.

8.13 Intermittency Penalty

A penalty has been applied to the specific noise level to allow for any intermittent elements that may be present from any proposed plant.

8.14 Assessment Conclusion

It can be seen from the above assessments that the proposed plant has returned an assessment conclusion of Low Impact, provided that the mitigation measures are implemented.

9 NPPF & NPSE

The National Planning Policy Framework 2024 (NPPF) and assessments to the Noise Policy Statement for England 2010 (NPSE) should be made in conjunction with each other. Paragraphs 198 - 201 of the National Planning Policy Framework 2024 (NPPF) states the following:

Paragraph 198 Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life.
- b) Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

Paragraph 199 Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications.

Paragraph 200 Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

Paragraph 201 The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.

The Noise Policy Statement for England gives various levels of effect as detailed within this report.

With the specifications achieved within this report, the development can be implemented within the guidelines of the aforementioned documents and ensure a conclusion of **NOEL – No Observed Effect Level**. This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

10 CONCLUSIONS

10.1 Measured Background Noise Levels

Continuous background noise measurements were undertaken between the 5th – 10th June 2025 at the Assessment Position 1. The day time representative background noise levels between 07:00 and 23:00 was found to be $L_{A90,1 \text{ hour}}$ 46.0 dB and the night time background noise level between 23:00 and 07:00 found to be $L_{A90,15 \text{ MIN}}$ 40.0 dB at the assessment position. This background noise level has been assessed during daytime and night time hours.

Daytime Equivalent Existing Background Noise Levels 5 days (07:00 – 23:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 46.0 dB
Night time Equivalent Existing Background Noise Levels 5 days (23:00 – 07:00)	Measured Levels at Assessment Position 1	$L_{A90, t}$ 40.0 dB

The proposed units will have the potential to operate during night time hours and therefore the modal for this period has been used as per BS 4142: 2014 +A1:2019.

10.2 Proposed Plant

The following plant is to be located externally, generally as detailed on the drawing within this report. The plant has the following sound power data supplied by the manufacturer.

10.2.1 External Plant

Make & Model	Number of Units	Location	Sound Power Level dB (L _w)
Samsung AE160RXYDEG	1	Roof of Garage	65.0
Daikin RXM50A5V1B	2	Roof of Garage	63.0
Daikin RZASG100M7V1B	1	Roof of Garage	70.0

10.3 Assessments Prior to Mitigation

10.3.1 Daytime (07:00 – 23:00)

Rating Level	53 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	46 dB	8.1	Modal Background Noise Level (07:00 – 23:00)
Assessment Level	+7 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	+7 dB		
Conclusion	The assessment level is 'Adverse Impact'		

10.3.2 Night Time (23:00 – 07:00)

Rating Level	53 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	40 dB	8.1	Modal Background Noise Level (23:00 – 07:00)
Assessment Level	+13 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	+13 dB		
Conclusion	The assessment level is 'Significant Adverse Impact'		

10.4 Mitigation

Based on the above assessment it will be necessary to install a 1.6m high acoustic screen around the 4 units on the roof of the garage. This should be designed to have the following minimum attenuation values and be a minimum mass of 14kg/m² and be continuous in length and sealed to the floor with no gaps.

10.5 Assessments Post Mitigation

10.5.1 Daytime (07:00 – 23:00)

Rating Level	37 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	46 dB	8.1	Modal Background Noise Level (07:00 – 23:00)
Assessment Level	-9 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	-9 dB		
Conclusion	The assessment level is 'Low Impact'		

10.5.2 Night Time (23:00 – 07:00)

Rating Level	37 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1 \text{ hour}}$	40 dB	8.1	Modal Background Noise Level (23:00 – 07:00)
Assessment Level	-3 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014+A1:2019 ^[1]	+10 dB Significant Adverse Impact, +5 dB Adverse Impact, +0 dB Low Impact		
Assessment	-3 dB		
Conclusion	The assessment level is 'Significant Adverse Impact'		

10.6 Conclusions

The operation of the proposed units has been assessed to establish if the proposed units will have a demonstrable adverse effect in terms of noise that outweigh the benefits of the development. Measurements have been undertaken in accordance with British Standard 4142:2014+A1:2019 and ISO 1996 – Part 2: 2017. This report has established the existing background noise levels at the closest residential façade to the proposed units and the assessment of the impact of the operation on nearby residential properties. The resulting emissions from the site running on a worst-case scenario show no conflict with ‘low impact’ criteria and give a strong indication that complaint and impact on the local amenity is unlikely, provided that the mitigation measures are implemented.

10.7 NPPF 2024

National Planning Policy Framework 2024 suggests that planning permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the framework taken as a whole, or specific policies in the framework indicate the application should be restricted.

10.8 Planning Approval Recommendation

Based on the calculations and assessments made within this report it is the professional opinion of Sound Advice Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2024, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

11 APPENDIX A – UNCERTAINTY BUDGET

11.1 Scope

British Standard 4142:2014+A1:2019 entitled “*Uncertainty*” requires the following:

“Consider the level of uncertainty in the data and associated calculations. Where the level of uncertainty could affect the conclusion, take reasonably practicable steps to reduce the level of uncertainty. Report the level and potential effects of uncertainty.”

Annex B of British Standard 4142:2014+A1:2019 entitled “consideration of uncertainty and good practice for reducing uncertainty” makes reference to the University of Salford publication entitled “A Good Practice Guide on the Source and Magnitude of Uncertainty arising in the Practical Measurement of Environmental Noise” edition 1a dated May 2007.

11.2 Uncertainty of Measured Values

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Variability and complexity of sound source	0.50	$\sqrt{2}$	0.35
b	Variability and complexity of residual sound	0.00	$\sqrt{3}$	0.00
c	Residual sound present in specific sound	0.00	$\sqrt{3}$	0.00
d	Background noise position selection	0.10	$\sqrt{3}$	0.06
e	Distance between source and receiver	0.15	$\sqrt{2}$	0.11
f	Number of measurements taken (5 Days)	0.10	$\sqrt{3}$	0.06
g	Measurement time interval variation	0.00	$\sqrt{2}$	0.00
h	Range of times measurements taken	0.10	$\sqrt{3}$	0.06
i	Suitable weather conditions during measurements	0.20	$\sqrt{3}$	0.12
j	Application of British Standard 4142:2014+A1:2019	0.10	$\sqrt{2}$	0.07
k	Rounding of each measurement	0.05	$\sqrt{3}$	0.03
l	Instrumentation – Calibration	1.20	$\sqrt{3}$	0.69
Reported Expanded Uncertainty (95% confidence, convergence k = 2)				1.61

11.3 Uncertainty in Calculations

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Impact of measured sound level on calculations	0.00	$\sqrt{2}$	0.00
b	Assumption on sound power level of source	0.00	$\sqrt{3}$	0.00
c	Uncertainty of calculation method (ISO 9613)	0.20	$\sqrt{3}$	0.12
d	Model fit against real world conditions	0.10	$\sqrt{3}$	0.06
e	Error in the calculation process	0.15	$\sqrt{2}$	0.11
Reported Expanded Uncertainty (95% confidence, convergence k = 2)				0.33

11.4 Uncertainty from Other Factors

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Standing waves or interference patterns	0.15	$\sqrt{3}$	0.09
b	Approximation of sound source to a point source	0.10	$\sqrt{3}$	0.06
c	Maintenance and repair of source over 15 years	0.50	$\sqrt{3}$	0.29
Reported Expanded Uncertainty (95% confidence, convergence k = 2)				0.61

11.5 Combined Reported Expanded Uncertainty

Ref	Source of Uncertainty Section 10.2 British Standard 4142:2014+A1:2019	Value dB(A)	Distribution (Divisor)	Uncertainty dB(A)
a	Section 7.1.2. Uncertainty of measured values	2.7	$\sqrt{2}$	1.14
b	Section 7.1.3. Uncertainty of calculations	2.7	$\sqrt{2}$	0.23
c	Section 7.1.4. Uncertainty from other factors	2.7	$\sqrt{2}$	0.43
Combined Reported Expanded Uncertainty (95% confidence, convergence k = 2)				2.55

It should be noted that the uncertainty calculations have assumed a Type B uncertainty.

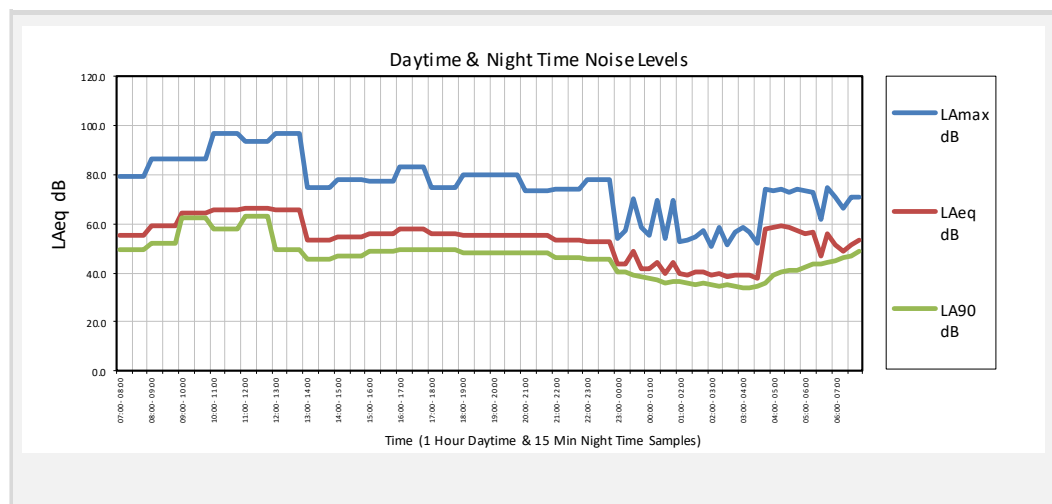
12 APPENDIX B – RESULTS

12.1 5th – 6th June 2025

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Cor r esponding LAmaz 16 HOUR	60.6	96.8	49.0	59.8	53.8	54.9	57.5	56.8	52.5	46.7	48.0	36.3
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Cor r esponding LAmaz 8 HOUR	52.3	74.5	36.0	47.3	41.1	38.9	40.6	43.5	41.3	49.2	43.6	21.5

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	55.4	56.8	49.3	60.1	51.2	48.9	49.9	53.0	47.5	38.1	35.5	24.6
08:00 - 09:00	59.2	86.2	52.2	62.7	55.1	51.9	56.6	56.0	50.2	43.4	41.9	30.8
09:00 - 10:00	64.3	86.4	62.2	62.5	55.2	56.6	57.5	60.1	57.9	52.5	55.7	41.6
10:00 - 11:00	65.5	96.8	58.0	60.9	55.6	62.1	63.6	61.1	56.8	50.1	53.9	44.1
11:00 - 12:00	66.1	93.2	62.7	62.6	57.6	60.7	64.9	61.5	56.8	51.9	53.9	43.2
12:00 - 13:00	65.8	96.5	49.6	60.4	58.5	58.4	62.4	62.4	57.4	53.0	49.5	35.3
13:00 - 14:00	53.3	74.5	45.6	60.1	52.0	47.4	48.6	50.7	45.1	35.5	33.9	24.4
14:00 - 15:00	54.8	78.0	46.8	58.8	50.5	47.4	50.5	52.0	46.8	37.7	36.9	23.8
15:00 - 16:00	56.8	77.1	48.5	58.7	50.9	48.3	50.1	53.5	48.2	37.6	36.1	24.2
16:00 - 17:00	57.8	83.2	49.7	61.7	55.6	54.9	52.8	55.0	50.0	40.2	38.8	27.8
17:00 - 18:00	56.1	74.9	49.4	58.4	51.6	49.0	50.4	53.7	48.7	38.0	34.0	21.6
18:00 - 19:00	56.3	80.0	47.9	57.7	53.0	48.8	49.5	52.7	48.3	36.9	33.9	21.9
19:00 - 20:00	54.9	73.2	48.1	57.7	50.4	46.6	47.6	51.5	48.5	43.1	40.9	24.1
20:00 - 21:00	53.5	74.0	46.3	53.6	49.6	44.9	46.9	51.0	46.6	37.0	34.5	21.2
21:00 - 22:00	52.7	77.6	45.2	53.7	47.8	44.0	45.9	49.8	45.1	42.2	37.6	20.3
22:00 - 23:00	48.3	71.6	42.4	51.0	43.0	42.7	43.8	46.0	39.8	27.4	23.3	12.8

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	43.5	54.0	40.6	44.2	37.4	34.5	38.0	41.9	34.1	22.0	19.7	11.2
23:15 - 23:30	43.3	56.9	40.4	43.1	39.6	37.1	37.9	41.6	33.8	22.0	19.4	11.0
23:30 - 23:45	48.9	70.0	39.1	49.6	45.0	41.9	43.6	46.6	41.1	28.5	22.1	11.6
23:45 - 00:00	41.8	58.7	38.2	42.8	36.8	34.8	37.0	40.0	31.7	19.7	18.3	10.7
00:00 - 00:15	41.5	54.9	37.5	45.2	38.4	35.4	36.1	39.8	31.2	20.6	20.4	11.7
00:15 - 00:30	44.1	69.2	36.9	49.8	42.2	37.8	38.1	41.9	36.3	24.7	21.3	11.7
00:30 - 00:45	39.8	54.0	36.0	40.2	34.9	32.0	34.1	37.9	30.7	21.5	20.7	11.6
00:45 - 01:00	44.5	69.3	36.1	42.7	40.2	38.4	39.1	42.5	36.2	23.6	21.2	11.6
01:00 - 01:15	39.6	52.5	36.3	41.7	35.7	33.6	35.8	37.6	29.4	19.3	18.1	10.6
01:15 - 01:30	39.2	53.4	35.7	41.3	34.4	30.9	34.8	37.6	27.9	15.8	13.7	9.7
01:30 - 01:45	40.1	54.3	35.3	40.5	33.9	31.5	34.9	38.4	30.4	19.6	18.3	10.7
01:45 - 02:00	40.1	57.4	35.8	42.5	35.0	32.5	36.4	38.1	29.5	18.6	16.9	10.3
02:00 - 02:15	38.7	50.8	35.1	40.4	34.8	31.7	34.5	36.7	28.2	21.8	22.1	12.4
02:15 - 02:30	39.4	58.6	34.6	40.1	35.0	31.7	35.4	37.6	29.1	18.0	14.9	9.8
02:30 - 02:45	38.5	51.3	35.0	40.0	33.6	30.6	33.6	36.7	28.3	19.0	17.9	10.5
02:45 - 03:00	38.7	56.7	34.4	40.1	33.2	30.0	33.7	37.1	28.5	17.5	16.2	10.1
03:00 - 03:15	38.7	58.7	33.6	37.9	32.6	30.1	33.3	37.3	28.7	14.7	11.3	9.4
03:15 - 03:30	39.1	56.5	34.1	42.3	34.0	30.3	34.2	37.5	28.5	16.4	11.1	9.4
03:30 - 03:45	38.0	51.8	34.8	39.8	33.9	30.5	33.4	36.5	26.8	14.0	11.2	9.4
03:45 - 04:00	57.5	74.3	35.7	39.8	33.4	31.5	35.4	37.4	42.0	55.8	49.0	25.6
04:00 - 04:15	58.5	73.3	39.3	40.5	33.5	30.3	34.7	38.0	43.9	56.6	50.8	27.2
04:15 - 04:30	59.0	74.0	40.6	39.6	34.3	30.8	35.2	38.8	49.8	56.6	50.8	27.8
04:30 - 04:45	58.4	72.4	41.1	41.9	36.1	35.7	40.7	41.0	48.5	55.9	50.4	27.9
04:45 - 05:00	57.1	74.1	41.1	47.3	43.3	42.7	41.9	43.3	44.6	54.7	49.5	26.7
05:00 - 05:15	55.7	73.6	42.1	45.8	42.2	41.6	41.6	42.2	42.2	53.5	48.0	25.4
05:15 - 05:30	56.3	72.9	43.7	49.2	41.5	41.3	43.2	47.1	44.2	53.4	48.4	26.3
05:30 - 05:45	47.1	61.8	43.4	46.2	41.0	38.9	41.3	44.5	37.5	36.6	32.1	15.9
05:45 - 06:00	56.2	74.5	44.4	52.4	46.5	43.4	46.0	48.9	44.7	52.7	47.2	25.0
06:00 - 06:15	51.1	70.5	44.6	51.8	43.5	41.4	43.8	47.2	41.1	44.9	39.9	19.3
06:15 - 06:30	48.9	66.3	46.2	51.3	43.6	41.7	43.7	46.8	39.8	32.4	30.2	17.9
06:30 - 06:45	51.5	70.6	47.0	53.6	47.3	45.1	46.0	49.2	43.4	34.5	32.6	20.4
06:45 - 07:00	53.2	70.6	48.7	55.3	48.6	46.4	47.5	50.6	45.1	39.3	38.7	24.5

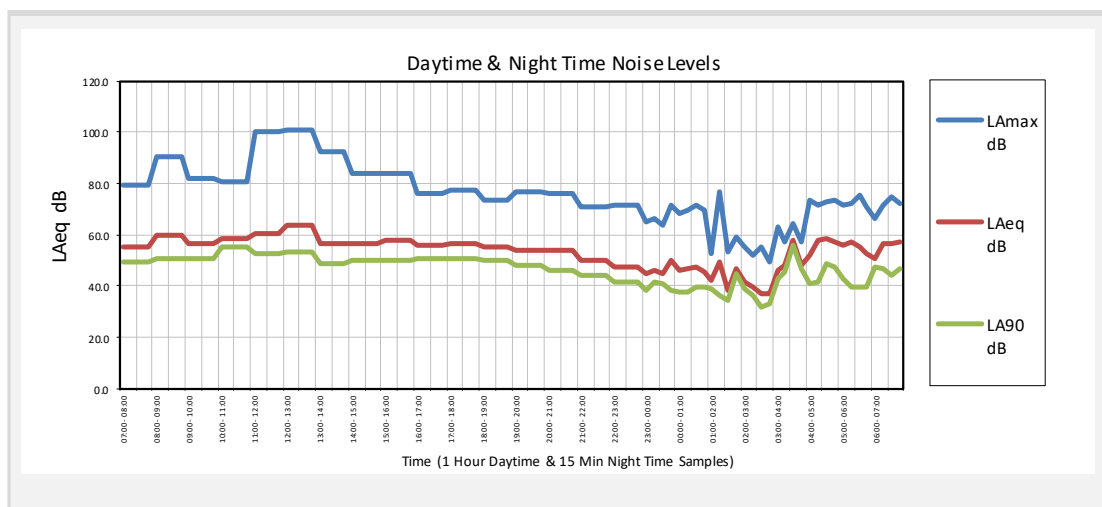


12.2 6th – 7th June 2025

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmaz 16 HOUR	57.7	100.7	50.0	59.6	54.0	52.5	53.8	54.8	49.2	42.1	40.6	29.0
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	53.0	76.9	47.0	47.4	40.2	38.7	41.8	44.7	43.7	49.2	44.7	27.3

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	55.0	79.5	49.4	58.6	50.7	48.2	50.2	52.2	47.2	39.1	38.4	26.8
08:00 - 09:00	60.0	90.5	50.9	61.9	55.2	53.8	56.7	56.7	51.4	46.1	44.7	32.3
09:00 - 10:00	56.3	81.7	50.5	59.8	53.6	51.7	51.5	53.3	48.4	42.7	40.7	29.7
10:00 - 11:00	58.7	80.6	55.1	60.7	56.2	54.9	54.6	55.9	50.1	42.8	39.4	27.2
11:00 - 12:00	60.7	100.2	52.6	59.3	54.6	55.2	55.0	58.4	52.0	46.0	43.9	31.6
12:00 - 13:00	64.0	100.7	53.5	61.4	58.3	59.4	61.5	61.0	54.5	46.3	42.9	31.8
13:00 - 14:00	56.5	92.5	48.7	60.4	53.2	50.6	53.2	53.5	47.6	39.9	39.2	28.0
14:00 - 15:00	56.2	83.8	50.3	61.0	54.8	50.8	51.0	53.3	48.7	41.0	40.2	28.9
15:00 - 16:00	57.8	83.6	50.3	61.3	56.4	53.4	53.1	54.8	49.6	42.8	42.5	31.3
16:00 - 17:00	56.1	76.0	50.8	61.1	54.6	51.1	51.3	53.0	48.4	41.9	41.8	30.5
17:00 - 18:00	56.3	77.7	50.4	60.5	53.4	50.5	51.1	53.5	48.7	40.9	40.6	29.2
18:00 - 19:00	55.3	73.6	49.9	58.2	52.2	48.8	49.7	52.5	47.8	39.8	40.3	29.0
19:00 - 20:00	53.9	76.6	48.2	56.3	50.8	47.1	48.6	51.4	46.2	36.6	35.6	23.8
20:00 - 21:00	53.8	76.4	45.8	56.8	49.9	46.4	49.3	51.2	45.5	36.4	35.5	24.5
21:00 - 22:00	49.8	71.0	44.2	52.6	48.1	42.7	44.2	47.2	42.1	33.7	33.0	21.4
22:00 - 23:00	47.4	71.4	41.3	49.9	43.0	41.3	42.5	45.0	39.3	28.8	26.4	15.6

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	44.6	65.3	38.2	46.7	42.0	39.6	39.1	42.5	36.0	24.4	21.2	12.1
23:15 - 23:30	45.9	66.2	41.4	44.7	38.4	37.7	39.8	42.9	39.0	33.1	31.5	22.0
23:30 - 23:45	44.6	63.8	40.9	43.5	35.3	34.1	37.8	41.1	38.2	32.9	31.0	20.1
23:45 - 00:00	49.9	71.7	38.0	50.3	41.3	39.1	42.5	46.7	43.4	38.1	35.6	22.4
00:00 - 00:15	46.2	68.3	37.8	53.6	42.0	37.2	40.0	42.9	39.7	33.5	29.8	17.1
00:15 - 00:30	46.6	69.8	37.7	48.2	41.4	37.3	40.4	44.0	39.4	32.5	30.0	17.4
00:30 - 00:45	47.2	71.8	39.3	45.2	40.2	38.5	40.5	44.2	40.3	34.7	33.0	20.3
00:45 - 01:00	45.7	69.8	39.8	44.4	37.9	36.0	38.4	43.1	38.7	32.3	30.8	18.8
01:00 - 01:15	42.2	52.8	39.0	39.2	33.3	32.3	35.4	38.9	35.6	30.5	29.3	18.8
01:15 - 01:30	49.6	76.9	36.1	42.1	37.9	36.5	41.0	46.8	43.0	37.6	35.5	22.3
01:30 - 01:45	38.2	53.4	34.6	38.0	31.1	29.1	32.4	35.5	30.8	24.4	22.6	13.4
01:45 - 02:00	46.8	59.3	44.8	38.9	34.4	35.5	40.0	42.1	40.6	37.2	36.7	25.8
02:00 - 02:15	41.4	55.0	39.1	40.6	32.8	30.8	35.1	37.8	34.8	30.0	29.3	19.1
02:15 - 02:30	39.5	52.1	36.2	38.9	33.1	32.6	33.5	36.4	32.4	26.6	25.4	16.1
02:30 - 02:45	36.7	55.2	31.9	39.5	31.9	28.5	31.2	34.1	29.2	21.9	18.8	11.6
02:45 - 03:00	37.1	49.6	33.2	39.4	33.4	28.6	31.7	34.6	29.2	22.0	18.8	11.9
03:00 - 03:15	46.0	63.1	42.7	45.1	36.6	35.6	39.0	41.9	39.9	35.2	34.1	23.9
03:15 - 03:30	47.7	57.1	45.2	39.4	35.5	36.5	40.8	43.4	41.8	37.3	36.6	27.0
03:30 - 03:45	57.6	64.2	56.0	42.3	43.9	46.5	50.8	53.1	51.5	47.6	47.5	38.1
03:45 - 04:00	48.2	57.4	46.6	37.6	35.9	37.0	41.1	43.5	42.3	38.4	38.2	28.0
04:00 - 04:15	52.0	73.3	40.8	39.8	33.4	32.9	36.4	39.0	40.5	49.0	46.5	25.9
04:15 - 04:30	58.1	71.7	41.3	36.7	31.3	30.6	34.4	38.0	48.4	55.5	51.3	29.5
04:30 - 04:45	58.5	72.9	48.4	41.4	36.9	38.1	42.3	45.0	49.7	55.6	50.8	31.5
04:45 - 05:00	57.3	73.6	47.3	50.8	39.6	39.7	43.3	47.0	47.0	54.4	49.3	30.3
05:00 - 05:15	56.1	71.5	42.5	43.3	38.9	38.5	41.1	43.4	45.1	53.5	48.4	26.8
05:15 - 05:30	57.1	72.2	39.8	49.4	39.5	36.1	41.1	42.8	44.6	54.7	49.8	27.6
05:30 - 05:45	55.0	75.6	39.5	46.1	40.0	38.7	42.2	46.1	43.7	52.2	45.9	24.3
05:45 - 06:00	52.4	70.6	39.9	44.3	36.0	36.4	38.5	40.1	39.6	49.9	44.6	23.0
06:00 - 06:15	50.8	66.3	47.3	44.0	38.8	39.4	43.5	46.0	44.7	41.9	40.1	28.6
06:15 - 06:30	56.5	71.5	46.6	50.2	43.0	42.1	44.7	47.8	46.3	53.3	48.0	29.8
06:30 - 06:45	56.5	74.7	44.1	48.3	44.2	41.4	42.9	45.7	43.8	54.0	47.5	25.0
06:45 - 07:00	57.4	72.3	47.0	57.3	49.5	45.5	46.8	49.0	46.3	53.9	49.7	28.1

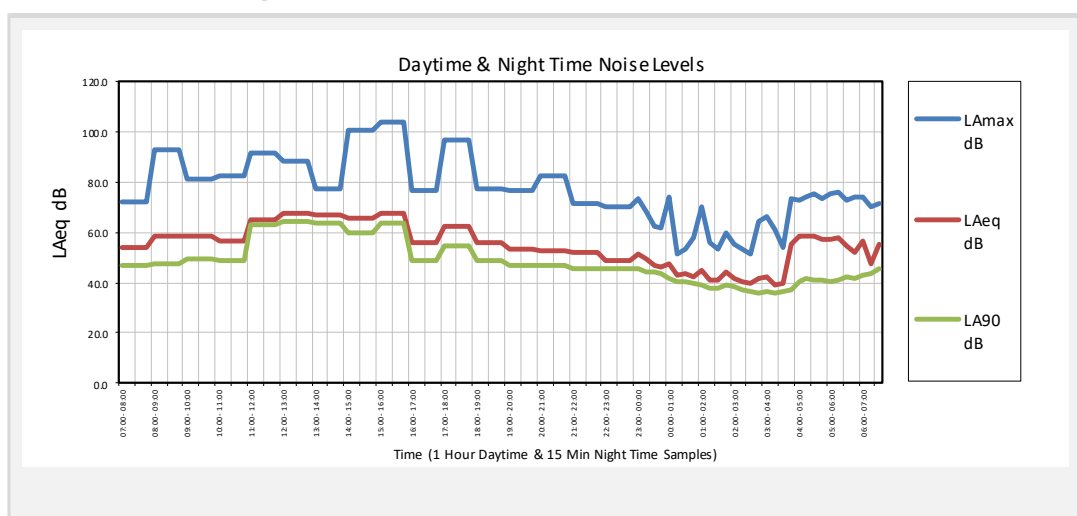


12.3 7th – 8th June 2025

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmx	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Cor r esponding LAmx 16 HOUR	62.4	104.0	46.0	62.7	56.2	53.8	57.9	57.9	53.6	53.8	52.2	41.1
NIGHT TIME 23:00 - 07:00 LAeq 8 HOUR & Cor r esponding LAmx 8 HOUR	53.1	75.7	41.0	47.3	39.9	36.9	39.7	43.5	41.7	50.3	44.5	21.9

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmx	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	53.9	72.1	46.5	54.2	46.3	43.3	45.7	49.5	44.9	48.0	42.7	22.0
08:00 - 09:00	58.2	93.0	47.6	65.8	54.1	50.2	55.2	55.0	49.3	43.9	40.2	26.1
09:00 - 10:00	58.5	80.9	49.2	59.3	50.9	48.6	53.5	55.1	49.5	49.6	47.0	31.8
10:00 - 11:00	56.6	82.3	48.7	62.7	54.6	49.3	52.7	54.0	48.2	38.9	35.1	23.0
11:00 - 12:00	65.2	91.5	62.8	60.4	55.5	56.3	59.6	58.5	58.5	56.9	58.0	45.5
12:00 - 13:00	67.4	88.5	64.5	61.2	54.0	55.6	60.9	61.4	59.4	59.8	61.0	48.8
13:00 - 14:00	66.6	77.3	63.6	60.9	53.5	56.5	63.6	64.4	54.2	49.8	49.5	39.9
14:00 - 15:00	65.8	100.4	59.6	58.9	53.6	56.3	61.1	60.2	57.4	59.1	53.5	45.2
15:00 - 16:00	67.3	104.0	63.3	61.3	55.6	56.4	63.8	62.5	56.6	60.5	53.9	46.3
16:00 - 17:00	55.9	76.7	48.4	57.6	51.1	47.7	49.4	52.8	49.4	42.9	41.0	28.3
17:00 - 18:00	62.5	96.5	54.5	72.0	66.0	60.9	58.9	58.0	54.1	49.2	48.8	38.7
18:00 - 19:00	55.6	77.0	48.5	57.5	53.3	47.8	50.7	52.4	48.7	42.1	40.5	27.3
19:00 - 20:00	53.1	76.3	46.9	54.3	47.7	44.1	47.0	50.4	46.3	37.7	34.3	19.2
20:00 - 21:00	52.5	82.2	46.5	53.8	46.8	44.6	46.6	49.8	45.8	35.7	31.4	17.8
21:00 - 22:00	51.8	71.3	45.6	51.0	43.8	42.8	44.3	48.1	42.6	44.9	39.9	16.4
22:00 - 23:00	48.5	70.3	45.2	48.5	42.8	40.6	42.0	46.8	39.5	25.4	18.5	10.3

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmx	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	51.2	73.3	45.6	55.7	45.2	43.6	46.0	49.1	43.0	30.2	25.1	12.4
23:15 - 23:30	49.2	68.4	44.2	52.9	47.0	41.9	43.4	47.1	40.9	29.0	24.4	12.2
23:30 - 23:45	46.8	62.6	44.0	46.6	39.7	38.6	40.3	45.3	37.7	24.8	21.6	11.4
23:45 - 00:00	46.4	61.5	43.4	50.6	40.9	36.6	39.8	44.4	39.3	23.8	15.8	9.7
00:00 - 00:15	47.6	74.3	41.4	44.5	37.7	37.4	41.4	45.8	39.6	25.0	17.5	10.1
00:15 - 00:30	43.1	51.5	40.3	42.4	35.7	33.5	37.1	41.7	33.3	18.7	14.9	9.8
00:30 - 00:45	43.3	53.4	40.4	44.2	36.4	33.8	36.9	41.8	33.6	19.1	14.3	9.7
00:45 - 01:00	42.6	58.1	39.6	41.3	35.0	34.4	36.6	41.1	32.6	18.5	15.1	9.8
01:00 - 01:15	44.8	70.2	38.9	44.6	39.3	35.3	38.1	43.0	36.3	22.3	16.1	9.8
01:15 - 01:30	41.1	55.9	37.8	42.3	35.5	33.0	36.2	39.5	30.7	16.9	14.3	9.7
01:30 - 01:45	40.9	53.5	37.7	41.5	34.8	31.8	34.9	39.2	31.4	21.4	22.0	12.8
01:45 - 02:00	43.9	60.0	39.1	49.6	41.4	39.5	41.4	41.1	33.3	21.2	15.3	9.8
02:00 - 02:15	41.4	55.5	38.5	41.7	35.5	31.7	35.7	39.9	31.6	18.4	15.6	9.9
02:15 - 02:30	40.4	53.1	37.1	40.0	33.7	31.3	34.8	38.9	30.2	17.5	15.5	9.8
02:30 - 02:45	39.9	51.3	36.5	39.4	33.9	31.0	33.9	38.4	30.4	17.9	15.5	9.8
02:45 - 03:00	41.6	64.4	36.0	44.6	36.3	33.7	36.5	39.6	33.0	21.3	17.2	10.0
03:00 - 03:15	42.5	66.4	36.2	43.3	35.4	33.4	37.3	40.6	33.8	21.8	15.6	9.7
03:15 - 03:30	39.2	61.1	35.7	38.6	32.3	29.9	33.9	37.6	29.4	17.4	11.9	9.4
03:30 - 03:45	40.0	53.8	36.7	39.9	32.7	31.0	34.2	38.5	29.9	15.7	11.1	9.4
03:45 - 04:00	55.3	73.2	37.4	40.5	33.3	30.8	35.1	38.7	41.0	53.5	46.6	23.4
04:00 - 04:15	58.3	72.7	40.5	39.6	32.0	28.5	31.7	37.5	51.3	55.2	49.7	26.4
04:15 - 04:30	58.4	74.3	41.9	40.2	33.1	31.0	35.2	42.2	46.5	56.2	50.4	26.9
04:30 - 04:45	58.5	75.0	41.1	39.6	33.9	33.7	38.4	44.8	45.9	56.4	49.7	26.8
04:45 - 05:00	57.1	73.5	40.7	41.0	34.4	32.0	38.5	40.3	42.6	55.0	49.9	27.3
05:00 - 05:15	57.5	75.6	40.4	42.2	34.7	32.6	38.1	41.0	42.6	55.5	49.7	27.0
05:15 - 05:30	57.9	75.7	41.2	43.2	37.6	36.9	39.3	42.6	42.9	55.9	50.3	27.2
05:30 - 05:45	54.7	72.7	42.1	51.3	44.2	39.6	42.4	46.2	42.9	51.9	45.2	22.6
05:45 - 06:00	52.1	74.2	41.3	45.0	41.4	37.3	40.8	44.5	40.9	48.9	42.2	20.6
06:00 - 06:15	56.4	74.0	43.2	50.1	40.4	40.7	43.5	45.7	43.1	53.9	48.5	26.3
06:15 - 06:30	47.5	70.3	43.7	44.6	39.2	38.4	41.9	45.7	38.3	30.0	24.8	9.9
06:30 - 06:45	55.3	71.1	45.4	48.6	42.2	38.6	41.3	45.5	41.9	52.6	48.1	25.8
06:45 - 07:00	57.4	72.4	44.9	52.7	46.3	40.8	42.4	47.3	44.5	54.9	49.1	26.8

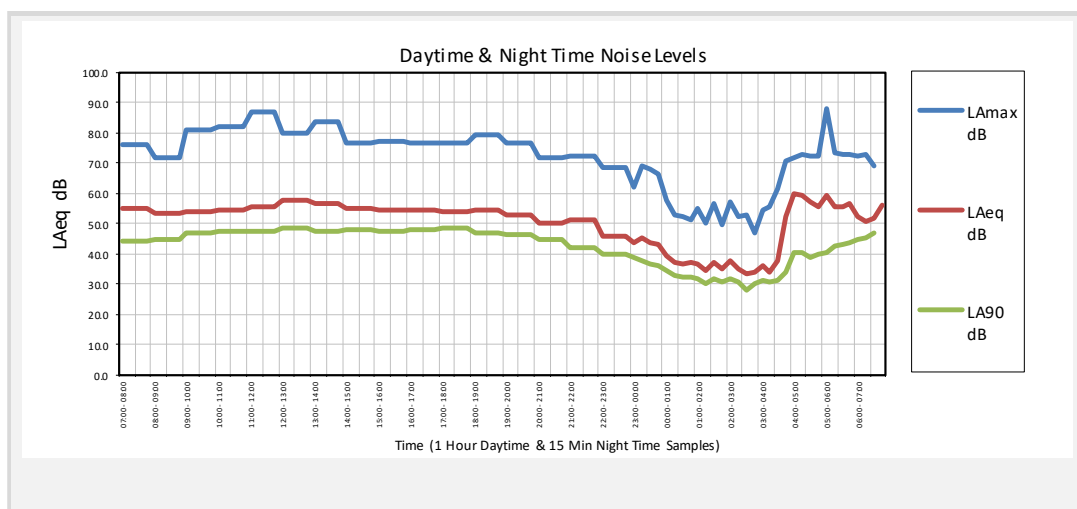


12.4 8th – 9th June 2025

NOISE LEVEL SUMMARY ASSESSMENT				Octave Band Centre Frequency (Hz)								
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmaz 16 HOUR	54.3	87.1	47.0	59.2	51.6	48.5	49.2	51.2	45.9	42.9	38.4	24.2
NIGHTTIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmaz 8 HOUR	52.6	87.8	31.0	56.5	45.2	40.0	42.2	43.9	43.2	48.9	43.8	21.9

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	55.0	76.1	44.0	53.0	46.5	43.0	44.2	47.6	43.1	51.8	45.6	25.0
08:00 - 09:00	53.6	72.0	44.9	56.3	48.0	44.2	45.5	48.8	44.1	48.1	43.1	23.1
09:00 - 10:00	53.8	81.2	47.0	60.6	50.9	48.0	49.4	51.4	45.4	34.1	32.1	19.3
10:00 - 11:00	54.3	82.0	47.2	61.7	55.0	54.3	49.7	51.4	45.2	33.1	28.7	15.7
11:00 - 12:00	55.4	87.1	47.4	60.3	51.8	47.9	49.8	52.7	48.4	36.8	31.4	21.5
12:00 - 13:00	57.6	79.7	48.4	65.8	56.1	51.2	54.2	54.9	48.3	38.8	37.5	27.8
13:00 - 14:00	56.3	83.6	47.2	58.7	52.0	49.3	51.7	53.5	48.1	41.1	38.7	22.0
14:00 - 15:00	55.2	76.7	47.7	60.3	53.6	49.5	50.7	52.5	47.0	37.4	35.8	25.1
15:00 - 16:00	54.4	77.3	47.2	59.5	53.6	49.3	49.6	51.9	46.3	36.0	33.5	22.8
16:00 - 17:00	54.3	76.7	47.8	58.4	51.1	47.6	49.0	51.7	46.6	37.6	36.6	27.5
17:00 - 18:00	53.9	76.4	48.2	57.0	53.5	50.1	49.6	51.0	45.9	36.1	35.3	24.9
18:00 - 19:00	54.5	79.2	46.9	57.5	49.8	47.0	49.4	51.5	47.2	41.0	39.5	29.5
19:00 - 20:00	52.9	76.4	46.2	55.3	48.0	45.6	48.2	50.3	45.2	35.4	33.9	22.7
20:00 - 21:00	50.0	72.0	44.6	51.9	44.2	42.4	44.2	47.4	42.7	32.8	30.1	18.2
21:00 - 22:00	51.2	72.3	42.0	53.4	43.9	43.3	43.6	46.1	43.1	45.3	39.7	20.1
22:00 - 23:00	45.5	68.3	39.8	47.6	41.9	38.9	40.4	43.3	37.2	25.5	22.3	12.3

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmaz	LA90	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	43.3	62.2	38.5	44.4	40.7	38.0	39.0	41.1	34.1	21.9	18.7	10.7
23:15 - 23:30	45.1	69.2	37.5	47.4	39.9	37.6	39.4	43.0	37.0	25.2	19.4	10.3
23:30 - 23:45	43.5	68.1	36.4	48.0	39.1	41.8	44.1	38.8	31.0	18.6	13.7	9.6
23:45 - 00:00	42.9	66.2	36.1	47.0	37.7	35.5	37.2	40.7	34.9	21.9	13.8	9.6
00:00 - 00:15	39.2	57.7	34.2	40.3	34.4	30.3	33.5	37.7	29.4	14.9	10.6	9.4
00:15 - 00:30	37.0	52.7	32.6	39.3	34.2	30.4	32.3	35.3	26.7	13.3	11.5	9.5
00:30 - 00:45	36.6	52.2	32.4	41.1	33.8	30.7	32.2	34.7	26.1	13.6	11.0	9.4
00:45 - 01:00	37.1	51.1	32.0	39.9	31.0	34.8	32.4	34.8	26.9	17.2	17.8	12.2
01:00 - 01:15	36.7	55.2	31.4	38.1	32.6	28.2	31.1	34.9	27.8	14.8	10.6	9.4
01:15 - 01:30	34.5	50.3	30.2	36.9	29.3	27.3	29.4	32.9	23.9	11.4	10.6	9.4
01:30 - 01:45	37.1	56.4	31.4	39.2	31.2	28.8	32.7	35.2	26.7	14.3	10.9	9.4
01:45 - 02:00	35.1	49.5	30.5	36.6	30.1	27.3	30.4	33.3	24.8	12.5	11.0	9.4
02:00 - 02:15	37.8	57.3	31.9	39.1	31.5	29.5	33.6	35.9	27.5	14.6	11.7	9.5
02:15 - 02:30	35.2	52.3	30.6	38.3	32.2	31.7	30.5	33.1	24.9	13.3	11.9	9.5
02:30 - 02:45	33.4	52.8	28.1	34.4	29.4	27.0	28.4	31.5	23.5	14.2	12.2	9.5
02:45 - 03:00	34.0	47.0	30.0	36.9	29.8	27.0	30.2	31.8	23.3	17.3	17.2	10.4
03:00 - 03:15	36.0	54.4	31.4	40.0	30.7	28.1	31.1	34.1	26.4	17.1	16.4	10.2
03:15 - 03:30	34.0	55.7	30.5	36.6	30.3	27.3	30.1	32.2	21.8	12.5	12.2	9.6
03:30 - 03:45	37.6	61.3	31.0	36.6	31.7	29.4	32.1	34.5	31.1	22.6	21.3	12.8
03:45 - 04:00	52.2	70.5	33.6	42.7	33.0	31.0	34.1	35.3	38.5	50.2	44.4	22.0
04:00 - 04:15	59.6	72.0	40.4	38.9	34.3	31.5	31.5	36.6	54.0	56.2	48.8	25.7
04:15 - 04:30	59.1	72.9	40.1	47.7	43.0	39.5	41.6	44.6	51.8	55.9	50.9	27.5
04:30 - 04:45	57.0	72.2	38.9	41.3	35.5	33.6	36.4	39.8	44.7	54.3	51.7	28.9
04:45 - 05:00	55.7	72.2	39.7	43.9	36.2	34.6	39.3	39.9	42.5	53.4	48.7	25.8
05:00 - 05:15	59.3	87.8	40.1	70.7	58.2	51.4	53.3	53.4	46.2	54.7	47.9	28.8
05:15 - 05:30	55.6	73.5	42.7	46.2	42.5	36.9	41.1	42.4	40.8	53.4	48.2	24.8
05:30 - 05:45	55.4	73.0	42.9	49.6	49.3	43.3	44.8	46.7	42.9	52.0	48.4	24.5
05:45 - 06:00	56.3	72.7	43.6	50.1	43.6	39.8	42.6	45.8	43.2	53.9	47.5	28.2
06:00 - 06:15	52.0	72.3	44.4	54.5	45.5	43.9	46.1	49.2	43.4	42.2	32.1	14.9
06:15 - 06:30	50.7	73.0	45.3	51.5	45.7	43.0	45.3	48.6	42.7	31.0	25.3	11.6
06:30 - 06:45	51.8	69.2	46.6	61.0	47.9	42.9	45.1	49.0	45.0	36.0	28.9	13.1
06:45 - 07:00	56.1	71.5	46.7	53.0	46.0	43.3	46.6	49.1	43.9	52.3	48.1	27.1

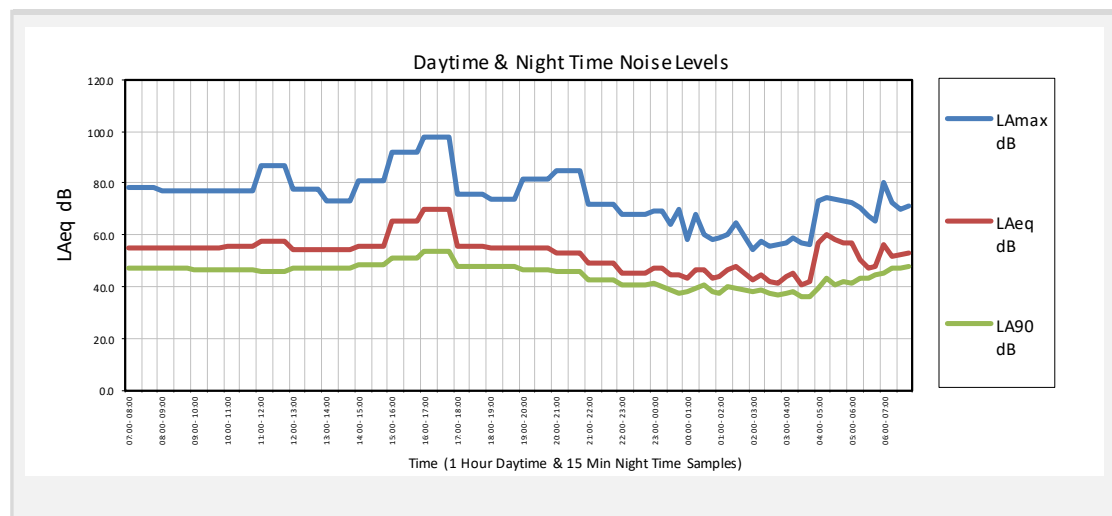


12.5 9th – 10th June 2025

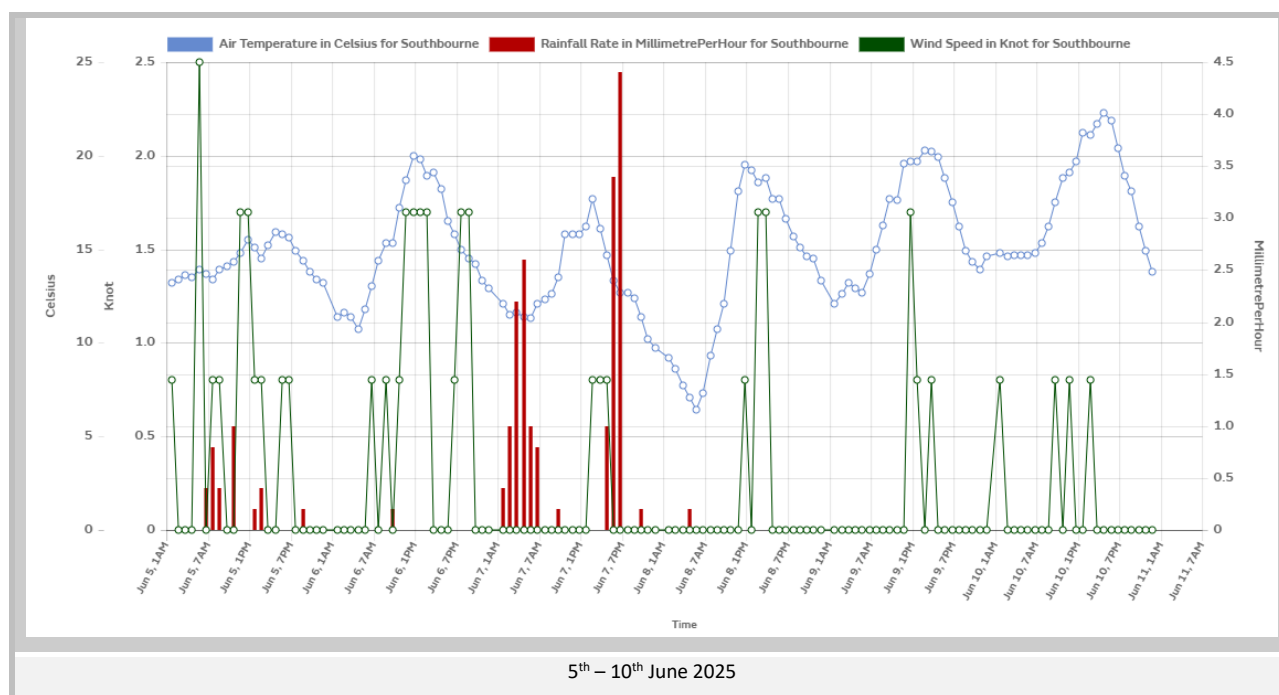
NOISE LEVEL SUMMARY ASSESSMENT						Octave Band Centre Frequency (Hz)						
Date / Time	LAeq	LAmax	LA90	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LAeq 16 HOUR & Corresponding LAmax 16 HOUR	60.3	97.7	46.0	60.6	53.3	51.0	54.9	56.7	53.0	49.4	47.7	37.7
NIGHTTIME 23:00 - 07:00 LAeq 8 HOUR & Corresponding LAmx 8 HOUR	51.9	80.4	38.0	55.3	46.9	41.1	42.9	44.7	41.6	47.6	44.2	24.7

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	LAeq	LAmx	LA90	Octave Band Centre Frequency (Hz)								
				63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	55.0	78.5	47.4	62.5	52.7	48.5	49.6	51.6	46.4	46.2	38.0	21.9
08:00 - 09:00	54.7	77.1	47.0	59.7	51.4	48.3	49.9	52.1	46.8	37.0	36.2	26.3
09:00 - 10:00	55.0	76.9	46.3	65.3	54.8	49.1	49.8	52.0	47.6	37.4	35.0	24.4
10:00 - 11:00	55.2	77.3	46.1	62.2	55.0	51.2	51.2	52.2	47.2	37.0	34.7	24.9
11:00 - 12:00	57.8	86.8	45.6	60.8	56.4	52.2	52.3	55.3	49.4	42.1	38.9	22.4
12:00 - 13:00	54.4	77.4	46.9	61.0	53.0	49.6	49.8	51.7	46.2	35.9	32.6	20.5
13:00 - 14:00	54.3	73.4	47.0	59.8	53.4	48.6	49.4	51.7	46.1	37.7	34.9	24.3
14:00 - 15:00	55.7	80.8	48.5	59.8	52.4	48.8	51.1	52.3	48.1	43.3	41.6	30.2
15:00 - 16:00	65.2	91.7	50.9	60.5	55.2	55.0	59.8	60.6	58.5	55.5	54.1	43.9
16:00 - 17:00	69.9	97.7	53.9	61.9	57.1	58.3	64.3	66.2	62.6	59.5	58.0	48.2
17:00 - 18:00	55.7	76.0	47.8	60.4	52.5	49.9	50.7	53.2	47.8	37.7	35.8	24.4
18:00 - 19:00	55.0	73.9	47.5	60.9	52.8	49.3	49.6	52.5	47.2	36.9	35.2	23.5
19:00 - 20:00	55.0	81.4	46.3	59.2	50.6	47.2	50.9	52.5	46.3	38.5	37.8	27.4
20:00 - 21:00	53.0	84.9	45.8	54.8	48.2	44.9	46.9	50.1	46.0	38.4	36.9	26.0
21:00 - 22:00	49.4	72.0	42.8	53.0	44.5	42.8	43.7	46.9	41.6	32.5	30.0	17.9
22:00 - 23:00	45.1	68.1	40.5	46.8	39.2	37.8	39.8	42.8	36.8	28.9	29.8	18.2

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	LAeq	LAmax	LA90	Octave Band Centre Frequency (Hz)								
				63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	47.2	69.2	41.4	52.2	45.0	39.5	41.5	44.0	39.8	33.7	34.7	23.0
23:15 - 23:30	47.3	69.0	40.0	45.7	44.0	40.4	42.4	44.3	39.7	32.0	32.5	20.7
23:30 - 23:45	44.5	64.2	38.5	46.9	39.3	39.8	40.5	41.2	36.3	30.6	31.4	19.8
23:45 - 00:00	44.6	69.9	37.1	43.6	37.6	40.6	41.3	41.4	36.3	27.7	27.7	16.4
00:00 - 00:15	43.1	58.4	38.0	44.2	38.3	35.7	38.2	40.1	35.5	29.0	29.5	18.4
00:15 - 00:30	46.6	67.6	39.6	52.6	39.9	39.1	41.1	43.4	39.2	33.7	34.4	22.8
00:30 - 00:45	46.6	60.0	40.4	41.3	38.3	38.5	41.0	42.9	39.3	35.0	37.0	25.4
00:45 - 01:00	43.4	58.3	38.0	39.6	35.5	35.6	38.3	39.9	35.7	31.3	33.0	21.4
01:00 - 01:15	43.7	59.1	37.5	37.9	35.7	36.1	38.6	39.9	36.3	32.2	33.9	22.5
01:15 - 01:30	46.5	60.1	39.8	41.3	38.2	38.7	41.1	42.4	39.3	35.4	36.7	25.2
01:30 - 01:45	47.6	64.9	39.4	42.1	39.3	39.5	42.0	43.5	40.5	36.4	38.5	26.9
01:45 - 02:00	45.1	59.2	38.4	40.2	37.6	37.6	39.8	41.2	37.8	33.8	35.1	23.5
02:00 - 02:15	42.5	54.0	37.9	39.2	35.6	35.4	37.7	38.9	34.8	30.6	32.0	20.3
02:15 - 02:30	44.7	57.5	38.5	40.5	36.8	37.0	39.8	41.0	37.1	32.8	34.5	22.8
02:30 - 02:45	42.2	55.4	37.2	43.5	36.6	35.1	37.6	38.6	34.3	30.0	31.2	19.5
02:45 - 03:00	41.1	56.2	36.5	38.6	34.1	33.7	36.7	38.0	32.8	28.1	29.4	17.9
03:00 - 03:15	43.7	56.6	37.1	38.7	36.0	36.2	38.7	40.3	36.0	31.6	33.1	21.4
03:15 - 03:30	45.4	58.8	38.2	40.6	37.4	37.8	40.2	41.5	38.0	33.7	35.5	23.8
03:30 - 03:45	40.8	57.0	35.8	39.5	34.9	34.1	36.4	37.5	32.4	28.3	29.5	17.9
03:45 - 04:00	41.8	56.0	36.3	39.8	34.6	34.5	36.8	38.5	33.8	29.4	30.3	18.7
04:00 - 04:15	57.0	73.4	39.4	38.7	33.6	32.3	34.2	36.5	43.5	54.5	51.5	28.8
04:15 - 04:30	60.3	74.3	43.0	42.4	37.1	36.7	39.4	41.2	51.0	57.2	54.7	32.4
04:30 - 04:45	57.9	73.9	40.5	41.0	35.1	34.4	37.2	41.4	43.9	55.4	52.0	28.7
04:45 - 05:00	57.1	72.8	42.1	48.8	40.4	39.6	42.3	44.2	44.4	54.7	49.7	29.0
05:00 - 05:15	57.0	72.6	41.5	44.6	39.3	39.0	40.7	41.4	43.0	54.9	49.0	28.1
05:15 - 05:30	50.5	70.5	42.9	46.4	43.5	40.9	42.7	44.3	39.7	46.5	39.3	22.4
05:30 - 05:45	47.3	67.2	43.2	48.1	41.5	39.2	41.5	45.0	39.2	32.1	32.3	20.3
05:45 - 06:00	48.0	65.2	44.2	48.4	43.4	42.4	43.3	45.5	39.7	31.6	31.3	19.3
06:00 - 06:15	56.2	80.4	44.8	68.9	60.4	51.2	52.9	53.3	45.0	38.9	38.7	28.6
06:15 - 06:30	51.4	72.3	47.0	53.4	46.0	44.8	46.0	49.2	43.0	34.7	34.1	21.7
06:30 - 06:45	52.0	70.0	47.4	61.4	50.4	44.1	45.8	49.7	43.9	34.0	30.3	17.8
06:45 - 07:00	53.0	70.9	48.1	56.5	48.2	45.6	47.2	50.8	44.6	36.9	35.5	18.5



13 APPENDIX C – WEATHER CONDITIONS



14 APPENDIX D – BS 4142:2019+A1:2019 INFORMATION

In accordance with BS 4142:2014:A1:2019, section 12, the following information is provided.

14.1 Professional Competence

Acoustic Consultant	Mr Brian Scrivener MIOA
Qualifications	Member of the Institute of Acoustics (MIOA)
Date Certified	June 2003
Time Operating as an active Noise Consultant	Permanently Since June 2003
Professional Position	Owner of Sound Advice Acoustics Ltd & Sound Advice Engineering Managing Director & Share Holder
Professional Status	Noise Consultant
Professional Statement	
I have been active within the field of noise consultancy and noise control engineering since I joined the company in April 1997. Working my way through the company and gaining experience in this specialist field, I qualified as a noise consultant in June 2003 when I passed my Diploma in Noise Control & Engineering from Epsom College under the tutor of Dr Latha Vesudevan. Subsequently I was awarded the status of 'Member of the Institute of Acoustics (MIOA)'. Since then I have taken over the company and continued to work and develop my professional competence within the field of acoustic consultancy, engineering and noise control.	

14.2 Site Status

Site Attended By	Mr Brian Scrivener MIOA
Baseline Measurements Conducted by	Mr Brian Scrivener MIOA
Site Source Measurements Conducted By	Mr Brian Scrivener MIOA

14.3 Measurement Information – Location 1

Details & Justification	Measurement position 1 was located at the front of the existing premises, representative of the Nearest Noise Sensitive Premises
Height from Ground	4m
Reflective Surfaces	None (Free Field)
Distance to NSP	7m
Distance to Source	2m
Topographical Change (m)	None
Ground between Source and Receiver	Mainly Hard Landscape
Windshield Information	Norsonic Outdoor Microphone Protection Kit Model No: 1212
Distance from Proposed Source to Receiver	5m
NSP* - Noise Sensitive Premises	

END OF REPORT