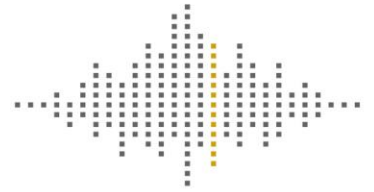


SHARPS REDMORE

ACOUSTIC CONSULTANTS ▪ Established 1990



Report

Rookery Farm, Lavenham
Noise Assessment for change
of use.

Prepared by
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This report has been prepared with all reasonable skill, care and diligence commensurate with an acoustic consultancy practice under the terms and brief agreed with our client at that time. Sharps Redmore provides no duty or responsibility whatsoever to any third party who relies upon its content, recommendations or conclusions.

1.0 Introduction

- 1.1 Sharps Redmore have been appointed undertake a sound level assessment of a proposed change of use of agricultural building to class E (light industrial) use and associated works at Rookery Farm, Lavenham CO10 0BJ.
- 1.2 Sharps Redmore have been appointed to review the sound levels likely to arise from the operations during the likely hours of operation and what the likelihood of impact is at the nearest residential property. It is understood that no night time work is envisaged and this assessment focusses on day time noise.
- 1.3 Section 2 of this report briefly describes the site and surroundings. Section 3 provides further details on the proposal, and sound sources. Section 4 sets out the relevant assessment methodology and criteria, and finally the conclusions and recommendations are set out in Section 5.

2.0 The Site & Surroundings

- 2.1 The site is located at Rookery Farm which is approximately 2.5km north of the village of Acton off Melford Road.
- 2.2 The proximity of the site to the nearest residential property is shown below together with the representative monitoring position. Other residential properties exist in the area but are considerably further away and our assessment considers the closest as worst case.

Figure 1: Site position and nearest residential property.



- 2.3 The existing noise climate consists of distant traffic, local vehicles, agricultural vehicles, birdsong and occasional aircraft flyover.
- 2.4 There exists a number of intervening buildings between the proposal and the nearest residential property to the east providing an element of screening. The proposal has a yard to the front which provides existing access for vehicles and agricultural machinery.

3.0 Assessment Methodology and Criteria

National Policy

- 3.1 The National Planning Policy Framework (NPPF), as amended in 2023, sets out the Government's economic, environmental and social planning policies for England and "these policies articulate the Government's vision of sustainable development." In relation to noise, paragraph 185 states:

"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."*

- 3.2 The NPPF and NPPG reinforce the March 2010 DEFRA publication, "Noise Policy Statement for England" (NPSE), which states three policy aims, as follows:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *avoid significant adverse impacts on health and quality of life;*
- *mitigate and minimise adverse impacts on health and quality of life; and*
- *where possible, contribute to the improvement of health and quality of life."*

- 3.3 Together, the first two aims require that no significant adverse impact should occur and that, where a noise level which falls between a level which represents the lowest observable adverse effect and a level which represents a significant observed adverse effect, then according to the explanatory notes in the statement:

"... 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."

- 3.4 Therefore taking an overview of national policy it is clear that when considering the impact of noise one must consider the significance of any impact. The presence of an adverse impact in itself is not sufficient to refuse permission.

- 3.5 Objective guidance on the assessment of noise from plant and machinery can be found in BS 4142:2014 which describes a method for rating and assessing sound of an industrial and/or commercial nature according to the following summary process:

- i) Determine the background sound levels, in terms of L_{A90} , at the receptor locations of interest.

- ii) Determine the specific sound level of the source being assessed, in terms of L_{AeqT} level (T = 1 hour for day or 15 minutes at night), at the receptor locations.
 - iii) Apply a rating level acoustic feature correction if the source sound has tonal, impulsive, intermittent or other characteristic which attract attention.
 - iv) Compare the rating sound level against the background noise level; the greater the difference between the two, the higher the likelihood of complaints of the noise.
 - v) Differences (rating – background) of around +10 dB is likely to be an indication of significant adverse impact (SOAEL) depending on context; a difference of +5 dB is likely to be an indication of adverse impact, depending on context. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending upon context.
- 3.6 The general intent of the planning system is to ensure that a development does not result in 'significant adverse impacts on health and quality of life' (NPPF para 185). BS 4142:2014 considers that the threshold of 'significant adverse impact' is likely to be around 10 dB or more... depending on upon the context.
- 3.7 BS 4142: 2014 comments further with reference to low levels in section 11 in the assessment of impacts and context. It maintains that where background and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true for night time or where daytime levels are also relatively low as is the case at Rookery Farm.
- 3.8 As can be seen above the significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound exceeds the background sound level and the context in which it is placed.
- 3.9 Sharps Redmore has previously consulted many local authorities on sound levels to be achieved in quiet rural areas. For these applications, acoustic assessments were submitted and it was agreed that a design target of 30-35 dB (rating level) at night and 40-45 dB (rating level) during the day in those quiet rural areas was achievable and justified. The identification and acceptance of a fixed (absolute) threshold value is in keeping with the advice in BS 4142:2014¹ for situations of low background and rating levels. (See clause 11, Note 2 of the BS 4142:2014).
- 3.10 A sound level of 40 dBA external to a building (but not immediately at the façade) would normally be reduced by the façade structure to a level indoors of less than 30 dBA. This a conservative figure based on the performance of the façade with a slightly open window further to guidance within the WHO guidelines.

¹ BSI.BS4142:2014. Methods for rating and assessing industrial and commercial sound

- 3.11 Guidance from the WHO² and BS 8233³ indicates sound levels in bedrooms at night ought not exceed 30 dBA (30 dB $L_{Aeq,8hrs}$) in order to avoid disturbance, hence externally present sound at a level of 35 dB would not be deemed excessive. Indeed, levels of up to around 42 dB ($L_{Aeq,8hrs}$) external to dwellings would satisfy the WHO and BS 8233 thresholds. In the interests of minimising disturbance, Sharps Redmore routinely recommend no more than 35 dB (rating level) for sound at night in quiet rural areas. A range of 30 dB to 35 dB (as a rating level) has been agreed on similar projects with other local planning authorities.
- 3.12 Daytime levels can be relaxed to allow for 40-45 dB as an external range of levels which would not be considered excessive and in line with WHO Guidance and BS 8233 thresholds. To provide robust compliance with this guidance Sharps Redmore would recommend no more than 40 dB as an external daytime rating level enabling internal threshold levels to be achieved in living rooms with open windows.
- 3.13 As outlined above, it is understood that no night time operations are envisaged at this site.

² World Health Organisation. (WHO). 1999. Guidelines for community noise.

³ BSI.BS 8233:2014. Guidance on sound insulation and noise reduction for buildings.

4.0 Sound Level Assessment

- 4.1 In terms of the assessment of sound from the proposal affecting the nearest residential receptor, it is appropriate to consider how the 'rating' level of sound from the operations may compare with the level of background sound and with guidelines on absolute threshold values. This is the advice within BS 4142:2014, specifically at Clause 11 of the BS ('Assessment of the impacts'), sub-paragraph '1)', *"Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night"*.
- 4.2 Background sound levels have been sampled and a day time summary is shown below in Table 1. As previously mentioned no night time operations are envisaged. A RION NL52 type 1 SLM was sited to the eastern boundary of the proposal at a point representative of the boundary with the nearest residential property during the daytime on 26th September 2023. The weather was dry, around 20°C and with a light breeze suitable for noise measurements. The SLM was calibrated before survey and checked afterwards with no noticeable drift. The noise climate consists of distant road traffic noise, local vehicles on Melford Road, agricultural vehicles, birdsong, and occasional aircraft flyover. Night time background levels will also be low, such as 30 dB $L_{A90,T}$ or less. The rating levels are also likely to be low. Accordingly, the guidance on absolute sound levels in dwellings contained with BS 8233:2014 is worthy of review. BS 4142 itself refers to BS 8233.

Table 1 Daytime Summary:

Measurement Position	Measured Noise Level, dB			
	$L_{Aeq,15m}$ (Typical)	L_{A10} (Typical)	L_{Amax} (typical)	L_{A90} (typical)
MP	47	50	64	40

- 4.3 At this stage, Sharps Redmore take the view that the level of background sound is relatively low, that is less than around 30 dB ($L_{A90,T}$). Accordingly, BS 4142 would tend to indicate a rating level of similarly low value as being of a low impact, depending on the context. For this type of operation, sound at a rating level for daytime between 40-45 dB ($L_{Ar,t}$) is normally considered acceptable by Local Planning Authorities and Sharps Redmore have taken this approach when assessing sound levels at the planning application stage.
- 4.4 Given the relatively low levels measured, a comparison to background levels alone for the proposal would not be appropriate. It is suggested that a rating level of 40dB is an appropriate and achievable level for the proposed daytime only use. This can be confirmed by a suitably worded planning condition which can be achieved by the applicant and provides reassurance for the local authority that the operations will not cause loss of amenity at the nearest residential property.
- 4.5 In terms of context as referenced within BS4142:2014, this will enable robust compliance with internal guidance contained within BS8233:2014. The structure of the proposal, distance attenuation to the nearest residential property of around 50m, together with the screening effect of the intervening buildings will enable compliance with this rating level.

- 4.6 The achievement of a particular noise level from the proposal associated with the development can be ensured by the imposition of a planning condition. The following condition is suggested:

“The cumulative rating level of noise emitted by the site shall not exceed 40 dB $L_{Aeq,1hr}$ as a rating level during daytime hours. The noise levels shall be determined at the nearest noise sensitive property. The measurement and assessment shall be made according to BS 4142:2014”.

5.0 Conclusions & Recommendations

- 5.1 Sharps Redmore have established a target sound level to be achieved from the day time operation of the proposal at the nearest residential receptor in accordance with BS 4142:2014.
- 5.2 Sharps Redmore conclude that the proposal can operate so as to achieve a protective sound rating level of 40 dBA $L_{Aeq\ 1hr}$ during the daytime at the nearest residential receptor, resulting from a worst-case cumulative operation of the proposal and a condition to ensure this has been suggested.
- 5.3 Given this rating and condition the proposal can therefore operate with negligible impact from sound at the nearest noise sensitive receptor.