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Proposed Residential Conversion
4 Brewery Drive, Lockwood, Huddersfield, HD4 6EN

Noise Impact Assessment

For: Farrar Bamforth

31st March 2026

Ref: NIA-12565-26-12869-v1 Brewery Drive, Lockwood
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1 Introduction

1.1 Overview

Environmental Noise Solutions (ENS) has been commissioned by Farrar Bamforth to undertake a noise impact assessment for the proposed residential conversion of 4 Brewery Drive, Lockwood, Huddersfield, HD4 6EN (hereafter referred to as 'the site').

Proposals are for the building to be converted to a single dwelling. The development was granted planning approval in February 2026, under permitted development rights, subject to conditions (ref: 2025/93340). Condition 1 refers to noise as follows:

> *1. Before the development is brought into use, a noise assessment report by a suitably competent person shall be submitted to and approved in writing by the Local Planning Authority. The report shall include:*
>
> *a. an assessment of all noise emissions from the proposed development*
>
> *b. details of existing background and predicted future noise levels at the boundary of the nearest noise sensitive premises*
>
> *c. a written scheme of how the occupants of the above-mentioned noise sensitive premises will be protected from noise from the proposed development including details of all necessary noise attenuation*
>
> *The development shall not be brought into use until all works comprised within the measures specified in the approved report have been carried out in full and such measures shall be thereafter retained.*
>
> *Reason: To ensure the proposed development does not cause harmful noise pollution within neighbouring noise sensitive locations, in the interest of amenity, to comply with the aims and objectives of Policies LP24 and LP52 of the Kirklees Local Plan and Chapters 12 and 15 of the National Planning Policy Framework.*

As the development is a residential dwelling and no fixed mechanical plant is proposed, no noise emissions are expected from the site. Notwithstanding this, this noise impact assessment considers the existing noise climate at the site, and the impact on the residential amenity at the development.

The objectives of the noise impact assessment were therefore to:

- Determine external noise levels at the site
- Assess the potential impact of the external noise climate on the proposed residential development with reference to relevant guidelines
- Provide recommendations for a scheme of sound attenuation works, as necessary, to provide residential amenity for future occupants

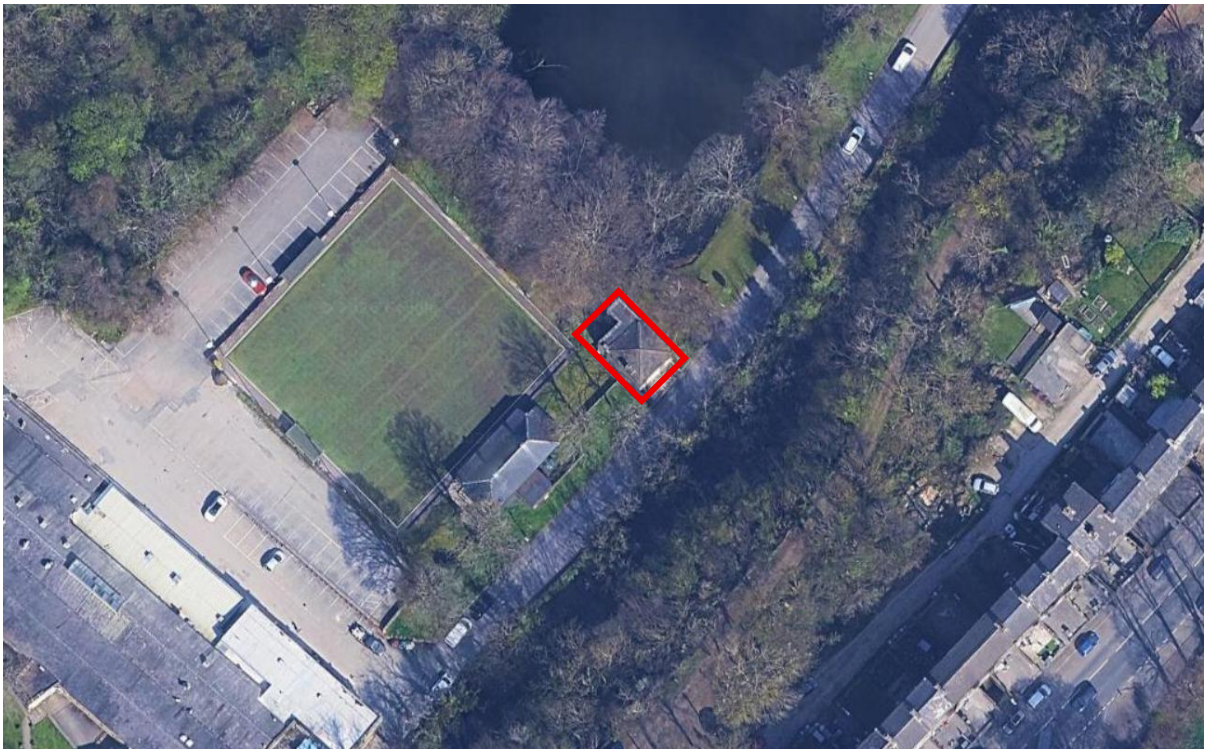
The report has been prepared for Farrar Bamforth for the sole purpose described above and no extended duty of care to any third party is implied or offered. Third parties referring to the report should consult Farrar Bamforth and ENS as to the extent to which the findings may be appropriate for their use.

A glossary of acoustic terms used in the main body of the text is contained in Appendix 1.

1.2 Site Description and Proposed Development

The site is located in predominantly residential area of Lockwood, to the north-west of Brewery Drive, as shown (highlighted in red) in Figure 1.1.

Figure 1.1: Location of Development



The site is bound by:

- Brewery Drive to the south, with the Rive Holme beyond
- Bowling club to the west
- Wooded area and lake to the north

The noise environment across the site is characterised by local and distant road traffic, river noise and foliage. No significant noise associated with the bowling club was noted.

Development proposals are for the change of use of the existing building to form a single dwelling house.

2 Assessment Guidance

2.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF)[1] was updated in February 2025 and sets out the Government's planning policies for England and how these are expected to be applied.

Where issues of noise impact are concerned the NPPF provides brief guidance in paragraph 187 where it states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of.....noise pollution'.

Paragraph 198 advises that:

'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.....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'.

The NPPF also refers to the 2010 DEFRA publication, the Noise Policy Statement for England (NPSE) which reinforces and supplements the NPPF.

2.2 Noise Policy Statement for England

The Noise Policy Statement for England[2] (NPSE) sets out the long-term vision of promoting good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development. This long-term vision is supported by the following aims:

- Avoid significant adverse impacts on health and quality of life
- Mitigate and minimise adverse impacts on health and quality of life
- Where possible, contribute to the improvement of health and quality of life

The NPSE describes the following levels at which noise impacts may be identified:

- 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
- LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected
- SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur

According to the explanatory notes in the statement, where a noise level falls between the lowest observable adverse effect level (LOAEL) and a level which represents a significant observable adverse effect level (SOAEL):

'....all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into consideration the guiding principles of sustainable development. This does not mean that such effects cannot occur.'

1 National Planning Policy Framework. Ministry of Housing, Communities and Local Government (2023)
2 Government Department for Environment, Food and Rural Affairs. Noise Policy Statement for England. March 2010.

2.3 Planning Practice Guidance on Noise

Planning Practice Guidance[3] (PPG) is an online resource which provides additional guidance and elaboration on the NPPF. It advises that the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur
- Whether or not an adverse effect is occurring or likely to occur
- Whether or not a good standard of amenity can be achieved

In line with the Explanatory Note of the NPSE, the PPG references the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL.

The PPG also provides general advice on the typical options available for mitigating noise, suggesting that Local Plans may include noise standards applicable to proposed developments within the Local Authority's administrative boundary, although it states that:

'Care should be taken, however, to avoid these being implemented as fixed thresholds as specific circumstances may justify some variation being allowed'.

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation. The following guidance documents provide some meaningful context.

2.4 ProPG Planning and Noise: New Residential Development

ProPG Planning and Noise: New Residential Development (ProPG)[4] was published in 2017 by the Association of Noise Consultants, Institute of Acoustics and the Chartered Institute of Environmental Health.

Stage 2: Element 2 of ProPG sets indoor ambient noise levels for residential dwellings based on the guidance contained in British Standard 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings'[5] (BS 8233), see Table 2.1.

Table 2.1: Indoor Ambient Noise Levels in Dwellings

Activity	Location	Good Indoor Ambient Noise Levels	
Resting	Living Room	35 dB $L_{Aeq\ (0700\text{-}2300)}$	-
Dining	Dining Room/Area	40 dB $L_{Aeq\ (0700\text{-}2300)}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq\ (0700\text{-}2300)}$	30 dB $L_{Aeq\ (2300\text{-}0700)}$ 45 dB $L_{AMax,F\ (2300\text{-}0700)}$

Note 4 to the above table states:

'A guideline value may be set in terms of SEL or $L_{Amax,F}$, depending on the character and number of events per night. Sporadic noise events could require separate values. 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.'

3 Planning Practice Guidance on Noise: http://planningguidance.planningportal.gov.uk/blog/guidance/noise/

4 'ProPG Planning and Noise: New Residential Development (ProPG)', 2017. Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and the Chartered Institute of Environmental Health (CIEH)

5 British Standards Institution (2014). *British Standard 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings.*

Note 5 to the above table states:

'Where it is not possible to meet internal target levels with windows open, internal noise levels can be assessed with windows closed, however any façade openings used to provide whole dwelling ventilation (e.g. trickle ventilators) should be assessed in the "open" position and, in this scenario, the internal L_{Aeq} target levels should not normally be exceeded, subject to the further advice in Note 7'.

This is consistent with the guidance contained within the PPG, which states that:

'... consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases a suitable alternative means of ventilation is likely to be necessary. Further information on ventilation can be found in the Building Regulations'.

On the basis of the above, the following criteria (with windows closed and an alternative means of ventilation provided) are considered appropriate for the proposed development and considered to represent good resting and sleeping conditions:

- ≤ 35 dB $L_{Aeq\ (0700\text{-}2300)}$ in habitable rooms during the daytime
- ≤ 30 dB $L_{Aeq\ (2300\text{-}0700)}$ in bedrooms during the night-time
- 45 dB L_{AFMax} not regularly exceeded during the night-time

3 Noise Survey

3.1 Overview

In order to determine the level of external noise affecting the proposed development, noise monitoring was undertaken from Thursday 12th through to Friday 13th March 2026.

The adopted noise monitoring positions (shown in Appendix 2) were as follows:

- MP1 was located on the south-eastern elevation of the building, overlooking Brewery Drive
- MP2 was located on the north-western elevation of the building

Noise measurements were undertaken at first floor level and at 1 metre from the existing building façade using NTi XL3 Type 1 integrating sound level meters. Each meter was connected to a windshield covered microphone positioned at the locations detailed above.

The measurement system calibration was verified immediately before and after the survey period using a Bruel & Kjaer Type 4231 calibrator. No drift in calibration level was noted.

Measurements consisted of A–weighted broadband parameters including L_{Aeq}, L_{A10} L_{A90}, and L_{AFMax} together with linear octave band data.

3.2 Summary

Table 3.1 presents a summary of the noise data for each measurement session, at each measurement position, rounded to the nearest decibel. As measurements were made at 1 metre from the existing building façade, a –3 dB façade enhancement correction has been applied to the measured levels in order to establish the free field levels.

Table 3.1: Summary of Noise Measurement Data

Position	Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{A10} (dB)	L_{AFMax} (dB)	Comment
MP1	12/03/26	1020-2300	58	49	62	-	Local and distant road traffic, river noise, foliage
	13/03/26	0700-0920	57	49	60	-	
	12-13/03/26	2300-0700	47	41	50	64*	
MP2	12/03/26	1000-2300	59	50	57	-	Local and distant road traffic, river noise, foliage
	13/03/26	0700-0920	57	51	61	-	
	12-13/03/26	2300-0700	46	39	51	61*	
** 11th highest maximum noise level event during the night-time*							

The ambient noise environment at the site was due to limited road traffic on Brewery Drive, distant road traffic, foliage noise, and flowing water in the nearby river also contributing.

Daytime and night-time ambient noise levels at the development were measured at up to **58 dB $L_{Aeq\ (0700–2300)}$** and **47 dB $L_{Aeq\ (2300–0700)}$** respectively. Typical (11th highest) maximum noise levels at MP1 were measured at **64 dB L_{AFMax}** during the night-time.

No noise from the bowls club was noted, and no other significant noise sources were audible at the site.

The noted weather conditions during the survey were changeable with dry periods and scattered showers. Winds speeds were generally around 5 m/s, with some periods of elevated wind speeds (6-7 m/s). However, periods of adverse weather do not appear to have significantly impacted the noise measurement data, with noise levels remaining relatively low throughout.

4 Noise Assessment

4.1 Overview

In relation to noise at the site, Paragraph MA.2. of the Town and Country Planning (General Permitted Development) (England) (Amendment) Order 2021 states:

(2) Before beginning development under Class MA, the developer must apply to the local planning authority for a determination as to whether the prior approval of the authority will be required as to—

*(d) impacts of noise from **commercial premises** on the intended occupiers of the development,*

As evidenced in Section 2, no significant noise from commercial premises was noted during the course of the noise survey, with road traffic, river noise and foliage dominant throughout the site.

Further, Condition 1 of Planning Permission ref: 2025/93340 only requires consideration of the noise impact of the development on existing receptors.

Therefore, although it is not mandatory to consider noise ingress at the site, a scheme of sound insulation is detailed below on an advisory basis.

4.2 Scheme of Sound Attenuation

Noise levels at the site were measured at up to;

- **≤ 58 dB $L_{Aeq\ (0700\text{-}2300)}$** during the daytime
- **≤ 47 dB $L_{Aeq\ (2300\text{-}0700)}$** during the night-time
- **≤ 64 dB L_{AFMax}** during the night-time

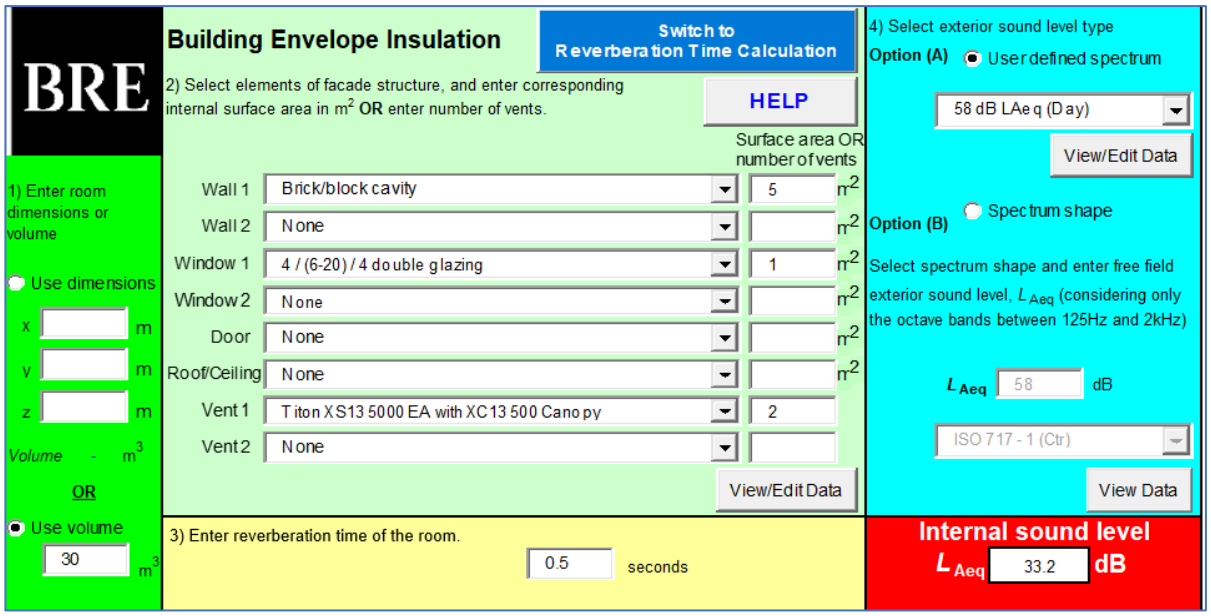
Based on the noise levels measured at the site, a recommended scheme of sound attenuation is proposed below.

In order to calculate the sound insulation requirements of the building envelope for habitable rooms throughout the development, the Building Research Establishment (BRE) building envelope insulation calculation spreadsheet was used. This spreadsheet is based on the calculation methodology advocated in BS 8233. The spreadsheet allows input of external noise levels, typical room dimensions and reverberation time together with parameters for the various elements of the building envelope and calculates the internal noise level in terms of the external noise level metric (L_{Aeq} and L_{AFMax} in this case).

Noise levels at the site are relatively low. As a consequence, standard double glazing (such as 4 mm glass / 6-20 / 4 mm glass) with standard trickle vents is likely to be appropriate throughout the development.

As evidenced in the Building Research Establishment (BRE) building envelope insulation calculation spreadsheet overleaf, standard glazing/ventilation will provide circa 25 dB reduction of external noise levels.

Figure 4.1: Example BRE Calculation Spreadsheet



The resultant internal noise levels are set out in the table below.

Table 4.1 – External Noise Levels and Resultant Internal Noise Levels

External Noise Level	Reduction	Resultant Internal Level
≤ 58 dB $L_{Aeq\ (0700\text{-}2300)}$ ≤ 47 dB $L_{Aeq\ (2300\text{-}0700)}$ ≤ 64 dB L_{AFMax}	–25 dB	≤ 33 dB $L_{Aeq\ (0700\text{-}2300)}$ ≤ 22 dB $L_{Aeq\ (2300\text{-}0700)}$ ≤ 39 dB L_{AFMax}

On the basis of the above, the proposed glazing and ventilation specification is appropriate for all habitable rooms at the site.

5 Summary and Conclusions

A noise impact assessment has been undertaken for the proposed residential conversion of 4 Brewery Drive, Lockwood, Huddersfield, HD4 6EN.

Due to the nature of the residential development, no noise emissions are expected from the site.

The noise environment at the site is controlled by local and distant road traffic, river noise and foliage. No significant noise was noted from the bowls club.

A scheme of sound insulation works has been developed to protect the proposed residential development from the ambient noise climate.

On the basis of the above, the requirements of the planning condition have been met.

Appendix 1 – Abbreviations and Definitions

Sound Pressure Level (L_p)
The basic unit of sound measurement is the sound pressure level. As the pressures to which the human ear responds can range from 20 µPa to 200 Pa, a linear measurement of sound levels would involve many orders of magnitude. Consequently, the pressures are converted to a logarithmic scale and expressed in decibels (dB) as follows:

$L_p = 20 \log_{10}(p/p_o)$

Where L_p = sound pressure level in dB; p = rms sound pressure in Pa; and p_o = reference sound pressure (20 µPa).

A-weighting
A frequency filtering system in a sound level meter, which approximates under defined conditions the frequency response of the human ear. The A-weighted sound pressure level, expressed in dB(A), has been shown to correlate well with subjective response to noise.

Equivalent continuous A-weighted sound pressure level, $L_{Aeq, T}$
The value of the A-weighted sound pressure level in decibels of continuous steady sound that within a specified time interval, T, has the same mean-square sound pressure as a sound that varies with time. $L_{Aeq, 16h}$ (07:00 to 23:00 hours) and $L_{Aeq, 8h}$ (23:00 to 07:00 hours) are used to qualify daytime and night-time noise levels.

$L_{A10, T}$
The A-weighted sound pressure level in decibels exceeded for 10% of the measurement period, T. $L_{A10, 18h}$ is the arithmetic mean of the 18 hourly values from 06:00 to 24:00 hours.

$L_{A90, T}$
The A-weighted sound pressure level of the residual noise in decibels exceeded 90% of a given time interval, T. L_{A90} is typically taken as representative of background noise.

$L_{AF\ max}$
The maximum A-weighted noise level recorded during the measurement period. The subscript 'F' denotes fast time weighting, slow time weighting 'S' is also used.

Single Event Level / Sound Exposure Level (SEL or L_{AE})
The energy produced by a discrete noise event averaged over one second, regardless of the event duration. This allows for comparison between different noise events which occur over different lengths of time.

Weighted Sound Reduction Index (R_W)
Single number quantity which characterises the airborne sound insulation properties of a material or building element over a defined range of frequencies (R_W is used to characterise the insulation of a material or product that has been measured in a laboratory).

Appendix 2 – Noise Measurement Positions