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27 Cherry Hills, Barnsley

24 July 2026

21257-NIA-01-AA-R0

Noise Impact Assessment

Project Number
21257

Issued For
Lucy Davis

EXECUTIVE SUMMARY

This noise impact assessment has been undertaken in order to assess operational noise of a summerhouse converted into a dog salon for commercial use at 27 Cherry Hills, Barnsley.

A background noise survey has been undertaken as detailed in the report, in order to determine an appropriate noise emission criterion, in accordance with the requirements of the IEMA Guidelines for Noise Impact Assessments: 2014.

Calculations were undertaken for the nearest receiver, identified as 25 Cherry Hills, Barnsley. It should be noted that if there are closer receivers that Clement Acoustics is not aware of, a reassessment will be necessary, and this should therefore be confirmed by the Client.

It has been demonstrated that compliance with the established criterion is feasible, dependent on the following material considerations:

- The salon could be in use between 09:00 to 17:00 only
- The external building fabric construction is as established in this report
- The location of the dog salon is as established in this report and marked on the attached site plan

If there is any deviation from the above, Clement Acoustics must be informed, in order to establish whether a reassessment is necessary.

Clement Acoustics has used all reasonable skill and professional judgement when preparing this report. The report relies on the information as provided to us at the time of writing and the assumptions as made in our assessment.

This report is designed to be suitable to discharge typical operational noise planning conditions, as per our original scope of work.

CONTENTS

LIST OF ATTACHMENTS

REVISION HISTORY

Issue	Date of Issue	Author	Reviewed	Authorised
R0	24/07/2026	**Shreyas Rajeendran** Assistant Consultant MSc AMIOA	**Jamie Newton** Senior Consultant BEng (Hons) MIOA	**John Smethurst** Director BSc (Hons) MIOA

Issue	Comment
R0	First Issue

1.0 INTRODUCTION

Clement Acoustics has been commissioned by Lucy Davis to measure existing background noise levels at 27 Cherry Hills, Barnsley. Measured noise levels have been used to determine noise emissions criteria for a dog salon operation in agreement with the planning requirements of the IEMA Guidelines for Noise Impact Assessments: 2014

This report presents the results of the environmental survey followed by noise impact calculations and outlines any necessary mitigation measures.

An acoustic terminology glossary is provided in Appendix A.

2.0 SITE DESCRIPTION

The site is a residential building with a summerhouse in the rear garden, which is used as a dog grooming salon. The site is bound by 29 Cherry Hills to the north, 25 Cherry Hills to the south, Cherry Hills to the east and Alton Way to the west. The surrounding area is predominantly residential in nature.

The existing summerhouse is being used as a dog grooming salon. It is understood that each dog grooming sessions last approximately 2 hours with 3-4 sessions conducted during the day between the hours 09:00 to 17:00.

25 Cherry Hills has been identified as the nearest affected receiver. This nearest noise sensitive receiver was identified through observations on-site and publically available data online. If there are any receivers closer than that identified within this report then a further assessment will need to be carried out.

Locations are shown in attached site plan 21257-SP1.

3.0 ENVIRONMENTAL NOISE SURVEY

3.1 Unattended Noise Survey Procedure

Measurements were undertaken at one position as shown on indicative site drawing 21257-SP1. The choice of this position was based both on accessibility and on collecting representative noise data in relation to the nearest affected receiver.

The surroundings and position used for the monitoring location are described in Table 3.1.

Position No.	Description
UN1	The microphone was mounted on a tripod at the rear garden at a height of approximately 3 m above local ground level. [1]

Table 3.1 Description of unattended monitoring locations

Note [1]: The position was considered to be free-field according to guidance found in BS 4142: 2014 *'Methods for rating and assessing industrial and commercial sound'* (BS 4142: 2014), and a correction for reflections has therefore not been applied.

Continuous automated monitoring was undertaken for the duration of the survey between 13:00 on 13 July 2026 and 10:30 on 15 July 2026.

The measurement procedure generally complied with ISO 1996-2: 2017: '*Description, measurement and assessment of environmental noise*'.

3.2 Weather Conditions

At the time of set-up and collection of the monitoring equipment, the weather conditions were …[add weather conditions observed on collection and install]. It is understood that the weather conditions during the unattended survey comprised of low winds and no precipitation.

It is considered that the weather conditions did not significantly adversely affect the measurements and are therefore considered suitable for the measurement of environmental noise.

3.3 Equipment

The equipment calibration was verified, by means of a field verification check, before and after use and no abnormalities were observed.

The equipment used was as summarised in Table 3.2.

Position	Instrument	Manufacturer	Type
UN1	Class 1 sound level meter[1]	Svantek	957
-	Class 1 sound level meter calibrator[1]	RION	NC-74

Table 3.2 Instrumentation used during the survey

Note [1]: Calibration certificates available upon request

3.4 Unattended Noise Survey Results

The $L_{Aeq: 15min}$, $L_{Amax: 15min}$, $L_{A10: 15min}$ and $L_{A90: 15min}$ acoustic parameters were measured at the location shown in site drawing 21257-SP1.

Measured noise levels are shown as a time history in Attachment 21257-TH1, with average ambient and typical background noise levels summarised in Table 3.3.

Position	Time Period	Average Ambient Noise Level $L_{Aeq: T}$, dB	Typical Background Noise Level $L_{A90: 5min}$, dB
UN1	Daytime (07:00 - 23:00)	46	35
	Night-time (23:00 - 07:00)	36	31
	Proposed Operational Hours (09:00 – 17:00)	47	35

Table 3.3 Average ambient and typical background noise levels

4.0 NOISE CRITERIA

4.1 Barnsley Metropolitan Borough Council Criteria

The Barnsley Metropolitan Borough Council do not state specific noise emission criteria for the dog salon. Relevant standards for assessing noise impact are reviewed in following sections.

4.2 BS 4142:2014 Criteria

In a BS 4142: 2014 assessment, corrections are applied to noise levels in order to calculate a noise Rating Level for the effects of existing activities on nearby noise sensitive receivers. This calculated receiver noise level is compared with the typical measured background noise level.

As the standard explicitly states that it is not intended to be applied to the rating and assessment of sound from domestic animals, it is not applicable to this assessment.

4.3 IEMA Guidelines for Noise Impact Assessments: 2014

'Guidelines for Noise Impact Assessments': 2014, published by the Environmental Management and Assessment (IEMA) with input from the Institute of Acoustics, gives guidance on describing the impact of noise based on the change in noise level as follows:

- Negligible: Assessment criterion is exceeded by 0 to 3 dBA;
- Minor adverse: Assessment criterion is exceeded by 3 to 5 dBA;
- Moderate adverse: Assessment criterion is exceeded by 5 to 10 dBA; and
- Significant adverse: Assessment criterion is exceeded by over 10 dBA.

This assessment method will therefore compare the existing background noise levels as shown in Table 3.3 with the predicted noise levels at the receivers.

5.0 OPERATIONAL NOISE IMPACT ASSESSMENT

5.1 Source Noise Level

In order to present as accurate an assessment possible, unattended measurements were taken internally within the salon, measuring washing, grooming, the use of a hair dryer and occasional dog barks.

Continuous automated monitoring was undertaken for the duration of the survey between 13:00 on 13 July 2026 and 10:30 on 15 July 2026. The loudest 1 min period measured at this position is shown in Table 5.1.

Unit	Sound Pressure Level (dB) in each Frequency Band, Hz								
	63	125	250	500	1k	2k	4k	8k	dB(A)
Dog Salon Activity	70	61	59	70	74	71	53	45	77

Table 5.1 Measured spectral levels of salon noise

5.2 External Building Fabric

The dog grooming is undertaken inside the summerhouse at the southwestern boundary of the site which is shown in 21257-SP1. It is understood that the construction of the summerhouse is as follows:

- Wall
  - 16 mm loglap timber
  - Assumed timber studs with cavity width of 50 mm
  - 50 mm insulation in the cavity
  - 9 mm OSB3 boarding applied to all walls and flooring
- Roof
  - 16 mm loglap timber
  - Double-layer roof felting

The glazing at the east, west and north facades are assumed to be 4 mm single pane.

The construction buildup was modelled in proprietary modelling software INSUL to obtain an representative sound reduction index (SRI) of the external building fabric, which is given below in Table 5.2. It should be noted that the SRIs presented and used in this assessment have been adjusted to account for noise leakage and imperfections in the construction of the salon building.

Element	Octave band centre frequency SRI, dB					
	125	250	500	1k	2k	4k
Southwestern Façade	10	19	33	37	38	10
East and West Façades	10	18	28	32	34	33
North Façade	12	16	22	26	29	26
Roof	12	17	21	24	23	31

Table 5.2 Sound reduction index of external wall construction

5.3 3D Noise Model

In order to provide an accurate and robust assessment of existing activities, noise emissions have been considered by developing a noise map.

The existing activity noise emissions have been modelled using the following source types:

- Building Facades
    - Vertical area sources matching the façade dimensions
- Building Roofs
    - Area sources matching the horizontal roof dimensions

The noise model was constructed using the proprietary noise modelling software package CadnaA, utilising the following assumptions and parameters:

- Noise levels modelled and calibrated using the measured noise levels described in Section 5.1 and modelled SRI performances described in Section 5.2.
- Locations of obstacles such as building envelopes
- Presence of reflecting surfaces
- Hardness of the ground between the sources and receivers
    - The site is modelled as reflective
    - Surrounding grassed areas are modelled as absorptive
- Attenuation due to atmospheric absorption
- Receiver height for first floor windows 4 m above ground
- Receiver heights for gardens 1.5 m above ground

It should be noted that all calculations in the CadnaA model, including those for distance and screening of intermediate building envelopes are undertaken according to International Standard ISO 9613-2:1996 '*Acoustics – Attenuation of sound during propagation outdoors. Part 2: General method of calculation*'. This standard is the preferred method stated in BS 4142 to minimise uncertainty.

The specific noise level has been derived by the use of the 3D noise map model following the calculation method stated in ISO 9613. Calculations are performed over single octave band from 63 Hz to 8 kHz.

Appendix B shows a plan view of noise propagation from the site, towards the identified receptors, with all measured noise sources operational.

5.4 Noise Impact Assessment

The closest receiver has been identified as the window on the northern facade of 25 Cherry Hills which is a minimum of 4 m from the dog grooming salon.

Taking into account all necessary acoustic corrections, the resulting noise level at the identified residential windows would be as shown in Table 5.3. The output of the acoustic model is presented in Appendix B.

Receiver	Design Criterion	Noise Level at Receiver	IEMA Noise Impact
25 Cherry Hills, Barnsley	35 dB(A)	32 dB(A)	Negligible

Table 5.3 Noise levels and project criterion at noise sensitive receivers

As presented in Table 5.3 and Appendix B, the noise impact of the existing dog salon operational activity would be expected to be negligible and meet the requirements of the proposed criteria.

5.5 British Standard Requirements

Further calculations have been undertaken to assess whether the noise emissions from the existing operation would be expected to meet recognised British Standard recommendations, in order to further ensure the amenity of nearby noise sensitive receivers.

British Standard 8233: 2014 '*Guidance on sound insulation and noise reduction for buildings*' (BS 8233: 2014) gives recommendations for acceptable internal noise levels in residential properties. Assuming worst case conditions, of the closest window being for a bedroom, BS 8233: 2014 recommends 35 dB(A) as being acceptable internal resting conditions during daytime.

With loudest external levels of 36 dB(A), acceptable internal conditions would be met by taking the attenuation of the window itself into consideration. According to BS 8233: 2014, a typical building facade with a partially open window offers 15 dB attenuation.

It can therefore be predicted that, in addition to meeting the requirements of the set criteria, the emissions from the existing dog salon operation would be expected to meet the most stringent recommendations of the relevant British Standard, with neighbouring windows partially open. Predicted levels are shown in Table 5.4.

Receiver	Recommended Target – For resting conditions in a bedroom, in BS 8233: 2014	Noise Level at Receiver (due to operational noise)
25 Cherry Hills, Barnsley	35 dB(A)	17 dB(A)

Table 5.4 Noise levels and BS 8233: 2014 criteria inside nearest residential space

6.0 CONCLUSION

An environmental noise survey has been undertaken at 27 Cherry Hills, Barnsley. The results of the survey have enabled criteria to be set for noise emissions from the existing dog salon operation in accordance with the requirements of the Barnsley Metropolitan Borough Council.

A noise impact assessment has then been undertaken using manufacturer noise data to predict the noise levels, due to the existing dog salon operation, at the nearby noise sensitive receivers.

Calculations show that noise emissions from the existing dog salon operation should meet the requirements of the IEMA Guidelines for Noise Impact Assessments: 2014.

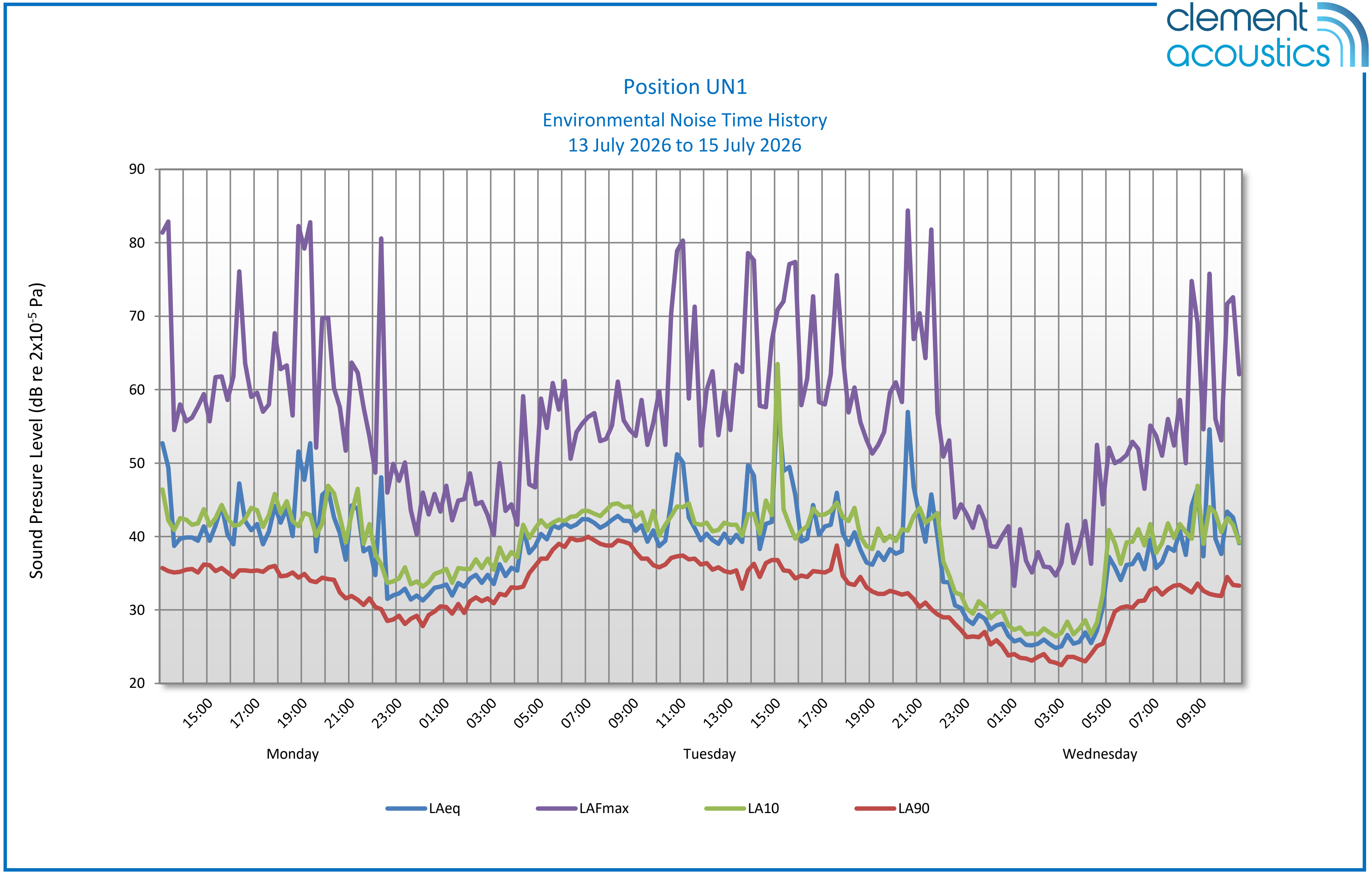
N

Description:
Indicative site plan showing noise monitoring position and nearest sensitive receiver

Not to scale

Date	24 July 2026
Reference	21257-SP1
Project Name	27 Cherry Hills, Barnsley
Image ©	Google Earth

Key:	
	Unattended Noise Survey Position
	Noise Sensitive Receiver
	Attended Noise Survey Position
	Salon Location



clement acoustics
Position UN1
Environmental Noise Time History
13 July 2026 to 15 July 2026
Sound Presure Level (dB re 2x10-5 Pa)
90
80
70
60
50
40
30
20
15:00
17:00
19:00
21:00
23:00
01:00
03:00
05:00
07:00
09:00
11:00
13:00
15:00
17:00
19:00
21:00
23:00
01:00
03:00
05:00
07:00
09:00
Monday
Tuesday
Wednesday
LAeq
LAFmax
LA10
LA90

21257-TH1

APPENDIX A

GLOSSARY OF ACOUSTIC TERMINOLOGY

Absorption Coefficient α	The absorption coefficient of a material, usually measured for each octave or third-octave band and ranging between zero and one. For example, a value of 0.85 for an octave band means that 85% of the sound energy within that octave band is absorbed on coming into contact with the material. Conversely, a low value below about 0.1 means the material is acoustically reflective.
Acceleration	The rate of change of velocity, often measured in ms^{-2}. Commonly used to assess human response to vibration and for machine condition monitoring.
Accelerometer	A vibration transducer sensor that is used to measure acceleration.
Airborne noise	Noise which is fundamentally transmitted by way of the air and can be attenuated by the use of barriers and walls placed physically between the noise source and receiver.
Ambient Vibration	The all-encompassing vibration occurring at a given location, at a given time, composed of all vibration sources near and far.
Audible Range	The limits of frequency which are audible or heard as sound. The normal hearing in a typical young adult detects ranges from 20 Hz to 20 kHz, although some people can detect sound with frequencies outside these limits. Typically, as a person ages their audible hearing range decreases.
A-Weighting	A filter applied to the sound recording made by a microphone to approximate the response of the human ear.
Axis	A fixed reference line for the measurement of vibration in a particular direction. Vibration is commonly measured in transverse (T), longitudinal (L) and vertical (V) axes (or X, Y and Z).
Background Noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation. The L_{90} parameter, i.e. the level exceeded for not more than 90% of the time is often used as a descriptor of "background noise" for environmental impact studies.
Background Vibration	The underlying level of vibration in the ambient environment, measured in the absence of the vibration sources of interest.
Continuous Vibration	Vibration that continues uninterrupted over a defined period.
dB(A)	The human ear is less sensitive to low (below 125 Hz) and high (above 16 kHz) frequency sounds. A sound level meter duplicates the ear's variable sensitivity to sound of different frequencies. This is achieved by building a filter into the instrument with a similar frequency response to that of the ear. This is called an A-weighting filter. Measurements of sound made with this filter are called A-weighted sound level measurements and the unit is dB(A).
Decibel [dB]	The unit that sound is measured in. Decibels are a logarithmic scale hence two equally intense sound sources operating together produce a sound level which is 3 dB higher than one alone and 10 identical, uncorrelated sources produce a 10 dB higher sound level.
Distance Attenuation	Sound which propagates from a point source in free air attenuates by 6 dB for each doubling of distance from the noise source. Sound energy from line sources (e.g. stream of cars) drops off by 3 dB for each doubling of distance.
$D_{nT,w}$	Weighted Standardised Field Level Difference A measure of sound insulation performance of a building element. It is characterised by the difference in noise level on each side of a wall or floor. It is measured in-situ. It is a field measurement that relates to the R_w laboratory measured value but is not equal to it because an in-situ space is not of the same quality as a laboratory space. The value is indicative of the level of speech privacy between spaces. The higher its value the better the insulation performance.
Flanking	Flanking is the transfer of sound through paths around a building element rather than through the building element material directly. For example, sound travelling through a gap underneath a door or a gap at the top of a wall.
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch, and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz. In the case of vibration, frequency is the number of oscillations that occurs per second. Frequency is measured in units of Hertz (Hz).
Ground-Borne Noise	Vibration propagated through the ground and then radiated as noise by vibrating building elements such as wall and floor surfaces. This noise is more noticeable in rooms that are well insulated from other airborne noise. An example would be vibration transmitted from an underground rail line radiating as sound in a bedroom of a building located above.
Impact Noise	Impact noise / structure-borne noise is generated when an object impacts with a separating element, causing that element to vibrate and re-radiate as noise in the receiving room. Common domestic examples of impact noise include footsteps and dropping objects.
Impulsive Noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.

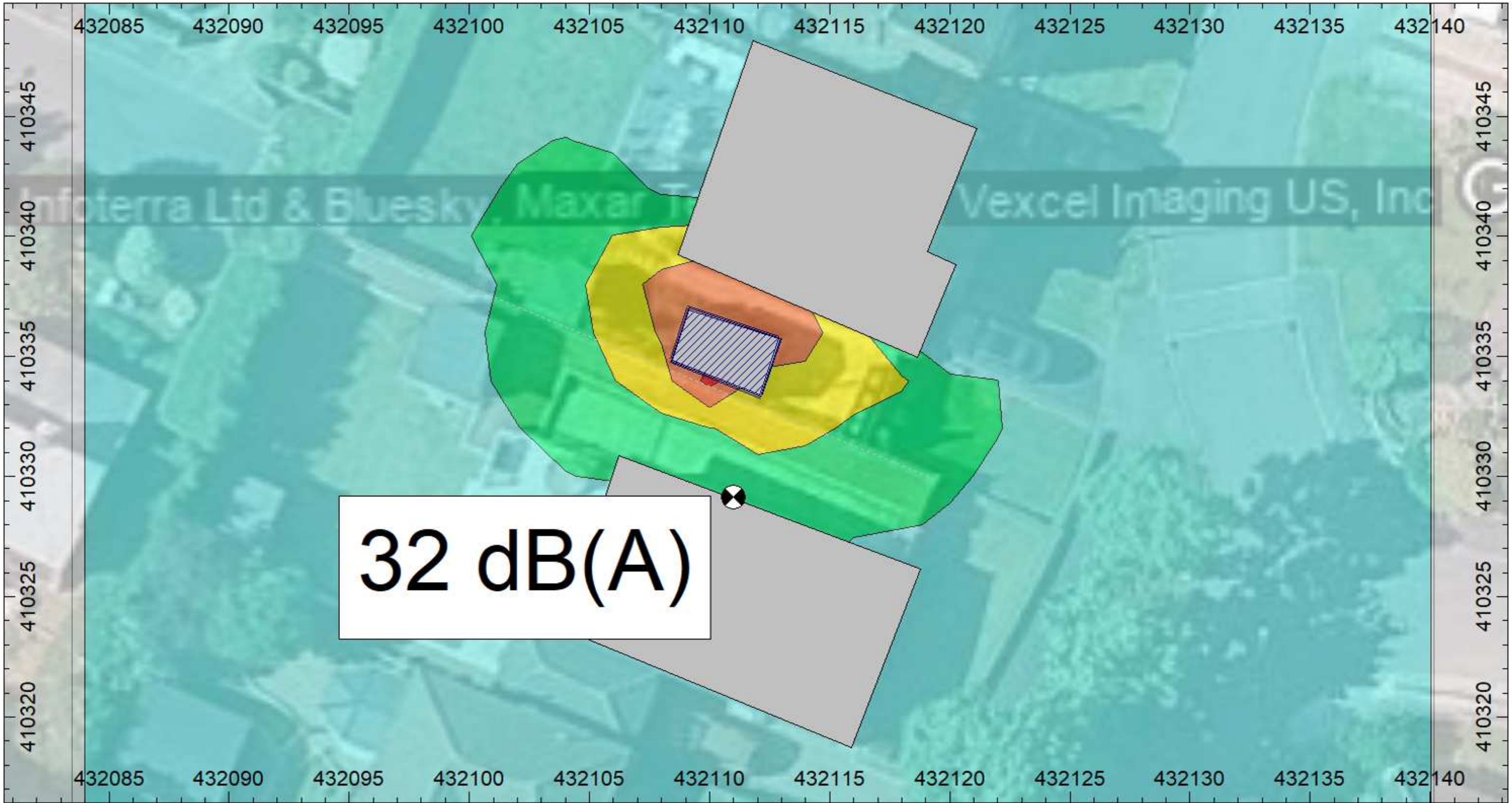
APPENDIX A

Impulsive Vibration	Vibration that rapidly builds up to a peak followed by a damped decay. May consist of multiple impulsive events, typically less than two seconds in duration.
Intermittent Noise	The level suddenly drops to that of the background noise several times during the period of observation.
Intermittent Vibration	Either interrupted periods of continuous vibration or repeated periods of impulsive vibration.
L_{10}	This is the level exceeded for not more than 10% of the time. This parameter is often used as a "not to exceed" criterion for noise
L_{90}	This is the level exceeded for not more than 90% of the time. This parameter is often used as a descriptor of "background noise" for environmental impact studies.
L_{eq}	The sound from noise sources often fluctuates widely during a given period of time. An average value can be measured, the equivalent sound pressure level L_{eq}. The L_{eq} is the equivalent sound level which would deliver the same sound energy as the actual fluctuating sound measured in the same time period.
L_{max}	This is the maximum sound pressure level that has been measured over a period.
$L_{nT,w}$	Weighted Standardised Field Impact Sound Pressure Level As for $L_{n,w}$ but measured in-situ and therefore subject to the inherent accuracies involved in such a measurement. The equivalent measurement in a laboratory is the $L_{n,w}$. A lower value indicates a better performing floor.
Noise	Unwanted sound.
Octave	An octave represents a doubling or halving in frequency. Noise or vibration levels across a frequency spectrum are commonly given in octave or one-third octave frequency bands.
PPV	Peak Particle Velocity. The absolute maximum value of the vibration velocity signal measured in any axis during a given time interval.
Reflection	Sound wave reflected from a solid object obscuring its path.
R_w	Weighted Sound Reduction Index A measure of the sound insulation performance of a building element. It is measured in very controlled conditions in a laboratory. The related field measurement is the $D_{nT,w}$. The higher the value the better the acoustic performance of the building element.
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound Absorption	The ability of a material to absorb sound energy by conversion to thermal energy.
Sound Insulation	Sound insulation refers to the ability of a construction or building element to limit noise transmission through the building element. The sound insulation of a material can be described by the R_w and the sound insulation between two rooms can be described by the $D_{nT,w}$.
Sound Level Meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound Power Level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 pico watt.
Sound Pressure Level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone referenced to 20 micro Pascal.
Structure-borne Noise	Audible noise generated by vibration induced in the ground and/or a structure. Vibration can be generated by impact or by solid contact with a vibrating machine. Examples of structure-borne noise include the noise of trains in underground tunnels heard to a listener above the ground, the sound of footsteps on the floor above a listener and the sound of a lift car passing in a shaft.
Subjective Impression of Noise	Sound intensity is not perceived directly at the ear; rather it is transferred by the complex hearing mechanism to the brain where acoustic sensations can be interpreted as loudness. This makes hearing perception highly individualised. Sensitivity to noise also depends on frequency content, time of occurrence, duration of sound and psychological factors such as emotion and expectations. The following table is a reasonable guide to help explain increases or decreases in sound levels for many acoustic scenarios.

Change in sound level (dB)	Change in perceived loudness
1	Imperceptible
3	Just barely perceptible
6	Clearly noticeable
10	About twice as loud
20	About 4 times as loud

APPENDIX A

Tonal Noise	Sound containing a prominent frequency and characterised by a definite pitch.
Transmission Loss	The sound level difference between one room or area and another, usually of sound transmitted through an intervening partition or wall. Also the vibration level difference between one point and another. For example, if the sound level on one side of a wall is 100 dB and 65 dB on the other side, it is said that the transmission loss of the wall is 35 dB. If the transmission loss is normalised or standardised, it then becomes the R_w or R'_w or $D_{nT,w}$.
VDV	Vibration Dose Value. A measure of tactile vibration levels used to assess intermittent vibration.
Velocity	The rate of change of vibration displacement, usually measured in mms^{-1}.
Vibration	A mechanical phenomenon whereby oscillations occur about an equilibrium point; a periodic back-and-forth motion of an elastic body or medium, commonly resulting when almost any physical system is displaced from its equilibrium condition.



Dog Grooming Noise Levels, LAeq

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Notes:
The noise model was constructed using the proprietary noise modelling software package Cadna A.
The potential noise mitigation of a barrier at the nearby proposed buildings has been predicted using the calculation methodology outlined in ISO 9613-2.
The noise model was constructed utilising the following assumptions and parameters:
- Locations of obstacles such as screens or barriers in the propagation path
- Presence of reflecting surfaces
- Hardness of the ground between the sources and receivers
- Attenuation due to atmospheric absorption

21257-Appendix_B

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