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PROPOSED RESIDENTIAL DEVELOPMENT ON FROMER LOUISA STREET WORKS, OPENSHAW

NOISE IMPACT ASSESSMENT

On behalf of:

Westchurch Homes Ltd

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Report No: P22-313-R01v2
August 2022

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NOISE IMPACT ASSESSMENT

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1.0 INTRODUCTION

1.1 Hepworth Acoustics Ltd was commissioned by Westchurch Homes Ltd to carry out a noise impact assessment in connection with a proposed planning application for residential development at Louisa Street Works, Openshaw.

1.2 The location of the proposed residential development is on land off Louisa Street and is shown in Figure 1. The site is a former commercial/business park and is bounded to the north by Venus Foods; a food storage/distribution business. Existing dwellings surround the site to the west and east with park land to the south.

1.3 It is proposed to develop the site for residential use with 71 dwellings consisting of a mixture of terraces, semi-detached houses and apartments. Vehicular access to the development will be via Louisa Street.

1.4 The assessment has been based on the layout shown on drawing PL001 Rev E as provided by View Associates dated August 2022. The proposed layout of the development is shown in Figure 2.

1.5 The noise assessment has included:

- An inspection of the site and surrounding area;
- Measurement of noise levels over a 24 hour weekday period;
- Measurement of any noise from nearby industrial/commercial noise sources;
- Recommendation of appropriate mitigation measures.

1.6 The various noise units and indices referred to in this report are described in Appendix I. All noise levels mentioned in the text have been rounded to the nearest decibel, as fractions of decibels are imperceptible.

2.0 GUIDANCE AND ACOUSTIC DESIGN CRITERIA

NPPF:2021

2.1 Paragraph 185 of the National Planning Policy Framework (NPPF) 2021 states that planning policies and decisions should *"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;"*

2.2 A requirement of Paragraph 187 of the NPPF is that new development can be integrated effectively with existing businesses. Existing businesses 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 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. Thus, for this development, if it is found that there is adverse noise impact from the existing commercial premises it is incumbent on the housing developer to incorporate adequate noise mitigation into the residential developer to protect the amenity of the new residents but also to safeguard the business interests of the commercial operator.

NPSE:2010

2.3 The Noise Policy Statement for England (NPSE) 2010, which is referred to the in NPPF, includes three aims:

i. Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

ii. Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

iii. Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

BS 4142:2014+A1:2019

2.4 British Standard 4142:2014+A1:2019, 'Methods for rating and assessing industrial and commercial sound' is the appropriate guidance for assessing the potential noise impact at residential locations from commercial and industrial sources.

2.5 BS 4142 requires a 'rating' level ($L_{Ar,Tr}$) calculated from the operation of the noise source to be compared with the background sound level ($L_{A90,T}$) which is measured in the absence of the noise source. The noise is evaluated over a 1-hour period for daytime operations (i.e. 07:00 - 23:00 hours) and 15-minute period for night-time operations (i.e. 23:00 - 07:00 hours).

2.6 The rating level ($L_{Ar,Tr}$) is based on the 'specific' sound level ($L_{Aeq,Tr}$) attributed to the operating noise source, with 'character corrections' added for sound sources where "*certain acoustic features can increase the significance of impact*" when present at residential locations.

2.7 The acoustic character correction, where necessary, applied to the specific sound level in order to obtain the rating level and can take into account tonality, intermittency, impulsivity and characteristics otherwise distinctive against the prevailing noise climate in the area.

2.8 An initial estimate of the potential noise impact from the operating noise source is determined by comparing the difference between the rating level and the background sound level.

2.9 Regarding the outcome of the initial estimate, BS 4142 states that:

- Typically, the greater this difference, the greater the magnitude of impact;
- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context; and,
- The lower the rating level is relative to the measured background level, the less likely it is that the operation will have an adverse impact or a significant adverse impact. Where the rating level is does not exceed the background sound level, this is an indication of the specific sound source having low impact, depending on the context.

2.10 BS 4142 also states in respect of background sound levels that "*it is important to ensure that values are reliable and suitably represent the particular circumstances and periods of interest… the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods*".

2.11 BS 4142 states that all pertinent factors must be taken into account regarding the context in which the noise occurs, including but not limited to:

- The absolute level of sound.
- The character and level of the residual sound compared to the character of the specific sound; and,
- The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will incorporate design measures that ensure good internal and/or outdoor acoustic conditions such as acoustic screening.

2.12 The initial numerical assessment and the context are then both taken into account when determining the potential noise impact.

BS 8233:2014

2.13 No specific guidance is given in the NPPF on acoustic design criteria, therefore, the guidance discussed below has been used for acoustic design purposes.

2.14 Guidance on acceptable noise levels in habitable rooms and private gardens is set out in British Standard 8233: 2014, 'Guidance on sound insulation and noise reduction for buildings'. BS 8233 recommends that it is desirable that noise from external sources does not exceed the guidelines values that are shown in Table 1 inside habitable rooms for daytime (07:00 – 23:00 hours) and night-time (23:00 – 07:00 hours) periods.

Table 1: BS 8233:2014 recommended acoustic design criteria (dB $L_{Aeq,T}$)

Activity	Location	Daytime 07:00 – 23:00 hours	Night-time 23:00 – 07:00 hours
Resting	Living room	35	-
Dining	Dining room/area	40	-
Sleeping (daytime resting)	Bedroom	35	30

2.15 BS 8233 also recognises that regular individual noise events at night can cause sleep disturbance. Peaks of noise from individual events are usually described in terms of L_{AFmax} values and these can be highly variable and unpredictable.

2.16 ProPG: Planning & Noise '*Professional Practice Guidance on Planning & Noise'* 2017 states that "*in most circumstances in noise-sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45dB $L_{Amax,F}$ more than 10 times a night"*.

Acoustic Design Criteria

2.17 The criteria stated in Table 1 are for sources of "anonymous noise" i.e. noise without a specific character. Therefore, due to the character of noise from the nearby commercial premises, lower noise limits have been adopted for the proposed new dwellings.

2.18 For this development we therefore recommend the following noise criteria be adopted with windows closed and trickle ventilation provided:

- Non-anonymous daytime noise below 30 dB $L_{Aeq,16hr}$ inside living rooms and bedrooms, 35 dB $L_{Aeq,16hr}$ inside dining rooms; and
- Non-anonymous night-time noise levels not exceeding 25 dB $L_{Aeq,8hr}$ and generally not exceeding 40 dB L_{AFmax} in bedrooms.

2.19 For private outdoor amenity spaces of the new houses (e.g. rear gardens) BS8233 states that 'it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,16hr}$ with an upper guideline value of 55 dB $L_{Aeq,16hr}$ which would be acceptable in noisier environments'. In our experience, most local planning authorities have traditionally adopted, or accepted, the 55 dB(A) guideline value for rear gardens of proposed new residential developments near busy roads. However, the standard also recognises that these guideline values are not achievable in all circumstances where development might be desirable and in such cases, for sites near to the 'strategic transport network' higher noise levels than 55 dB $L_{Aeq,16hr}$ in gardens may be acceptable. Nevertheless, for this development, we have adopted a criterion of 55 dB $L_{Aeq,16hr}$ for gardens as far as is practicable.

2.20 Our outline noise mitigation recommendations are described in Section 5.0.

3.0 NOISE SURVEY

3.1 Noise levels were measured at a location to the eastern part of the site, representative of the future residential properties in that area. The measurement location is shown in Figure 1. The purpose of the noise survey was to establish the existing noise climate of the area.

3.2 The noise measurements were undertaken for a period of over 24 hours by installing an automatic data-logging sound level meter. The survey was carried out in terms of a series of consecutive 15-minute measurements on Tuesday/Wednesday 2/3 August 2022. The noise measurements were taken in 'free-field' conditions and at a microphone height of approximately 1.4m above the ground. Calibration checks were carried out both before and after the measurement periods with no variance in levels noted. Frequency analysis and audio recording (for the identification of noise sources) was also carried out.

3.3 The weather conditions during the noise survey were suitable for the purposes of the survey and subsequent assessment.

3.4 The results of the noise survey are summarised in Table 2, and the full results along with details of the equipment used, and the weather conditions during the survey periods, are shown in Appendix II.

Table 2: Summary of Measured Baseline Noise Levels (dB)

Period	$L_{Aeq,15\ min}$	$L_{A90,15\ min}$
Daytime	46 – 55	44 – 51
Night-time	43 – 52	41 – 48

3.5 The noise levels measured during the survey were due to distant road traffic and occasional birdsong.

3.6 We have carried out a modal analysis of the measured $L_{A90,T}$ sound levels (as shown in Appendix II) to determine the representative background sound level at the nearest dwellings.

3.7 As shown in the graph from Appendix II, and the guidance within BS 4142, for the purposes of this assessment we have adopted the mode value of 47 dB $L_{A90,T}$ as the representative background sound level outside the nearest dwellings for the day and 41 dB $L_{A90,T}$ for night-time periods. These values has been adopted as noise design limits in our assessment described in Section 4.0.

Source Noise Measurements

3.8 A number of noise measurements were taken close to equipment that is located to the rear of Venus Foods (i.e. facing the proposed development) during the same daytime visit. The results are shown in Table 3.

Table 3: Summary of Measured Fixed Plant Noise Levels at 1 metre (dB)

Source	$L_{Aeq,T}$
Wall mounted condensing unit	61
Large free standing condensing unit	68

3.9 No significant loading/unloading activities occurred at the eastern side of the Venus Foods building during the daytime site visit.

3.10 These source noise levels (and corresponding octave band levels, where appropriate) have been used in calculations to determine the likely resulting noise levels outside the proposed dwellings.

4.0 NOISE ASSESSMENT

Building Services Equipment

4.1 There are a number of refrigeration/condensing units which is located on the rear of the Venus Foods building (i.e. facing the proposed development). We assume that the equipment could operate at any time throughout 24 hours on a demand basis. Therefore, the assessment of potential noise impact associated with the refrigeration equipment has been carried out for the night-time period as the adopted noise design limit is lower and thus potential for noise impact greater.

4.2 The character of the noise from the equipment is clearly tonal in nature when it is operating, with a number of discrete tones. Therefore a 6 dB penalty has been applied.

4.3 The calculation of the resulting noise level outside the nearest dwelling is shown in Table 4 below. The likely resulting plant noise level outside the nearest first-floor apartment window has been calculated, with appropriate allowances for distance and screening attenuation.

Table 4: Initial BS4142 assessment of fixed plant at nearest apartment (dB)

Description	Plot 71
Calculated Specific sound level outside proposed dwelling	60
Character correction	+6
Rating level at proposed dwelling ($L_{Ar,Tr}$)	66
Background sound level ($L_{A90,T}$)	41
Difference	+25
Initial estimate	'Significant Impact, depending on the context'

4.4 The rated sound level from refrigeration equipment at Venus Foods is above the representative background sound level measured outside the nearest proposed apartments. In terms of a BS 4142 assessment the conclusion is a significant adverse impact during the night-time period, in the absence of any noise mitigation measures, and depending on the context.

4.5 However, the context in which the sound from fixed plant occurs must also be considered and, where necessary/appropriate, the assessment modified accordingly. BS 4142 states that all pertinent factors are taken into consideration.

4.6 In particular, there is an opportunity to implement noise mitigation measures at the nearest proposed dwellings to reduce potential noise impact as far as is practicable. BS 4142 states that any such noise mitigation should be taken into account as part of the context.

4.7 Our noise mitigation recommendations to protect the amenity of the new residents, and in so doing to safeguard the interests of the business', are described in Section 5.

Service Yard Noise

4.8 The majority of loading/unloading activities at the Venus Foods site takes place to the north away from the proposed development and well screened by the building itself. However, there are some occasional loading/unloading activities that take place on the eastern elevation of the Venus Foods building. These are generally smaller vehicles (such as transit vans or long wheel base vans) with the loading/unloading activities taking place within the building. It is assumed that deliveries could be made at any time in the day or night.

4.9 Therefore, assessment of potential noise impact associated with delivery activities has been carried out for the daytime/late evening (i.e. up to 23:00 hours) and the night-time periods (i.e. after 23:00 hours) when the background sound levels are lower.

4.10 No significant noise was measured from service yard activities at the Venus Foods premises during our site visit, although the premises were open. Also, it was not possible to measure at locations potentially more exposed to noise from Venus Foods (i.e. with a view towards the side of the distribution yard) due to restrictions in access to some parts of the development land.

4.11 Calculations of the potential noise from delivery activities have been carried out using source noise measurements previously measured by Hepworth Acoustics in connection with similar developments. Source noise levels measured included noise from vehicle movements. The noise levels have been measured in terms of the L_{AE} for individual events or tasks. The resulting $L_{Aeq,T}$ values have been calculated. The measured service yard source noise levels used in the assessment are summarised in Table 5.

Table 5: Summary of Measured Delivery Source Noise Levels at 5 metres (dB)

Source	L_{AE}
Transit van moving forward	76
Transit van reversing	73

4.12 We have calculated likely levels of noise in the proposed Apartment Amenity Space generated by vans in the side service yard on the basis of two vans arriving, unloading and leaving in a 1 hour period during the daytime. Also, noise levels have been calculated outside a first floor window of the nearest dwellings on the basis of one van arriving/leaving in a 15 minute period at night. The calculations consider corrections for distance and barrier attenuation as appropriate.

4.13 The equivalent continuous one-hour or 15 minute periods noise levels have been calculated from the L_{AE} values as follows:

$$L_{Aeq,T} = L_{AE} + 10 \log N - 10 \log T$$

where $L_{Aeq,T}$ = L_{Aeq} over time period T

L_{AE} = 'Sound Exposure Level'

N = Number of events in time period T

T = Time period in seconds, (i.e. 3600s for a 1 hour period)

4.14 Due to the intermittent nature of the vehicle movements a 3 dB penalty has been applied. A further 3 dB impulsivity penalty has been applied for the night-time period when residual sound levels are lower and when the noise is less likely to be masked by the existing noise climate. An initial assessment of the potential delivery noise levels is set out in Table 6:

Table 6: BS 4142 Initial Assessment of service yard noise at the proposed dwellings (dB)

Description	Daytime	Night-time
Calculated Specific sound level outside proposed dwelling	47	33
Character correction	+3	+6
Rating level at proposed dwelling ($L_{Ar,Tr}$)	50	39
Background sound level ($L_{A90,T}$)	47	41
Difference	+3	-2
Initial estimate	'Low to adverse Impact'	'Low Impact'

4.15 The calculated rating levels from service yard activities range from 2 dB below to 3 dB above the representative background sound levels measured in the day and at night. In terms of BS4142, this indicates a low to adverse impact. It is not considered necessary to modify the assessment.

4.16 Despite the BS4142 assessment indicating a low impact assessment it is recommended that some mitigation measures are nevertheless proposed to protect the amenity of the new residents, and in so doing to safeguard the interests of the business of Venus Foods, as described in Section 5.

5.0 NOISE MITIGATION SCHEME

5.1 The purpose of the noise mitigation measures is twofold; firstly to protect the amenity of the new residents adequately from the nearby commercial premises, and secondly, in so doing, to safeguard the current and future business interests of the nearby commercial premises. In this way the development would comply fully with the requirements of para. 187 of the National Planning Policy Framework (NPPF).

Noise Mitigation Scheme

5.2 Our outline noise mitigation recommendations are described below.

Acoustic Fence

5.3 We recommend proprietary acoustic fencing of 2.2 to 3 metres in height in areas closest to Venus Foods to the north of the development site as indicated in Figure 2. The proposed acoustic fencing will control noise from fixed plant to the rear of Venus Foods and the service yard.

5.4 The acoustic fencing must be imperforate (i.e. have no holes or gaps), have a surface mass no less than 10 kg/m^2 and be at least 20mm thick.

5.5 Suppliers of proprietary acoustic fences include GRAMM Barrier Systems Ltd (www.grammbarriers.com) Jacksons Fencing (www.jacksons-fencing.co.uk), Guardian Fencing (www.guardianfencing.com) and Ransfords (www.ransfords.co.uk).

Glazing

5.6 We recommend that living rooms and bedrooms of the apartments indicated in Figure 2 are fitted with the following high specification of glazing (minimum 33 dB $R_w + C_{tr}$):

- 8.4mm Solaglas 'Stadip Silence' laminated glass - nominal (8-20mm) cavity - 6mm glass; or
- 10mm glass - nominal (8-20mm) cavity - 6mm glass.

5.7 We also recommend that bedrooms of the dwellings indicated in Figure 2 are fitted with the following high specification of glazing (minimum 29 dB $R_w + C_{tr}$):

- 6.4mm Solaglas 'Stadip Silence' laminated glass - nominal (8-20mm) cavity - 4mm glass; or
- 8mm glass - nominal (8-20mm) cavity - 4mm glass.

5.8 For all other living rooms and bedrooms, on the development, we recommend standard double glazing of 4mm glass - nominal (10-16mm) cavity - 4mm glass (25 dB $R_w + C_{tr}$).

5.9 Due care and attention must be taken to ensure that all glazing is well-fitted.

Ventilation

5.10 Certain living rooms and bedrooms, as indicated in Figure 2, will require an acoustically treated means of ventilation, instead of standard window frame slot vents, to achieve the internal noise criteria. We would recommend either:

- Aereco EHA2 Acoustic Trickle Ventilator with acoustic canopy and sleeve (44 dB $D_{n,e,w}$); or
- Rytons AAC125HP Super Acoustic Controllable LookRyt AirCore Ventilator (43 dB $D_{n,e,w}$); or
- Another ventilation system with a good acoustic performance (i.e. above 40 dB $D_{n,e,w}$).

5.11 Ventilation proposals will need to be agreed with the Council at an early stage.

Rooms in Roof Spaces

5.12 We recommend that any bedrooms in roof spaces on overlooking Venus Foods service yard to the north, as indicated in Figure 2 have ceilings of 2 layers of 15mm dense plasterboard (e.g. Gyproc 'SoundBloc' or Gyproc 'Fireline', or equivalent).

External Walls

5.13 The exact construction of the external walls is not known at this stage however it is assumed that the sound insulation performance of the wall construction will not be less than 50 dB R_w.

Planning Condition

5.14 The need to ensure that an adequate scheme of noise mitigation is implemented can be formalised by an appropriately worded planning condition that requires a scheme of noise mitigation measures as described in this report to be implemented prior to occupation of relevant dwellings.

Conclusion

5.15 Subject to the recommendations for mitigation measures made above we conclude that potential noise impact from Venus Foods premises to the north of the development site would not result in any unacceptable harm to residential amenity by reason of noise disturbance.

5.16 Furthermore, 'significant adverse impacts' would be avoided and 'adverse impacts' would be mitigated/minimised, bringing the development in line with the aims of the Noise Policy Statement for England (NPSE) 2010.

6.0 SUMMARY

6.1 The impact of noise has been assessed for a proposed residential development at the former Louisa Street Works, Openshaw.

6.2 The assessment has included the measurement of existing ambient/background noise levels at an appropriate location on the site over a 24 hour weekday period.

6.3 We have recommended that an appropriate scheme of sound insulation is implemented for the new houses that will protect the amenity of the new residents and also safeguard the business interests of the nearby commercial/industrial premises, both now and in the future.

6.4 The implementation of an adequate scheme of noise mitigation measures can be ensured by the use of an appropriately worded planning condition.

Key:

Not to scale

- Noise Measurement Position

- Site Boundary

N

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Title: Figure 1: Title

Project: P22-313

Key:

Not to scale

- 3m Acoustic Fence
- 2.2m Acoustic Fence
- Paras 5.6 & 5.10
- Paras 5.7 & 5.10

N

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Title: Figure 2: Proposed Site Layout & Noise Mitigation Scheme

Project: P22-313

Appendix I: Noise Units & Indices

Sound and the decibel

A sound wave is a small fluctuation of atmospheric pressure. The human ear responds to these variations in pressure, producing the sensation of hearing. The ear can detect a very wide range of pressure variations. In order to cope with this wide range of pressure variations, a logarithmic scale is used to convert the values into manageable numbers. Although it might seem unusual to use a logarithmic scale to measure a physical phenomenon, it has been found that human hearing also responds to sound in an approximately logarithmic fashion. The dB (decibel) is the logarithmic unit used to describe sound (or noise) levels. The usual range of sound pressure levels is from 0 dB (threshold of hearing) to 120dB (threshold of pain).

Due to the logarithmic nature of decibels, when two noises of the same level are combined together, the total noise level is (under normal circumstances) 3 dB(A) higher than each of the individual noise levels e.g. 60 dB(A) plus 60 dB(A) = 63 dB(A). In terms of perceived 'loudness', a 3 dB(A) variation in noise level is a relatively small (but nevertheless just noticeable) change. An increase in noise level of 10 dB(A) generally corresponds to a doubling of perceived loudness. Likewise, a reduction in noise level of 10 dB(A) generally corresponds to a halving of perceived loudness.

The ear is not equally sensitive to sound at all frequencies. It is less sensitive to sound at low and very high frequencies, compared with the frequencies in between. Therefore, when measuring a sound made up of different frequencies, it is often useful to 'weight' each frequency appropriately, so that the measurement correlates better with what a person would actually hear. This is usually achieved by using an electronic filter called the 'A' weighting, which is built into sound level meters. Noise levels measured using the 'A' weighting are denoted dB(A) or dBA.

Frequency and Hertz (Hz)

As well as the loudness of a sound, the frequency content of a sound is also very important. Frequency is a measure of the rate of fluctuation of a sound wave. The unit used is cycles per second, or hertz (Hz). Sometimes large frequency values are written as kiloHertz (kHz), where 1 kHz = 1000 Hz.

Young people with normal hearing can hear frequencies in the range 20 Hz to 20 kHz. However, the upper frequency limit gradually reduces as a person gets older.

Glossary of Terms

When a noise level is constant and does not fluctuate, it can be described adequately by measuring the dB(A) level. However, when the noise level varies with time, the measured dB(A) level will vary as well. In this case it is therefore not possible to represent the noise climate with a simple dB(A) value. In order to describe noise where the level is continuously varying, a number of other indices can be used. The indices used in this report are described below.

C_{tr} This is an A-weighted urban traffic noise spectrum, which can be added to $D_{nT,w}$ or R_w in some standards to take into account different source spectra such as low frequency sound.

R This is the 'Sound Reduction Index' as measured in a laboratory, and is a measure of the sound insulation properties of an building element in a stated frequency band.

R_w This is the 'Weighted Sound Reduction Index', and is a single figure quantity of R, the laboratory measured Sound Reduction Index.

$D_{n,e,w}$ This is the weighted element normalized level difference as measured in a laboratory, and is a measure of the sound insulation properties of small building elements such as ventilators.

$L_{Aeq,T}$ This is the A–weighted 'equivalent continuous noise level' which is an average of the total sound energy measured over a specified time period. In other words, $L_{Aeq,T}$ is the level of a continuous noise which has the same total (A–weighted) energy as the real fluctuating noise, measured over the same time period. It is increasingly being used as the preferred parameter for all forms of environmental noise.

L_{AFmax} This is the maximum A–weighted noise level that was recorded during the measurement period in terms of 'Fast' time weighting.

$L_{A90,T}$ This is the A–weighted noise level exceeded for 90% of the time period. $L_{A90,T}$ is used as a measure of background noise.

L_{AE} This is the A–weighted 'Sound Exposure Level' which is used for measuring discrete noise events. Essentially it is a measure of the sound energy of the whole noise event normalised to a period of 1 second. The SEL value can be used to calculate the actual L_{Aeq} value for a given time period if the number of noise events is known.

Appendix II: Noise Survey Results

Date(s):	Tuesday/Wednesday 2/3 August 2022
Equipment	B&K 2260 'Type 1' sound analyser (serial no. 2467016) with tripod and associated calibrator NTi XL2 'Class 1' sound level meters (s/n: A2A-20361-E0 & A2A-20228-E0) with associated calibrator and environmental outdoor monitoring kit
Weather	Dry, ~13°C, overcast and calm <2 m/s

All levels in dB(A)

Location :

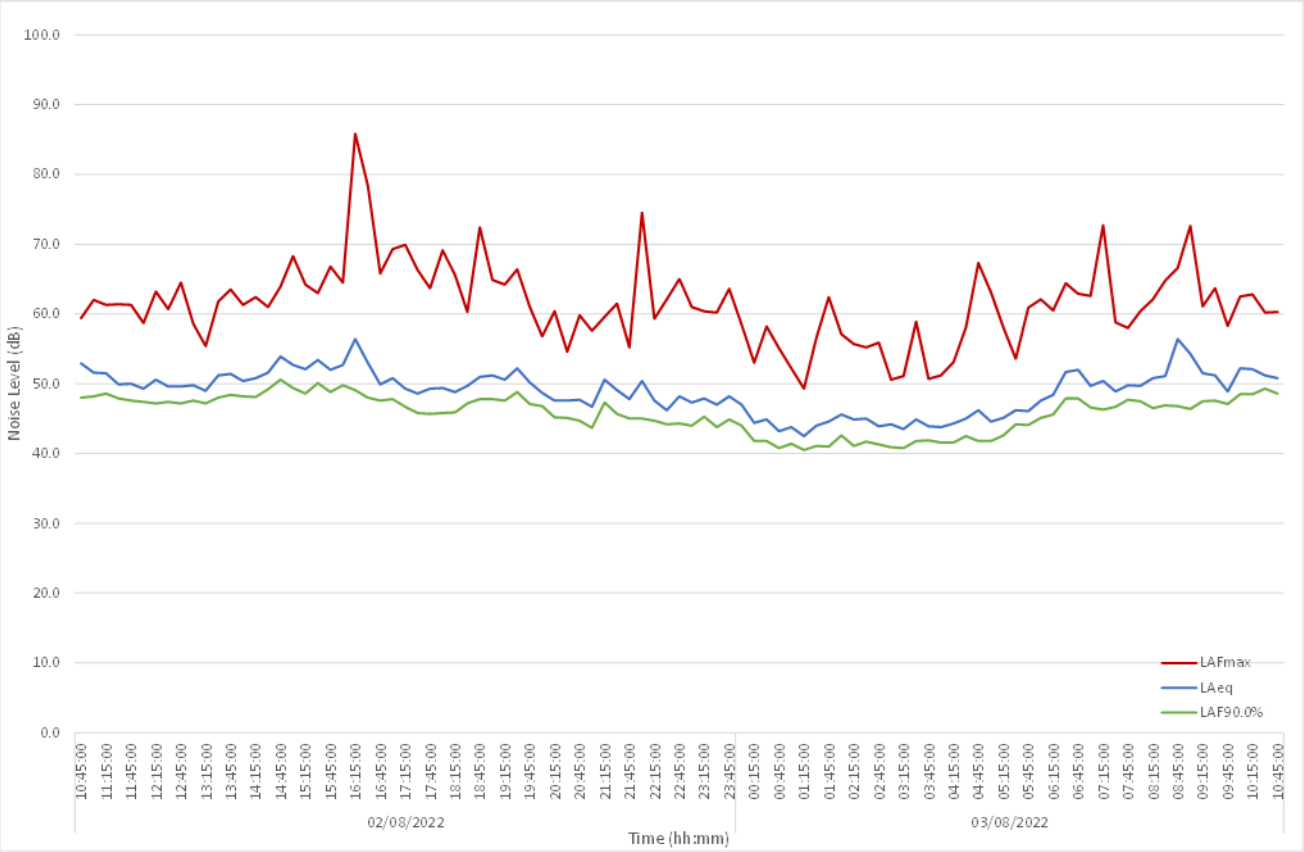
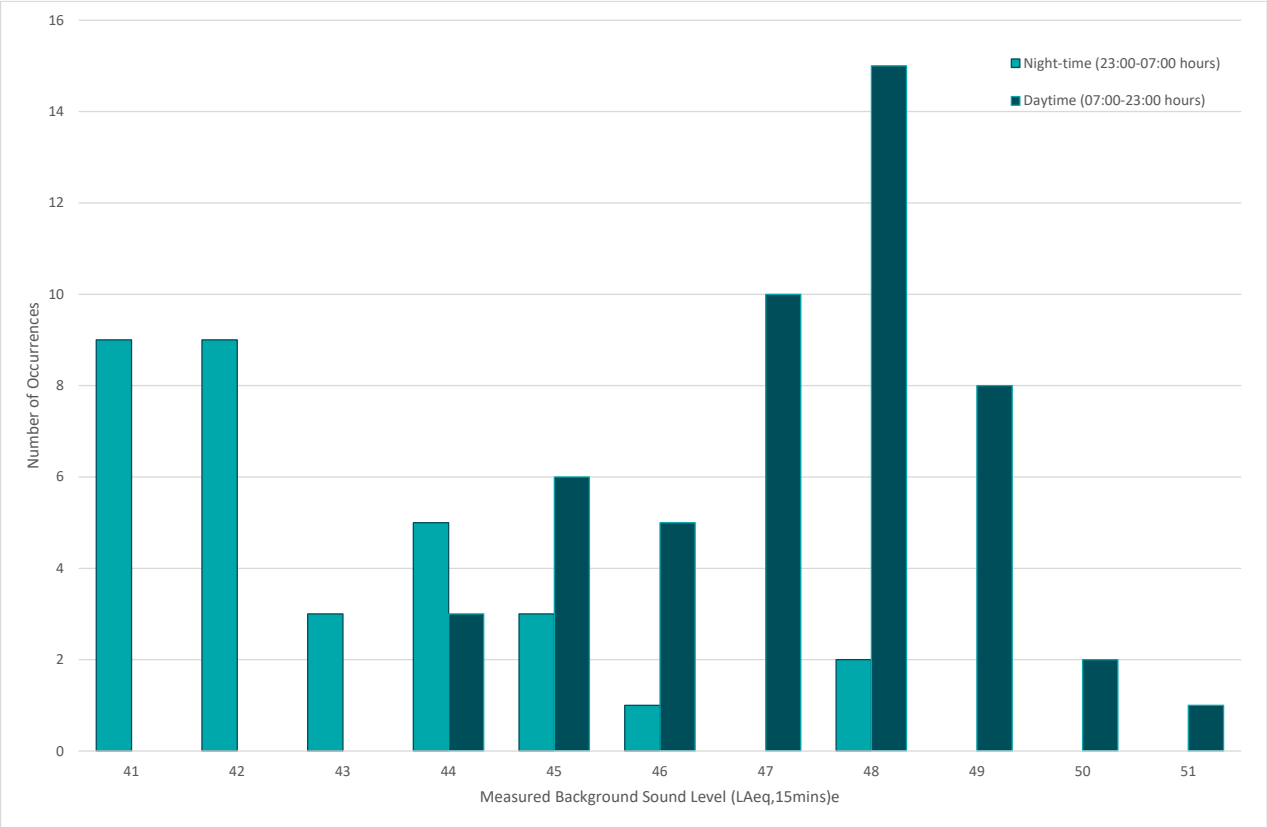
Chart: Analysis of Background Sound Levels for the Daytime and at Night