



NOISE IMPACT ASSESSMENT

Land North of Jeremys Cottage, RH17 5QE

JIM LEWIS

JUNE 2026

NOISE IMPACT ASSESSMENT
LAND NORTH OF JEREMYS COTTAGE, RH17 5QE
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REVISION HISTORY

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1 INTRODUCTION

Anderson Acoustics Ltd was commissioned by Jim Lewis in June 2026 to provide a noise impact assessment to support a planning application for a residential development on the Land north of Jeremys Cottage, Jeremys Lane, Bolney, RH17 5QE.

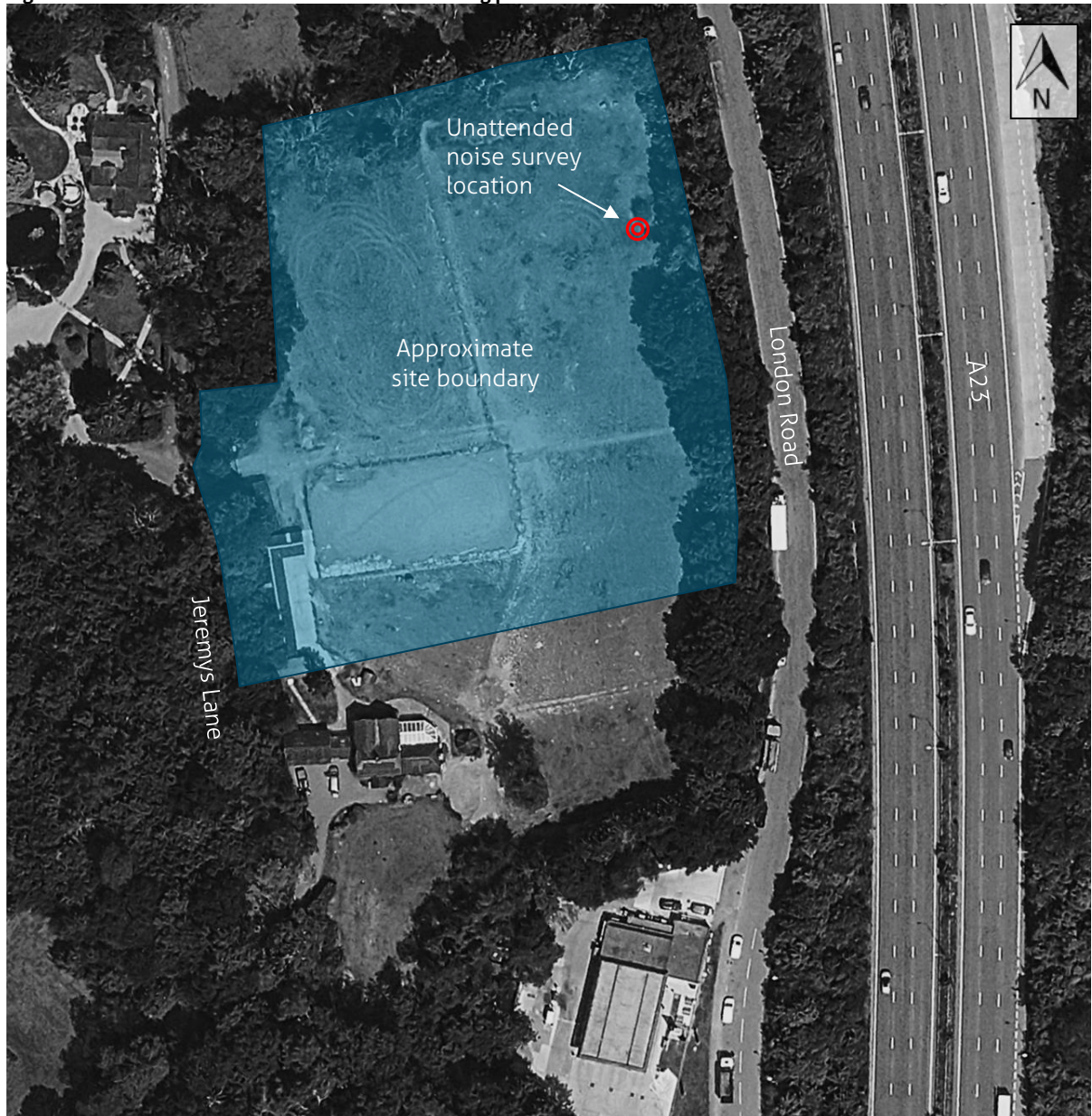
This report presents the results of a baseline noise survey, an assessment of internal ambient noise levels, the suitability of open windows to provide cooling during the overheating condition and an assessment of noise levels in external amenity areas.

This report is technical in nature and, as such, a summary of noise units and acoustic terminology can be found [here](#) for reference.

2 SITE DESCRIPTION

The site, shown in Figure 2.1, is a parcel of land situated between London Road and Jeremys Lane approximately 1km to the north of the village of Bolney. At its closest point, the edge of the site is approximately 30m from the A23. Other than the local road network, the site is in a predominantly agricultural area.

Figure 2.1: Site location and baseline noise monitoring position



The proposed site layout is shown in Figure 2.2.

Figure 2.2: Proposed Site Plan



3 RELEVANT GUIDANCE AND CRITERIA

3.1 Local Authority Guidance

Policy DP29 of the Mid Sussex District Plan 2014-2031 states the following:

Noise sensitive development, such as residential, will not be permitted in close proximity to existing or proposed development generating high levels of noise unless adequate sound insulation measures, as supported by a noise assessment are incorporated within the development.

In appropriate circumstances, the applicant will be required to provide:

- *an assessment of the impact of noise generated by a proposed development; or*
- *an assessment of the effect of noise by an existing noise source upon a proposed development;*

Furthermore, the following comments have been received from the Environmental Health department specifically in relation to the application:

Given the proximity of the site to the A23, with the proposed dwellings approximately 70–75 metres from the carriageway and the site boundary closer still, there is clear potential for elevated road traffic noise to affect future occupiers. However, beyond the likely need for mitigation, there is a more fundamental concern that the current design does not appear to follow the mitigation hierarchy set out in ProPG: Planning & Noise.

The indicative layout suggests that a number of habitable rooms, including bedrooms, are oriented towards the A23, which would expose them to higher noise levels. There is no evidence that the scheme has been designed to minimise noise exposure through layout, orientation, or building form. ProPG is clear that good acoustic design should prioritise these measures before reliance is placed on façade treatments.

At present, it has not been demonstrated that alternative design approaches have been properly explored. For example, reducing the façade facing the road, reorienting the internal layout, or adopting building forms such as an L- or T-shaped arrangement to shield more sensitive rooms could all materially reduce noise exposure. If such options are not feasible, the applicant should provide clear justification based on site constraints, rather than factors such as cost alone.

It is likely that enhanced glazing and façade insulation will be required in any case to achieve internal noise standards in accordance with BS 8233:2014, and alternative means of ventilation may also be necessary, such as through wall ventilation. However, reliance on closed windows should be treated as a last resort under the ProPG hierarchy, even if in this location it may ultimately be difficult to avoid entirely.

I do not consider that this issue can be adequately addressed by condition if the application were approved as currently proposed, as the fundamental layout and orientation of the buildings would already be fixed. The acceptability of the scheme in noise terms therefore needs to be demonstrated prior to determination through a suitable noise impact assessment and, importantly, through evidence that the design has followed the ProPG hierarchy.

On that basis, I would recommend that further information is sought from the applicant before the application is determined.

3.2 British Standard 8233

British Standard BS 8233:2014 provides guideline values for internal noise levels within a number of building types including residential dwellings. In general, for steady external noise sources, it is desirable that the internal ambient noise level does not exceed the guideline values in Table 3.1.

Table 3.1: British Standard 8233 Indoor Noise Levels

Activity	Location	Daytime	Night-time
Resting	Living room	35 dB $L_{Aeq, 16\text{hour}}$	-
Dining	Dining room/area	40 dB $L_{Aeq, 16\text{hour}}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq, 16\text{hour}}$	30 dB $L_{Aeq, 8\text{hour}}$

Notes: Daytime assessment period – 07:00 to 23:00 hrs
Night-time assessment period – 23:00 to 07:00 hrs

Furthermore, the Standard notes that, “*Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. 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.*” No thresholds/criteria are provided within the standard, however.

The previous, 1999 version of the Standard included the note that, “*For a reasonable standard in bedrooms at night, individual noise events (measured with F time-weighting) should not normally exceed 45 dB $L_{Amax,F}$.*”.

This is the same threshold (i.e. 45 dB) given in the World Health Organization (WHO) Guidelines for Community Noise, and it is, therefore, considered to remain relevant and is described in the following sub-section.

In respect of external noise levels, the guidance in BS 8233:2014 suggests that “*it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments*”. BS 8233:2014 however acknowledges that “*these guideline values are not achievable in all circumstances where development might be desirable*”, and that “*...a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces but should not be prohibited*”.

BS 8233:2014 suggests that proposed development within noisy environments should be designed to ensure that the recommended internal design standards are achieved, and that noise levels in external amenity areas are designed to effectively control and reduce noise levels; although it acknowledges that in certain circumstances meeting the external design recommendations may not be feasible, or necessary, especially where the provision of such spaces is desirable for other technical, planning or policy reasons.

3.3 ProPG: Planning & Noise

ProPG (Professional Practice Guidance: Planning and Noise) (Institute of Acoustics (IOA), Association of Noise Consultants (ANC) and Chartered Institute of Environmental Health (CIEH), 2017) was jointly developed by the Institute of Acoustics (IOA), the Association of Noise Consultants (ANC) and the Chartered Institute of Environmental Health (CIEH) to guide Local Planning Authorities (LPA's) and Practitioners in assessing the suitability for residential development on sites predominantly exposed to airborne transport noise.

ProPG introduced a sequential 2-stage approach allowing for early consideration of noise issues at Stage 1 followed by more detailed consideration of noise issues at Stage 2, should this be identified as necessary in Stage 1.

Stage 1 introduces the concept of noise risk categories ranging from Negligible Risk to High Risk to help LPAs in making accelerated straightforward decisions for low risk sites and to provide guidance for more detailed consideration associated with challenging higher risk sites.

Following the outcome of Stage 1, Stage 2 then applies to sites assessed as low to high risk. This stage should not be necessary for sites assessed as negligible risk.

Stage 2 requires consideration be given to four key elements:

- Element 1: Good Acoustic Design Process
- Element 2: Internal Noise Level Guidelines
- Element 3: External Amenity Area Noise Assessment
- Element 4: Other Relevant Issues

Further details on these elements are discussed in the acoustic design section of this report. Table provides a summary of ProPG's noise risk categories and their free-field noise levels, along with the assessment implications.

Table 3.2: Stage 1 - Initial Site Noise Risk Assessment

Risk Category	Indicative Daytime Noise Levels $L_{Aeq,16hr}$	Indicative Night-time Noise Levels $L_{Aeq,8hr}$	Pre-Planning Application Advice
Negligible Risk	< 50 dB	< 40 dB	Indication that the development site is likely to be acceptable from a noise perspective and application need not normally be delayed on noise grounds.
Low Risk	50 - 60 dB	40 - 50 dB	Indication that the development site is likely to be acceptable provided a good acoustic design process is followed and is confirmed in a detailed Acoustic Design Statement confirming how noise will be mitigated.
Medium Risk	60 - 70 dB	50 - 60 dB	
High Risk	> 70 dB	> 60 dB	Indication that the development site may be refused on noise grounds unless a good acoustic design process and detailed Acoustic Design statement can demonstrate the significant noise risk can be mitigated.

Notes

1. Noise levels should be assessed without inclusion of the acoustic effect of any scheme specific noise mitigation measures.
2. Noise levels are the combined free-field noise level from all sources of transport noise and may also include industrial/commercial noise where this is present, but not dominant.
3. $L_{Aeq,16hr}$ is for daytime 07:00-23:00, $L_{Aeq,8hr}$ is for night-time 23:00 to 07:00.
4. An indication that there may be more than ten noise events at night (23:00-07:00) with $L_{Amax,F} > 60$ dB means the site should not be regarded as negligible risk.

3.4 Building Regulations Approved Document O (ADO)

In June 2022, the Building Regulations Approved Document O: *Overheating* came into force, setting standards to control overheating in new residential buildings. The document also includes specific

criteria with regard to noise levels in bedrooms during the overheating condition, as defined in the regulations.

Section 3 of ADO includes a sub-section on Noise, which states the following:

3.2 In locations where external noise may be an issue (for example, where the local planning authority considered external noise to be an issue at the planning stage), the overheating mitigation strategy should take account of the likelihood that windows will be closed during sleeping hours (11pm to 7am).

3.3 Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.

- a. 40 dB $L_{Aeq,T}$, averaged over 8 hours (between 11pm and 7am).*
- b. 55 dB L_{AFmax} , more than 10 times a night (between 11pm and 7am).*

NOTE: Guidance on reducing the passage of external noise into buildings can be found in the National Model Design Code: Part 2 – Guidance Notes (MHCLG, 2021) and the Association of Noise Consultants' Acoustics, Ventilation and Overheating: Residential Design Guide (2020).

The above statements do not specifically mention living rooms or any other habitable room (only bedrooms) and for the night-time period. The above criteria are likely to have been derived from BS8233 internal noise guidance levels + a 10 dB allowance during the overheating condition.

4 BASELINE NOISE CONDITIONS

4.1 General

The prevailing noise conditions at the site were determined by an unattended environmental noise survey undertaken at the location shown in Figure 2.1. Continuous noise measurements were obtained under free-field conditions at a height of 2m above ground between 16:00 hours on 10th June and 10:30 hours on 15th June 2026.

4.2 Equipment details

Table 4.1: Inventory of Measurement Equipment

Item	Make and Model	Serial Number	Calibration	
			Certificate number	Expiry Date
Sound Level Meter	Rion NL-53	00251899	TCRT26/2134	25/02/2028
Calibrator	Rion NC-74	34935219	TCRT26/2116	19/02/2028

4.3 Weather Conditions

At the time of setting up the noise monitor, weather conditions were clear, dry with a low breeze.

Weather conditions during the survey period were obtained from www.wunderground.com (weather station at Gatwick Airport) which indicated dry conditions with low to moderate breezes occasionally exceeding 5 m/s during the survey period.

The weather conditions are not expected to have impacted on the measured noise levels.

4.4 Unattended Survey Results

A summary of the daily daytime and night-time ambient and background noise levels in addition to typical night-time maximum levels (not exceeded more than 10 times) are presented in Table 4.2 below.

Average daytime and night-time noise levels with octave band levels are presented in Table 4.3 below. A time history plot is provided in Appendix A.

Table 4.2: Unattended noise survey results (free-field)

Date	Day (07:00-23:00)		Night (23:00-07:00)		
	L _{Aeq,T}	L _{A90,T}	L _{Aeq,T}	L _{A90,T}	L _{Amax,F}
Weds 10/06/2026 ¹	64	64	61	48	70
Thurs 11/06/2026	66	65	62	46	74
Fri 12/06/2026	66	64	60	45	72
Sat 13/06/2026	65	63	60	53	71
Sun 14/06/2026	65	63	62	44	73
Mon 15/06/2026 ²	67	65	-	-	-
Overall	66	63	61	48	72

¹ Not a full 16-hour measurement. Start time 16:00 h

² Not a full 16-hour measurement. End time 10:30 h

Table 4.3: Octave band levels of unattended noise survey (free-field)

Monitoring Period	Octave Band Centre Frequency, Hz						dB(A)
	125	250	500	1k	2k	4k	
Daytime L _{eq,16h} (0700-2300 hours)	62	57	59	64	57	47	66
Night-time L _{eq,8h} (2300-0700 hours)	57	52	55	59	53	42	61
Night-time L _{Amax} (2300-0700 hours)	75	70	69	68	62	59	72

5 PRO-PG STAGE 1 ASSESSMENT

Following ProPG guidance, a Stage 1 – Initial Site Noise Risk assessment has been undertaken to characterise the application site in terms of the likely risk of adverse effects from noise on the future occupants of the development.

The results of the noise survey have been used to build a 3D noise model in CadnaA, which has been used to predict external noise levels at ground and first floor levels of the development.

As can be seen from Figures 5.1 to 5.4, the measured levels at the site indicate a range from 'High Risk' in the areas closest to the A23 through to 'Low Risk' along the western boundary of the site, according to ProPG's Stage 1 – Initial Site Risk Assessment.

The worst affected facades of the proposed properties generally fall into the 'Medium Risk' category during both day and night periods and at ground and first floor (the exception being the ground floor of the northernmost property which is considered 'Low Risk').

ProPG notes that in 'Medium Risk' categories, it should be demonstrated that "good acoustic design process" is followed and that an "Acoustic Design statement can demonstrate the adverse noise risk can be mitigated and minimised". A detailed Acoustic Design Statement is therefore required to ensure that any potential adverse impacts are mitigated and minimised in the completed development. This is provided in the following section.

It should be noted that the ProPG stage 1 assessment is considered suitable in areas where commercial noise is not considered dominant, which is the case on this site.

Figure 5.1: ProPG Stage 1 Initial daytime site noise risk assessment (noise contours predicted at 1.5 metres above ground level)



Figure 5.2: ProPG Stage 1 Initial daytime site noise risk assessment (noise contours predicted at 4.5 metres above ground level)



Figure 5.3: ProPG Stage 1 Initial night-time site noise risk assessment (noise contours predicted at 1.5 metres above ground level)

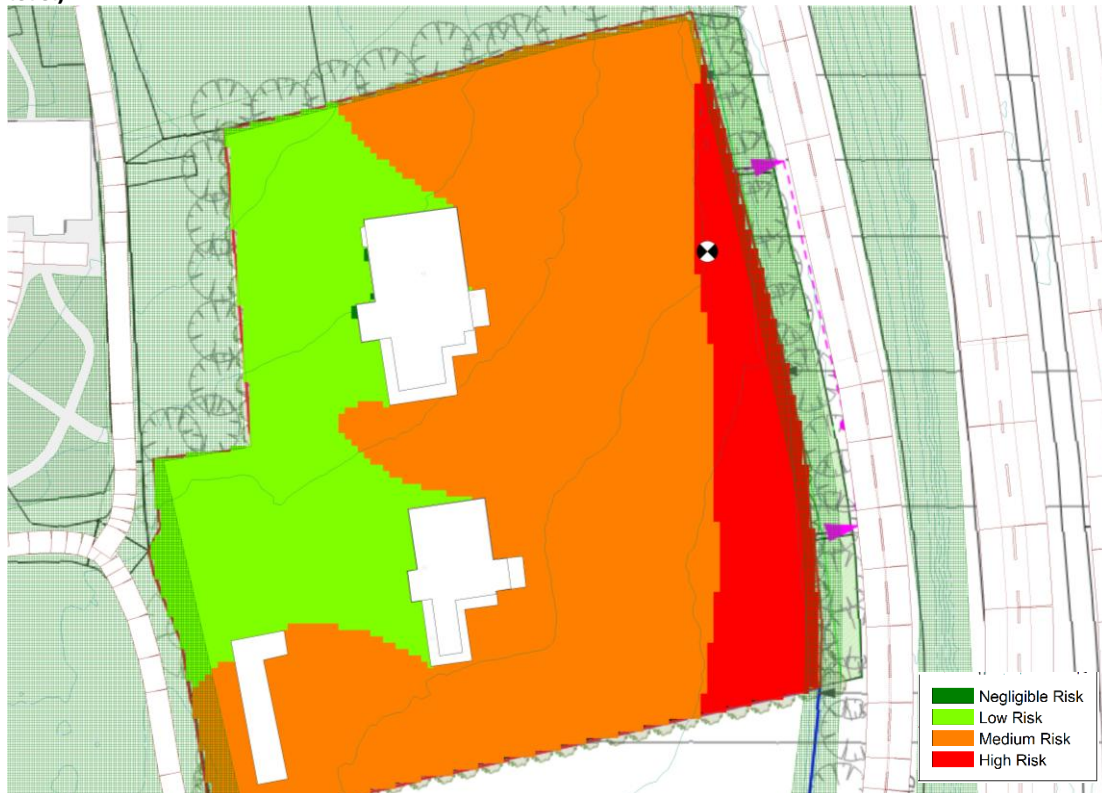
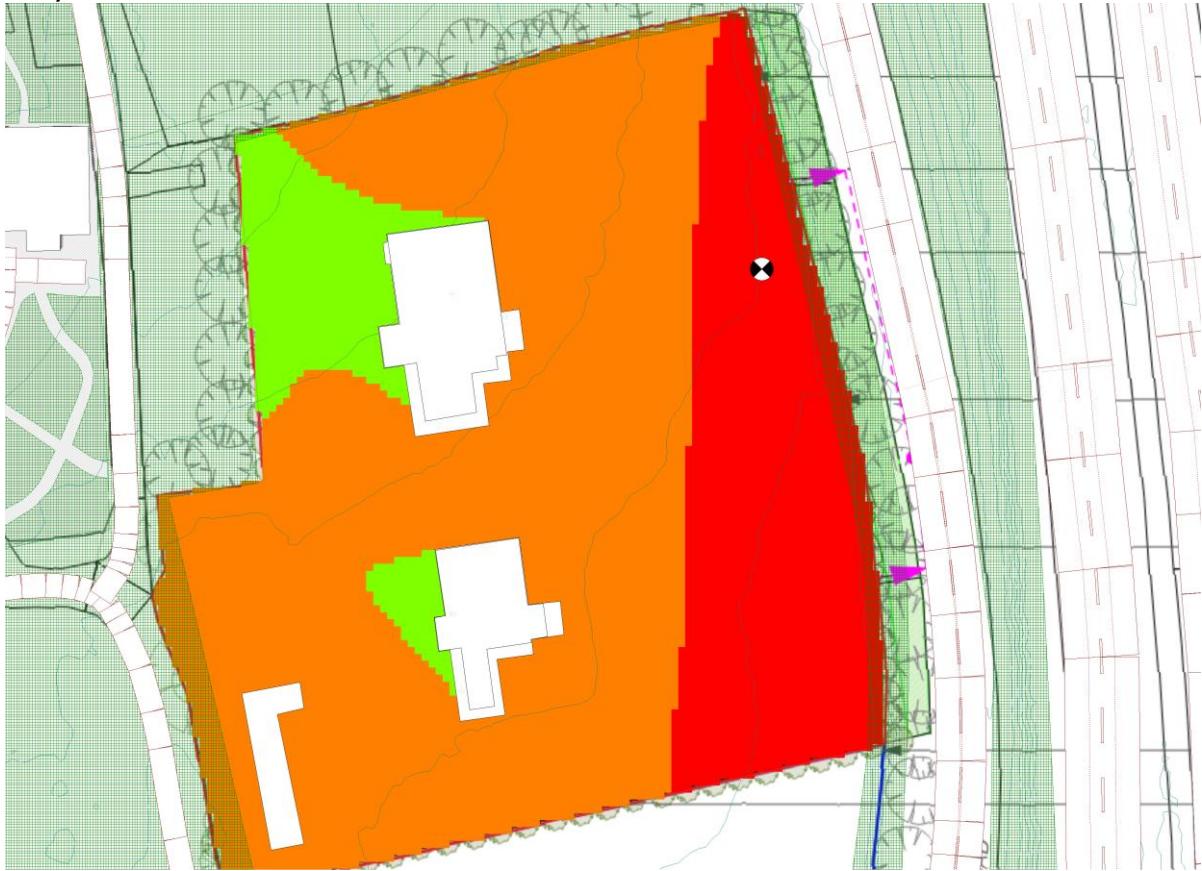


Figure 5.4: ProPG Stage 1 Initial night-time site noise risk assessment (noise contours predicted at 4.5 metres above ground level)



6 PRO-PG STAGE 2: FULL ASSESSMENT

Based on the results of the survey summarised in Section **Error! Reference source not found.** and following ProPG guidelines, a *Stage 2 - Full Assessment* is required. The four key elements to be considered have been assessed based on the assumptions listed in the following section.

6.1 Assumptions

6.1.1 Drawings

Our assessment has been based on the following Architect's drawings.

Table 6.1: Drawings used in the assessment

Drawing Title	Drawing Number	Date
Site plan	1758_3.001_Rev_B As Proposed Site Plan	June 2025
Proposed Plans – House 1	1758_3.003_Rev_B As Proposed Plans_H1 Oakwood	June 2026
Proposed Plans – House 2	1758_3.006_Rev_B As Proposed Plans _H2 Upper Paddocks	June 2026

6.1.2 Room Reverberation

In order to calculate the internal ambient noise levels within habitable rooms, our analysis has assumed typical reverberation times in furnished bedrooms and living rooms, which have been based on a flat reverberation time of 0.5 seconds across the frequency spectrum between 125 Hz and 4kHz.

6.1.3 External Wall Construction

It is understood that the proposed external wall areas to residential units will be of masonry construction. The below assumption has been made for the external wall system, based on experience of similar constructions.

Table 6.2: Assumed sound reduction index (dB) of the external wall construction

Wall	125	250	500	1k	2k	4k	$R_w / R_w + C_{tr}$
Masonry	41	45	45	54	58	58	52 / 48

6.1.4 Roof Construction

The following construction has been used to undertake our calculations: tiled/slatted roof with 12 mm plasterboard ceiling and no mineral wool. Table 6.3 details the estimated sound reduction performance of the proposed roof. Please note that alternative constructions to the above, capable of achieving the below sound reduction performance, may also be suitable.

Table 6.3: Sound reduction index (dB) of the assumed roof construction

125	250	500	1k	2k	4k	$R_w / R_w + C_{tr}$
21	26	33	33	35	35	34/30

6.2 Stage 2: Element 1 – Good Acoustic Design Process

Following a good acoustic design process is implicit to achieving good overall design, as required by the Government's planning and noise policy documents NPSE and NPPF.

This process requires a high level, multi-faceted and integrated approach across all disciplines with a view to optimising acoustic conditions inside habitable rooms and in external amenity space.

Section 5 of BS 8233: 2014 contains guidance on the sequence of stages to be followed in the planning and early acoustic design of a new development. Section 5.4 of BS 8233:2014 outlines a general approach to determining appropriate noise control measures including the following suggested steps (which may be iterative):

- i. Check the feasibility of reducing noise levels and/or relocating noise sources.
- ii. Consider options for planning the site or building layout.
- iii. Consider the orientation of proposed building(s).
- iv. Select construction types and methods for meeting building performance requirements.
- v. Examine the effects of noise control measures on the requirements for ventilation, fire regulation, health and safety, cost, CDM (construction, design, and management) etc.
- vi. Assess the viability of alternative solutions.

The designer should then decide which of the following options can be applied to reduce noise levels:

- i. Quietening or removing the source of noise.
- ii. Attenuating the sound on its path to the receiver.
- iii. Obstructing the sound path between source and receiver.
- iv. Improving the sound insulation of the building envelope.
- v. Using agreements to manage noise.

The main source of noise affecting the proposed development is road traffic noise on the A23 with some noise also present from London Road. Given the nature of the source, it is not practicable to reduce or attenuate the noise at source. Focus must be applied to the internal layout and acoustic design of the development, using appropriate building constructions and ventilation strategies which consider not only noise but also thermal comfort, fire, health and safety, CDM and cost.

6.2.1 Siting

The proposed properties have been located as far back from the eastern boundary as practically possible whilst still allowing for access and parking space from the west.

6.2.2 Internal Layout

Following feedback from the council's Environmental Health department, the internal layouts have been amended such that most habitable rooms are placed alongside facades that are offered some shielding from the road traffic noise to the east.

All four bedrooms in House 1 (north), have the largest windows facing west with Bedrooms 3 and 4 also having smaller windows on the northern façade. The living room also faces west. Less acoustically sensitive rooms are located on the eastern façade including the dining room, entrance hall, kitchen and gym. A snug (which serves a similar function to a living room) is situated on the east façade, however, with the living room located on the quieter façade, this provides the occupant with a choice of prioritising outlook over the garden or reduced noise levels.

House 2 (south) is smaller than House 1 with slightly less opportunity to locate all the sensitive rooms away from the noisiest façade. That being said, three of the four are located away from the noisiest façade with the only bedroom facing east being the guest bedroom and therefore will not be in regular use.

6.3 Stage 2: Element 2 – Internal Noise Level Guidelines

In order to achieve the internal noise guidelines as set out in Section 3.2, it is necessary to estimate internal noise levels with windows closed using glazing and ventilation products.

An assessment of the external building fabric elements has been undertaken based on the unattended spectral data of $L_{Aeq,T}$ and L_{AFmax} levels measured during daytime and night-time periods, as set out in Section **Error! Reference source not found.** of this report. Guidance is given in the following sections regarding suitable glazing, ventilation, and external wall configurations to achieve the required internal ambient noise levels within the proposed dwellings. Calculations have been undertaken following the general method set out in BS EN 12354-3:2017.

6.3.1 Modelled Noise Levels at the Façade

The calibrated noise model has been used to estimate noise levels at the façade of the proposed development. The results are given in Table 6.4.

Table 6.4: Estimated noise levels incident on each facade, dBA (free-field noise levels)

House	Room	Noise level at façade (free field)		
		Day ($L_{Aeq,16hrs}$)	Night ($L_{Aeq,8hrs}$)	Night (L_{AMax})
1 (north)	Living Room	45	-	-
	Snug	60	-	-
	Bedroom 1	50	45	53
	Bedroom 2	50	45	54
	Bedroom 3	51	46	67
	Bedroom 4	47	42	63
2 (south)	Living Room	59	-	-
	Bedroom 1	50	45	53
	Bedroom 2	55	50	67
	Bedroom 3	62	57	70
	Bedroom 4	53	48	64

6.3.2 Ventilation

It is understood that although it has yet to be finalised, a mechanical ventilation with heat recovery (MVHR) system is the preferred means of ventilation to both dwellings.

However, as a worst case scenario, calculations have been carried out using two standard trickle ventilators per living room and one per bedroom, the minimum performance specification of which is given in Table 6.5. Windows should be openable for purge or rapid ventilation, as requested by Approved Document F (ADF). Internal noise level guidelines are generally not applicable under these exceptional events, which should only occur occasionally (i.e. to remove odour from painting, cooking etc.). For unit ventilators, the measurements are based on BS EN ISO 10140-2: 2010 (12) and are rated in accordance with BS EN ISO 717-1: 2013 (13).

Should MVHR systems be eventually used, no trickle vents will be required.

Table 6.5: Minimum element normalized level difference $D_{n,e}$ (dB) for the trickle ventilators

Ventilator	125	250	500	1k	2k	4k	$D_{n,e,w} / D_{n,e,w} + C_{tr}$
Standard trickle ventilator	30	31	31	32	28	28	31/30

6.3.3 Glazing

Based upon the drawings provided by the architect, detailed calculations have been undertaken in accordance with BS 12354-3 to determine the required worst-case acoustic performances for the glazed elements of the façade, in order to provide appropriate internal noise levels in habitable rooms, during both daytime and night-time periods. The resulting worst-case performance requirements are presented in Table 6. assuming all dwellings are provided with standard trickle ventilators.

Table 6.6: Minimum sound reduction performance (dB) for the glazed elements per octave band frequency.

Façade	Room	Glazing example	125	250	500	1k	2k	4k	$R_w / R_w + C_{tr}$
All	All	4 mm glazing, 12 mm air gap, 6mm glazing	23	22	27	38	40	41	35 / 29

The sound insulation requirements of the glazing are applicable to the window system as a whole, including frames, mullions, and panels. They are based on BS EN ISO 10140-2: 2021 "Acoustics - Laboratory measurement of sound insulation of building elements" and rated in accordance with BS EN ISO 717-1:2020 "Acoustics – Rating of sound insulation in buildings and of building elements Part 1. Airborne sound insulation".

All glazing systems should be capable of meeting the performance specifications detailed above, with test certificates being made available in support. Glazing proposals which only reflect the guidance constructions indicated in this report will not be sufficient evidence that a glazing system will achieve the required performance specification.

The above sound reduction performances would ensure that appropriate BS 8233 internal noise levels are achieved using suitable façade treatments, when utilising any of the proposed ventilation strategies, which should then in turn equate to No Observed Adverse Effect according to NPSE.

6.4 Stage 2: Element 3 – External Amenity Area Noise Assessment

As detailed in Section 3.2, BS 8233 states that "it is desirable that the external noise level does not exceed 50dB $L_{Aeq,T}$, with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments".

A CadnaA noise map has been used to show daytime noise levels at 1.5 metres above ground level in gardens.

While areas of the gardens provided will exceed the upper 55 dB $L_{Aeq,T}$ noise limit recommended by BS 8233, the first two alternatives listed above are provided, therefore we consider this to be acceptable for residential use.

Figure 6.1 indicates that most of the external amenity areas located to the east of the properties are likely to experience noise levels above the upper 55 dB LAeq,T noise limit recommended by BS 8233 without any mitigation in place. Due to the distance from the noise source and the shielding provided by the properties to the areas to the west of the site, these will meet the 55 dB LAeq,T noise limit.

BS8233:2014 states that *"These guideline values may not be achievable in all circumstances where development might be desirable. In such a situation, development should be designed to achieve the lowest practicable noise levels in these external amenity spaces but should not be prohibited."*

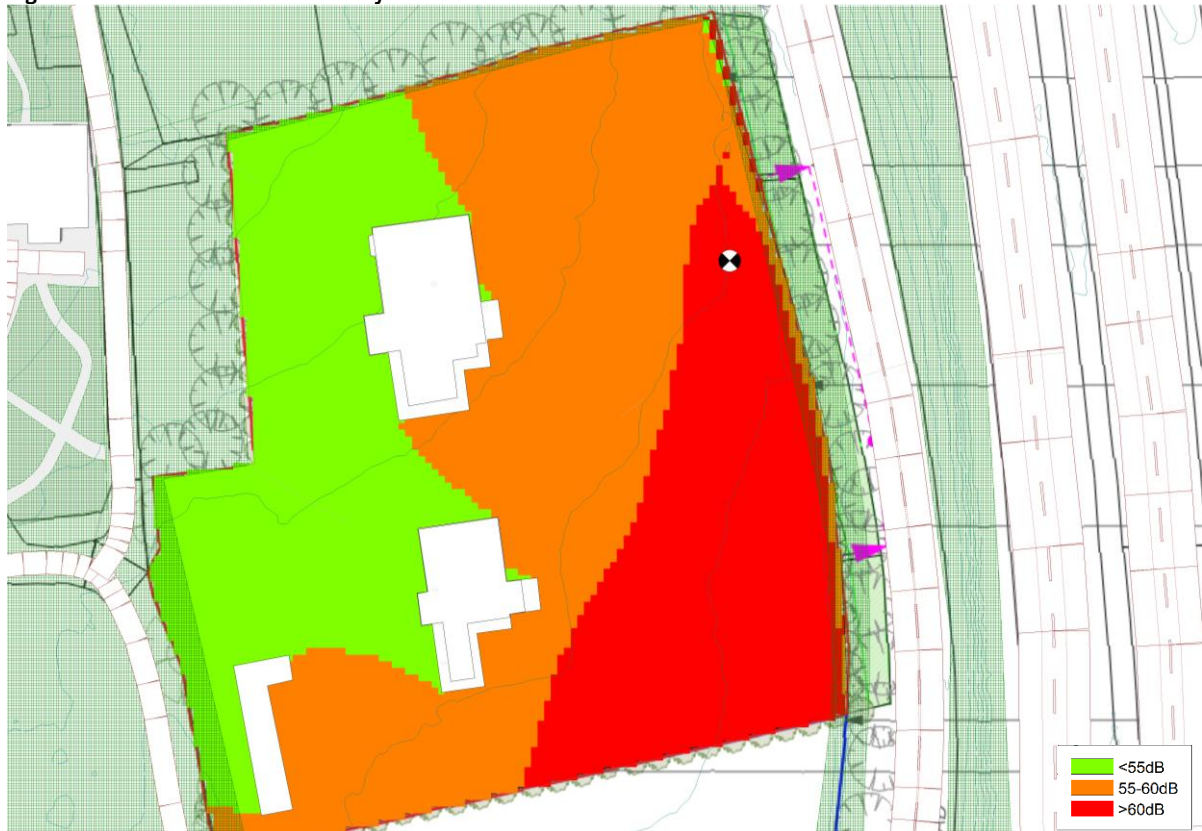
Mitigation in the form of a 2m high solid fence along the eastern site boundary would reduce noise levels in the areas closest to the eastern boundary (up to 5dB next to the fence and circa 3dB in the middle of the garden). However, due to the sloping nature of the site, this benefit is reduced closer to the houses.

While the benefit of mitigation to provide screening may be limited across the site, consideration should be paid to the following alternatives provided in ProPG Stage 2 - Element 3 to partially offset these impacts:

- 3(v) *Where, despite following a good acoustic design process, significant adverse noise impacts remain on any private external amenity space (e.g. garden or balcony) then that impact may be partially off-set if the residents are provided, through the design of the development or the planning process, with access to:*
 - *a relatively quiet facade (containing openable windows to habitable rooms) or a relatively quiet externally ventilated space (i.e. an enclosed balcony) as part of their dwelling; and/or*
 - *a relatively quiet alternative or additional external amenity space for sole use by a household, e.g. a garden, roof garden or large open balcony in a different, protected, location); and/or*
 - *a relatively quiet, protected, nearby, external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings; and/or*
 - *a relatively quiet, protected, publicly accessible, external amenity space (e.g. a public park or a local green space designated because of its tranquillity) that is nearby (e.g. within a 5 minutes walking distance). The local planning authority could link such provision to the definition and management of Quiet Areas under the Environmental Noise Regulations.*

While areas of the gardens provided will exceed the upper 55 dB LAeq,T noise limit recommended by BS 8233, the first two alternatives listed above are provided, therefore we consider this to be acceptable for residential use.

Figure 6.1: Predicted external amenity area noise levels



6.5 Stage 2: Element 4 – Assessment of Other Relevant Issues

Element 4 is intended to consider other potential noise issues and/or sources that may be introduced by the proposed development. This section considers plant noise and overheating.

6.5.1 Plant Noise

It is understood that heating (and cooling) will be provided by ground source heat pumps. Unlike air source pumps, these do not require external fans and therefore are not expected to produce significant noise.

6.5.2 Overheating and ventilation

A qualitative assessment has been undertaken in this section to determine whether openable windows can be used to provide thermal comfort to the proposed dwellings.

Predicted noise levels incident on the façade of the development have been compared to the Approved Document O criteria given in Section 3.4, taking into account the assumed sound reduction in internal noise levels of 13 dB provided by a partially open window.

Table 6.7: Predicted internal night-time noise levels dB

House	Room	Internal night-time noise level with partially open windows		
		Night ($L_{Aeq,8hrs}$)	Night (L_{Amax})	Meets target ADO Level
1	Bedroom 1	32	40	Y
	Bedroom 2	32	41	Y
	Bedroom 3	33	54	Y
	Bedroom 4	29	50	Y
2	Bedroom 1	32	40	Y
	Bedroom 2	37	54	Y
	Bedroom 3	44	57	N
	Bedroom 4	35	51	Y

The table above shows that the majority of bedrooms can rely on open windows to control overheating according to Approved Document O requirements. Bedroom 3 in House 2, however, will require an alternative form of cooling to a partially open window. It is understood that the proposed ground source heat pumps can be run in reverse to provide cooling, otherwise a cooling module to the MVHR unit or a ceiling mounted fan may be considered.

7 CONCLUSIONS

Anderson Acoustics Ltd was commissioned in June 2026 to provide acoustic consultancy services to provide a noise impact assessment to support a planning application for a residential development on the land North of Jeremys Cottage, RH17 5QE.

The outcome of our noise assessment is summarised below.

- An on-site survey was carried out to understand ambient noise levels. The noise environment was dominated by constant noise from the nearby A23 although some vehicles were also audible on London Road.
- In order to meet the internal ambient noise levels in habitable rooms recommended by BS 8233, double glazing with a minimum sound reduction performance of $29 \text{ dB } R_w + C_{tr}$ should be installed throughout.
- While it is understood mechanical ventilation with heat recovery is preferred, target internal noise levels may be met with standard trickle ventilators.
- Open windows may be relied on to provide cooling in all but one bedroom in House 2. It is understood that cooling may be provided via the proposed ground source heat pumps.
- Predicted noise levels across much of the external amenity areas will exceed the upper guideline level in BS 8233 of $55 \text{ dB } L_{Aeq,T}$. However due to the size of the site and shielding provided by the properties a significant area to the west of the site may be used by the occupants, offsetting some of the impact of noise levels towards the east of the site. Although noise levels will still be exceeded to the east of the site, a 2m fence along the eastern boundary will reduce noise levels as far as practicable.

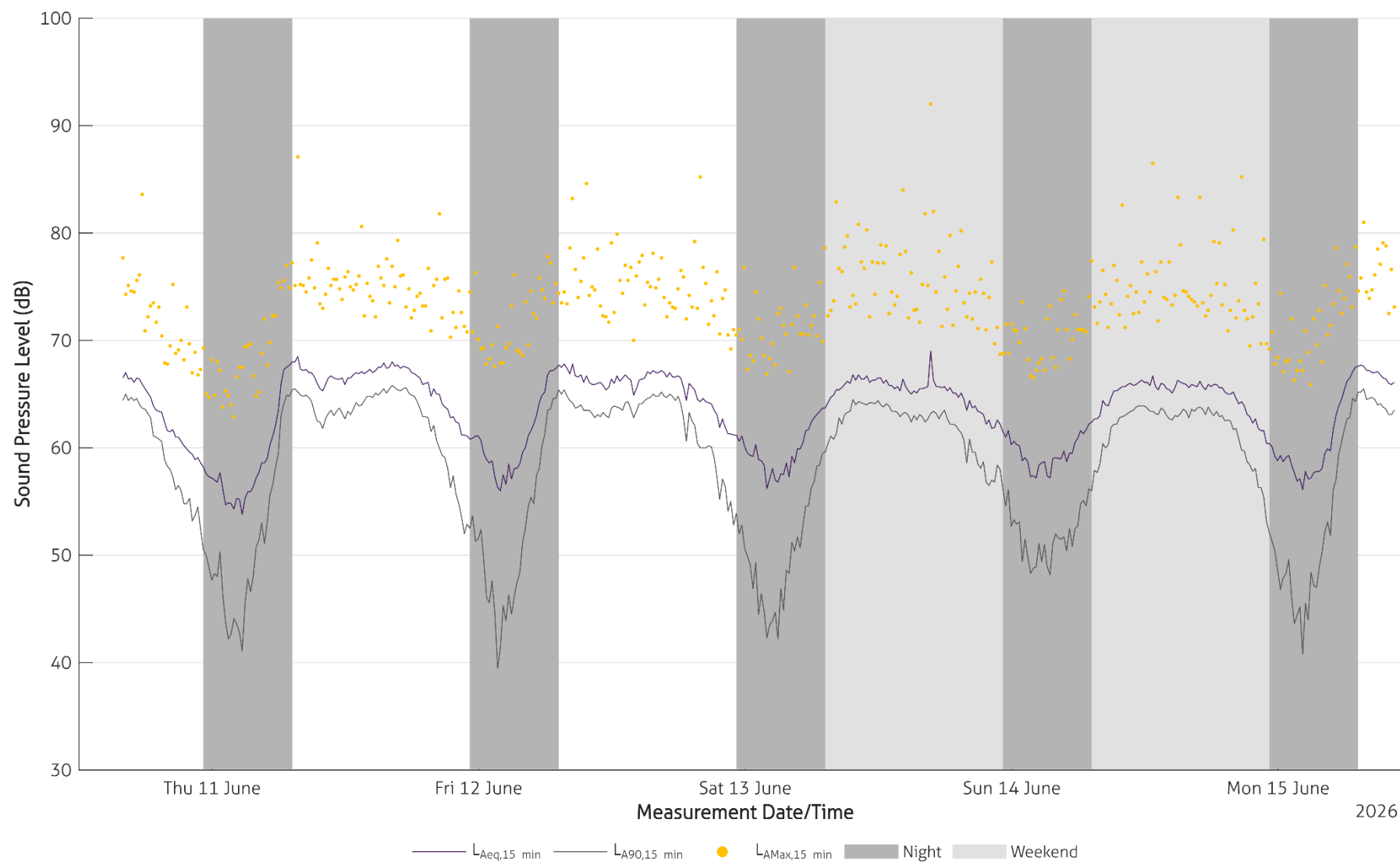
The outcome of our assessment demonstrates that planning permission should not be refused on noise grounds subject to the recommendations made in this report.

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APPENDIX A

ENVIRONMENTAL NOISE SURVEY DETAILS

Figure A.1: Unattended Survey Results



APPENDIX B

NOISE BREAK-IN CALCULATIONS

Figure B.1: Worst case noise break-in calculations – House 2, Bedroom 3

Job name:

Land north of Jeremys Cottage

Job no.:

9181

Façade:

House 2 - Bedroom 3

RESULT SUMMARY:

L_{Aeq} Day61

Predicted Internal Level:31d_B L_A

Criterion:35.0d_B L_A

Difference:-4d_B L_A

SOUND INSULATION BY ELEMENT

FormulaDescriptionDataUnits

Bedroom

Reverberation Time0.5s

Receiver Room Volume60.0m³

Element 1

L1WallR_w + C_{tr}Leq

-R260kg/m2 brick wall-

+10logSElement Area9.7m²

-10logAwhere A=0.16V/T

#N/A

=L2

L2totRunning total

Element 2

L1GlazingR_w + C_{tr}Leq

-RSGG 4/12/6mm29

+10logSElement Area2.0m²

-10logAwhere A=0.16V/T

#N/A

=L2

L2totRunning total

Element 3

L1VentilatorR_w + C_{tr}Leq

-Rpath (generic)30

+10logSElement Area10.0m²

-10logAwhere A=0.16V/T

#N/A

=L2

L2totRunning total

Element 4

L1RoofR_w + C_{tr}Leq

-Rceiling, sound absorbing layer (e.g.)-

+10logSElement Area20.0m²

-10logAwhere A=0.16V/T

#N/A

=L2

L2totRunning total

Free-field

57525459524261

364041455252

101010101010

131313131313

3333333

211213140-1016

211213140-1016

Free-field

575254595242

232227384041

3333333

131313131313

3333333

272320145-621

282321176-422

Free-field

57525459524261

303131322828

101010101010

131313131313

3333333

27212327241430

31252528241431

Free-field

57525459524261

243440454949

131313131313

131313131313

3333333

362117176-423.1

37272628241431.4

RESULT SUMMARY:		L _{Aeq} Night	57
		Predicted Internal Level:	28 d _B L _A
		Criterion:	30.0 d _B L _A
		Difference:	-2 d _B L _A

Octave band centre frequency, Hz						dB(A)
125	250	500	1000	2000	4000	
0.5	0.5	0.5	0.5	0.5	0.5	

Free-field							57
53	48	51	55	48	37		
36	40	41	45	52	52		
10	10	10	10	10	10		
13	13	13	13	13	13		
3	3	3	3	3	3		
17	8	10	10	-4	-15		12
17	8	10	10	-4	-15		12

53	48	51	55	48	37		
23	22	27	38	40	41		
3	3	3	3	3	3		
13	13	13	13	13	13		
3	3	3	3	3	3		
23	19	17	10	1	-11		17
24	19	18	13	2	-9		19

53	48	51	55	48	37		57
30	31	31	32	28	28		
10	10	10	10	10	10		
13	13	13	13	13	13		
3	3	3	3	3	3		
23	17	20	23	20	9		26
27	21	22	24	20	9		27

53	48	51	55	48	37		
24	34	40	45	49	49		
13	13	13	13	13	13		
13	13	13	13	13	13		
3	3	3	3	3	3		
32	17	14	13	2	-9		19.2
33	23	23	24	20	9		27.6

RESULT SUMMARY:		L _{Amax} Night	70
		Predicted Internal Level:	42 d _B L _A
		Criterion:	45.0 d _B L _A
		Difference:	-3 d _B L _A

Octave band centre frequency, Hz						dB(A)
125	250	500	1000	2000	4000	
0.5	0.5	0.5	0.5	0.5	0.5	

Free-field							70
73	68	67	66	58	55		
36	40	41	45	52	52		
10	10	10	10	10	10		
13	13	13	13	13	13		
3	3	3	3	3	3		
37	28	26	21	6	3		27
37	28	26	21	6	3		27

73	68	67	66	58	55		
23	22	27	38	40	41		
3	3	3	3	3	3		
13	13	13	13	13	13		
3	3	3	3	3	3		
43	39	33	21	11	7		34
44	39	34	24	12	9		35

73	68	67	66	58	55		70
30	31	31	32	28	28		
10	10	10	10	10	10		
13	13	13	13	13	13		
3	3	3	3	3	3		
43	37	36	34	30	27		39
47	41	38	35	30	27		40

73	68	67	66	58	55		
24	34	40	45	49	49		
13	13	13	13	13	13		
13	13	13	13	13	13		
3	3	3	3	3	3		
52	37	30	24	12	9		37.5
53	43	39	35	30	27		42.2

Figure B.2: Worst case noise break-in calculations – House 1, Snug

Job name:	Land north of Jeremys Cottage
Job no.:	9181
Façade:	House 1 - Snug

RESULT SUMMARY:	L _{Aeq} Day	60
	Predicted Internal Level:	34 dB L _A
	Criterion:	35.0 dB L _A
	Difference:	-1 dB L _A

SOUND INSULATION BY ELEMENT

Formula	Description	Data	Units	Octave band centre frequency, Hz						dB(A)
				125	250	500	1000	2000	4000	
	Bedroom									
	Reverberation Time	0.5	s	0.5	0.5	0.5	0.5	0.5	0.5	
	Receiver Room Volume	49.2	m ³							
Element 1										
L1	Wall	Rw + Ctr	Leq	56	51	53	58	51	41	60
-R	260kg/m2 brick wall	-		36	40	41	45	52	52	
+10logS	Element Area	22.2	m ²	13	13	13	13	13	13	
-10logA	where A=0.16V/T			12	12	12	12	12	12	
#N/A				3	3	3	3	3	3	
=L2				24	15	16	17	3	-7	20
L2tot	Running total			24	15	16	17	3	-7	20
Element 2										
L1	Glazing	Rw + Ctr	Leq	56	51	53	58	51	41	
-R	SGG 4/12/6mm	29		23	22	27	38	40	41	
+10logS	Element Area	3.0	m ²	5	5	5	5	5	5	
-10logA	where A=0.16V/T			12	12	12	12	12	12	
#N/A				3	3	3	3	3	3	
=L2				29	25	22	16	7	-4	22
L2tot	Running total			30	25	23	20	8	-2	24
Element 3										
L1	Ventilator	Rw + Ctr	Leq	56	51	53	58	51	41	60
-R	path (generic)	30		30	31	31	32	28	28	
+10logS	Element Area	20.0	m ²	13	13	13	13	13	13	
-10logA	where A=0.16V/T			12	12	12	12	12	12	
#N/A				3	3	3	3	3	3	
=L2				30	24	26	30	27	17	33
L2tot	Running total			33	28	28	30	27	17	34