



Noise Impact Assessment

Client: Qube Estates Ltd

Site: 8 West Street, Scawby, DN20 9AN

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Executive Summary

A noise assessment has been undertaken at 8 West Street, Scawby in relation to the proposed development of a detached dwelling within the existing rear garden. Environmental noise monitoring was undertaken between 17th and 18th June 2025 to characterise the existing sound environment.

The assessment has been carried out in accordance with ProPG: Planning & Noise – Professional Practice Guidance, adopting a systematic, proportionate and risk-based approach. Stage 1 of the ProPG assessment identified the site as Low Risk, and a proportionate Stage 2 assessment was undertaken to confirm the acceptability of the development and to inform the acoustic design of the dwelling.

The assessment demonstrates that acceptable internal noise conditions can be achieved within the proposed dwelling with appropriate façade design, glazing and ventilation, in accordance with the internal noise criteria set out in BS8233:2014. External amenity conditions are also considered acceptable within the context of the established mixed-use environment.

Potential noise sources associated with nearby commercial activities, including the public house, EV charger and commercial garage, have been considered in a proportionate manner, including reference to BS4142 where appropriate. These sources are not assessed as giving rise to significant adverse effects at the proposed dwelling, taking account of existing receptor exposure, separation distances and site context.

On this basis, the proposed development is considered acceptable in acoustic terms and suitable for residential use within its existing noise environment, without the need for disproportionate mitigation.

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1. Introduction

1.1. Proposal

It is proposed to construct a detached dwelling within the rear garden of the existing dwelling at 8 West Street.

1.2. Reason for Assessment

A noise assessment has been prepared in support of the planning application to consider the suitability of the site for residential development and to ensure that appropriate internal and external noise conditions can be achieved for future occupants. The assessment has been undertaken in accordance with the principles of ProPG: Planning & Noise – Professional Practice Guidance, adopting a systematic, proportionate and risk-based approach.

The assessment considers the potential effects of existing noise sources on the proposed development and informs the acoustic design of the dwelling, with the aim of achieving appropriate internal noise levels within habitable rooms and satisfactory external amenity, with reference to relevant guidance including BS8233 and, where appropriate, BS4142.

1.3. Planning Conditions

At the time of writing, no planning conditions relating to noise have been specified for the proposed development. This noise assessment has been prepared to accompany the planning application and to inform the Local Planning Authority in its consideration of potential noise effects associated with the proposed development.

1.4. Assessment Guidance Documentation

The assessment and design criteria have been informed by BS8233:2014 – Guidance on sound insulation and noise reduction for buildings, which provides recommended internal ambient noise levels for residential dwellings. In particular, the guideline values set out in Table 4 of Section 7.7.2 have been used to assess internal noise conditions within habitable rooms.

The assessment has also been undertaken with reference to ProPG: Planning & Noise – Professional Practice Guidance, which provides a recommended systematic, proportionate and risk-based approach to the management of noise within the planning system. ProPG has informed both the Stage 1 risk screening and the Stage 2 detailed assessment, with an emphasis on good acoustic design.

Where relevant, consideration has also been given to BS4142, in a proportionate manner, to address potential effects arising from fixed commercial noise sources in the vicinity of the site.

Mitigation recommendations, where required, have been developed having regard to the objectives of the National Planning Policy Framework (2024) and the Noise Policy Statement for England (2010), with the aim of avoiding significant adverse effects on health and quality of life. Further details of the guidance documentation referenced are provided in Appendix H.

2. Environmental Noise Survey

2.1. Survey Measurement

To characterise the existing sound environment affecting the proposed development, an unattended noise survey was undertaken at the site between 17th and 18th June 2025. The survey period was selected to capture noise levels over a representative 24-hour weekday period, including activity associated with the adjacent public house and nearby vehicle garage, together with road traffic and other typical residential and commercial sound sources.

Measurements of LAeq,T and LAFmax were logged at 5-minute intervals in accordance with the provisions of BS7445 – Description and Measurement of Environmental Noise.

Additional monitoring was planned during the weekend period from 14th November 2025 to further characterise car park activity associated with the public house; however, adverse weather conditions, including elevated wind speeds associated with a storm event, rendered the resulting data unsuitable for reliable acoustic assessment.

In accordance with the approach advocated by ProPG, the assessment has therefore been informed by the weekday measurement data, site observations, established baseline context and professional judgement.


2.2. Measurement Location

Monitoring position M1 was located within the rear garden of the existing property. The microphone was positioned approximately 1.7 metres above ground level and away from any reflective surfaces.

The site and monitoring locations are shown below in **Figure 1**:



Figure 1: Site & Measurement Locations – [google.com/maps](https://www.google.com/maps)

 Monitoring Location (M1)

 Site Boundary (Approx.)

2.3. Site Descriptions

The site is located on West Street within the centre of Scawby. To the north of the site are residential dwellings with associated private gardens. To the east lies an existing dwelling positioned adjacent to the B1207 (West Street), beyond which are a small cluster of local commercial premises, including a Post Office, a takeaway unit (currently vacant) and a fish and chip shop. Residential properties are also present along the opposite side of West Street.

To the south of the site is the Sutton Arms, which includes a car park to the rear and an external covered seating area. Beyond the public house is Lockwood’s Garage, operating as an MOT and vehicle servicing facility. To the west of the site are open agricultural fields.

2.4. Environmental Noise Survey Results

The results from the noise monitoring location M1 are summarised below.

The full-time history of the noise monitoring data is given in **Appendix E**.

Measurement	Date(s)	Period	L _{Aeq} (dB)	Typical* L _{AFmax} (dB)
M1	17 th & 18 th June 2025	Day (16hr Aggregate Periods)	51	-
	17 th – 18 th June 2025	Night (8hr)	46	67

Table 1: Environmental Measurement Summary

* The given ‘Typical’ L_{AFmax} levels are an average of the spectra of the noisiest 10 events of the night-time period.

2.5. Weather Conditions

Daytime temperatures of between 18 - 23°C were noted during the survey with winds of 1 – 5m/s. Detailed weather conditions are given in **Appendix C**.

2.6. Measurement Equipment

Measurement equipment complies with accuracy requirements for common environmental noise measurement standards. Equipment was calibrated before and after use and no significant drift occurred during measurements. Up-to-date calibration certification can be provided upon request. A detailed equipment list is given in **Appendix B** with calibration information in **Appendix D**.

3. ProPG Stage 1 Risk Assessment

3.1. Noise Sources Affecting the Development

Noise sources potentially affecting the development were noted during the site visit to include:

- Road traffic from B1207 (West Street)
- The Sutton Arms Pub
- An EV charger within the car park of the Sutton Arms
- Lockwood's Garage to the south of the site

Secondary sources were noted as birdsong, air traffic and some site maintenance works.

The proposed dwelling is located within the residential curtilage of an existing dwelling (8 West Street) which has co-existed with the Sutton Arms public house and other nearby commercial activities for an extended period.

3.2. Stage 1 Risk Screening Outcome:

Baseline noise monitoring undertaken at the site identified a daytime noise level of 51 dB LAeq,16hr, which places the site within the Negligible to Low Risk category for the daytime period in accordance with ProPG. The measured night-time noise level of 46 dB LAeq,8hr places the site within the Low Risk category for the night-time period.

In considering both the measured noise climate and the established residential context, the identified noise sources are assessed as having a low likelihood of giving rise to significant adverse effects, particularly given that existing noise-sensitive receptors are already present at comparable distances and orientations to the principal sources.

On this basis, and in accordance with the systematic, proportionate and risk-based approach advocated by ProPG, the proposed development is assessed as representing a Low Risk development at Stage 1. No exceptional or atypical noise risks have been identified that would warrant categorisation beyond this level.

4. ProPG Stage 2 Assessment

Notwithstanding the Low Risk classification identified at Stage 1, a proportionate Stage 2 assessment has been undertaken to confirm the acceptability of the proposed development and to inform the acoustic design of the dwelling. This approach is consistent with ProPG, which encourages good acoustic design even where significant adverse effects are not anticipated. The Stage 2 assessment has therefore been undertaken on a confirmatory basis and does not seek to characterise hypothetical worst-case operational scenarios that would be inconsistent with the established use of nearby noise sources.

4.1. Baseline Noise Environment

Baseline noise measurements were undertaken to characterise the existing sound environment at the site. The measured noise climate is dominated by road traffic noise from the B1207 (West Street), with intermittent contributions from local commercial activity including the Sutton Arms public house and Lockwood's Garage.

Operational noise from the public house, including kitchen extract plant and general patron activity, was observed to be consistent with an established mixed residential environment. Occasional transient noise events were noted, but these were not observed to dominate the baseline noise climate.

The site is located within the residential curtilage of an existing dwelling which has co-existed with the identified noise sources for an extended period. As such, the baseline noise environment is considered representative of the established operational envelope of surrounding activities.

4.2. Assessment Criteria

The assessment of internal noise levels has been undertaken with reference to the internal ambient noise criteria set out in BS8233:2014, which recommends the following guideline values for resting conditions:

- Living rooms (daytime): 35 dB LAeq,16hr
- Bedrooms (night-time): 30 dB LAeq,8hr

These criteria are widely adopted within planning practice and are considered appropriate for assessing internal residential amenity within the context of new development.

4.3. Predicted External and Internal Noise Levels

Based on the measured baseline noise levels and the identified dominant noise sources, predicted external façade noise levels have been derived for the proposed dwelling.

Using standard assumptions for sound reduction performance associated with typical residential construction, internal noise levels have been predicted for habitable rooms during both the daytime and night-time periods. The assessment demonstrates that, with appropriate façade design, internal noise levels are capable of meeting the relevant BS8233 guideline criteria.

Where predicted internal levels approach the guideline values, mitigation has been considered through building fabric performance rather than reliance on operational controls or disproportionate measures.

4.4. Acoustic Design and Mitigation Measures

In accordance with ProPG and good acoustic design principles, mitigation has been considered in a hierarchical and proportionate manner, with priority given to site layout, building orientation and façade design.

The following measures are incorporated as part of the development:

- The building layout has been designed such that habitable rooms are oriented to minimise exposure to dominant noise sources where practicable. The façade closest to the public house car park serves only non-habitable rooms at the ground floor, including a utility room, and the kitchen has no window openings on this elevation. 1st floor bedrooms do not have windows on the most exposed facade.
- Appropriate façade sound insulation performance is provided to all habitable rooms to achieve the relevant internal noise criteria.
- Acoustically suitable ventilation strategies are incorporated to allow windows to remain closed during periods of elevated external noise, in accordance with the assumptions of BS8233 and ProPG.
- A close-boarded boundary fence is shown on the proposed plans, increasing the effective wall/fence height between the site and the public house car park to approximately 2.0 m, providing additional screening to private amenity areas.

The proposed mitigation measures are considered proportionate to the identified risk and consistent with standard residential construction practice. No exceptional or atypical mitigation measures are required.

4.5. Event-Related Noise from The Sutton Arms

The potential for occasional elevated noise levels associated with events at the Sutton Arms public house has been considered within the Stage 2 assessment. Such events occur within an established planning and licensing framework and are already subject to environmental control.

An existing noise-sensitive dwelling is located next door to the public house and effectively defines the upper limit of acceptable operational noise from the venue. In the absence of evidence of statutory nuisance or substantiated complaints associated with events, it is not considered appropriate or proportionate to assess unconstrained or hypothetical worst-case scenarios. Event-related noise is therefore considered to be implicitly reflected within the established baseline noise environment.

4.6. Deliveries to The Sutton Arms

Deliveries associated with the Sutton Arms public house have been considered as part of the Stage 2 assessment. Such activity is understood to occur infrequently, typically a small number of times per week, and during normal daytime hours. Delivery activity is therefore short in duration and does not represent a continuous or regular noise source.

Vehicle movements associated with deliveries already pass existing noise-sensitive dwellings adjacent to the public house. In accordance with the risk-based approach advocated by ProPG, infrequent and transient activities such as deliveries are not considered to define the baseline noise environment nor to give rise to significant adverse effects at the proposed dwelling. On this basis, deliveries are not assessed as materially altering the overall noise risk classification of the development.

4.7. Car Park Activity and Patron Noise

Noise associated with the use of the public house car park and patrons arriving and departing has been considered as part of the ProPG Stage 2 assessment. Such noise is intermittent in nature and typically comprises short-duration events including vehicle start/stop, door closure and occasional vocal activity.

Whilst it is acknowledged that car park activity may be more frequent during evening periods and at weekends, the character of these noise events is not expected to differ materially from those observed during the baseline survey period. Existing noise-sensitive dwellings are already exposed to car park and access-related activity associated with the public house, and this activity therefore represents an established feature of the local sound environment.

The proposed dwelling is positioned adjacent to the car park and, as such, this potential exposure has been explicitly considered within the Stage 2 assessment. Good acoustic design principles have been adopted, including internal layout which places less noise-sensitive rooms on the car park side and appropriate façade design to protect internal amenity. In addition, boundary treatment is proposed to reduce direct transmission of noise from the car park to private amenity areas.

On this basis, and in accordance with the risk-based approach advocated by ProPG, car park activity and patron departure noise are not considered likely to give rise to significant adverse effects at the proposed dwelling, subject to the proposed design measures being implemented.

4.8. Residual Effects and Stage 2 Conclusion

Taking account of the baseline noise environment, the proposed acoustic design measures and the established residential context, the assessment demonstrates that acceptable internal noise conditions can be achieved within the proposed dwelling.

In accordance with ProPG, the residual effects of noise on the proposed development are assessed as not significant, and the development is considered suitable for residential use from an acoustic perspective. The Stage 2 assessment confirms that the proposed development represents an appropriate and sustainable use of the site within its existing noise context.

4.9. Overall ProPG Conclusion

The assessment has adopted a systematic, proportionate and risk-based approach in accordance with ProPG. Stage 1 identified the development as Low Risk, and the subsequent Stage 2 assessment has confirmed that good acoustic design can be achieved without the need for disproportionate mitigation. On this basis, the proposed development is considered acceptable in acoustic terms.

5. Internal Noise Level Assessment

5.1. Internal Noise Calculations

Internal noise levels have been calculated to demonstrate that the proposed dwellings can achieve the desired design criteria when appropriate glazing and ventilation systems are utilised.

Assessment is not required for each individual room, therefore a worst-case situation will be used in which the worst affected rooms/floors will be used.

Calculations of internal ambient noise levels have been undertaken using the ‘rigorous calculation’ method given in Annex G2 of BS8233:2014. Full details of the calculations are provided in **Appendix F**.

6. Sound Insulation Scheme

6.1. External Building Envelope

Material build-up of the façade will significantly dictate the noise levels within the proposed dwelling. For the purposes of this report, the heavyweight construction of the façade is assumed to provide a minimum sound reduction of 49 dB R_w .

6.2. Glazing and Ventilation

The following basic glazing and ventilation scheme for the development has been assumed within internal noise level calculations.

Internal Space	Glazing		Ventilation	
	Performance $R_w (+C_{tr})^{[1]}$	Example Specification ^[2]	Performance $D_{ne,W,+C_{tr} (Open)}$	Example Specification ^[3]
Living Areas	30 (26)	Double Glazing: 4/16/4	32	Hit & Miss Trickle Vent (Open): Titon Trimvent XS13 4400EA
Bedrooms	30 (26)	Double Glazing: 4/16/4	32	Hit & Miss Trickle Vent (Open): Titon Trimvent XS13 4400EA
Dining Rooms	30 (26)	Double Glazing: 4/16/4	32	Hit & Miss Trickle Vent (Open): Titon Trimvent XS13 4400EA

Table 2: Glazing & Ventilation Scheme

N.B. Note that other glazing configurations and ventilators can achieve the modelled performance.

[1] The sound insulation value of the glazing should take into account the glass as well as the frame and perimeter seal.

[2] Example glazing specification format given as ‘XXmm Float / 16mm Air gap / XXmm Float’

[3] It is noted that BS8233 section 7.2.2 states ‘If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level’. This statement implies that the use of closed windows and an alternative means of ventilation is acceptable.

7. Internal Noise Levels

It is determined that, based on the façade details specified in **Table 2** for the building façades, the outcome summarised in the following table is achieved.

Internal Space	Noise Parameter	Internal Noise Level (dB)	Within Design Criteria?
Living Room	Daytime $L_{Aeq, 16hr}$	24	Yes
	Daytime $L_{Aeq, 16hr}$	24	Yes
Bedroom	Night-time $L_{Aeq, 8hr}$	20	Yes
	Night-time $L_{Amax,F}$	37	Yes

Table 3: Internal Noise Levels

For the daytime assessment for living areas, the desirable limit of BS8233:2014 suggests a guideline of 35 dB $L_{Aeq, 16hr}$ for resting conditions, and up to 40 dB is considered acceptable for necessary developments.

All results, with the implementation of the modelled façade specifications given in **Table 2**, would place the internal daytime noise levels below 35 dB, therefore within the desired limit.

For the night-time assessment for bedrooms, BS8233:2014 suggests a desirable guideline of 30 dB $L_{Aeq, 8hr}$ for sleeping conditions, with an acceptable limit of 35 dB $L_{Aeq, 8hr}$.

Implementation of the modelled façade specifications given in **Table 2** would place the internal continuous night-time noise levels below 30 dB, therefore within the desirable category.

For the night-time assessment for bedrooms, ProPG suggests that individual noise events do not normally exceed 45dB $L_{Amax,F}$ more than 10 times a night.

Implementation of the modelled façade specifications given in **Table 2** would place the internal $L_{Amax,F}$ night-time events below 45 dB, therefore within the criteria.

7.1. Open Window Internal Levels

Open-window internal noise levels are presented for contextual information only and are not relied upon for assessment compliance.

Assuming a reduction of around 10 – 15dB via an open window, the internal noise levels within living rooms and bedrooms of the proposed dwelling during the daytime would be 34 – 39dB L_{Aeq} , which places the internal level around the desirable/acceptable criteria of BS8233 with windows open.

For bedrooms at night-time this would be 31 – 36dB L_{Aeq} , again placing internal noise levels around the desirable/acceptable criteria with windows open.

During the night-time survey period, a number of short-duration maximum noise events were recorded, reflected in elevated L_{Amax} values within some 5-minute logging intervals. It is important to note that an L_{Amax} value reported over a 5-minute interval represents the single highest sound level occurring at any point within that period, and does not imply that elevated noise levels persisted throughout the interval.

The observed night-time maximum levels are typical of an established mixed residential and commercial environment and are attributable to short-duration events such as vehicle movements and intermittent human activity. When assessed in terms of internal noise levels, the predicted

maximum sound levels within bedrooms with windows closed remain well below the guideline value of 45 dB LAmax,F referenced in BS 8233 and ProPG.

Whilst higher internal maximum levels may occur with windows open, there is no requirement within BS 8233 or ProPG to meet LAmax criteria under open-window conditions, and such results are provided for information only.

ProPG expresses a general preference for good acoustic design to reduce reliance on closed windows where practicable; however, neither ProPG nor BS 8233 set a requirement for internal LAmax criteria to be achieved with windows open. The assessment therefore follows established UK planning practice in assessing sleep disturbance risk on the basis of closed-window conditions with appropriate alternative ventilation.

8. External Amenity Areas

BS8233:2014 provides a desirable guideline of 50 dB LAeq,16hr for external amenity spaces and an acceptable guideline of 55 dB LAeq,16hr for noisier environments. External daytime noise levels were measured on site to be 51dB LAeq, 16hr which places the site within the ‘acceptable’ guideline with levels noted to be within the ‘desirable’ guideline for large parts of the daytime period. It is also expected that amenity levels will be further reduced following the development of the site due to shielding from building facades and garden fencing.

9. BS4142 Consideration

Individual sources of potential industrial/commercial noise were noted during the site visit, including an EV charger, kitchen extract system and nearby vehicle garage. While these sources contribute to the measured noise levels at the site, at the request of the local authority they have been further assessed against BS4142 criteria.

9.1. Background Noise Levels

The day and night-time background sound levels from measurement M1 are summarised below:

Measurement	Date(s)	Period	LAeq,T	LA90, T
M1	17 th & 18 th June 2025	Daytime (16hr)	51	43
	17 th – 18 th June 2025	Night-time (8hr)	46	32

Table 4: M1 Background Noise Survey Results

9.2. Noise Modelling

External sound propagation has been calculated using industry-standard acoustic modelling software ‘SoundPLAN’. This software uses ISO-9613-2 - *Attenuation of sound during propagation outdoors* and the model takes into account the following key factors:

- *Aerial Imagery & Terrain Data sourced from Google Maps/Elevations*
- *Geometric divergence of sound*
- *Atmospheric absorption of sound*
- *Ground absorption*
- *A light downwind correction toward the NSRs*
- *Surrounding structures and objects which may reflect or block sound toward the NSRs*

- *The height of the NSRs (i.e., First/second-floor reception point)*
- *Operational schedule of equipment*

The following input parameters were used in the noise model:

Parameter	Input
Reflection Order	3
Ground Absorption Factors	G = 0.5 (Mixed Ground)
Air pressure	1013.3 mbar
Relative Humidity	70.0 %
Temperature	10.0°C

Table 5: Calculation Input Parameters

9.3. EV Charger (Abbreviated BS4142 Consideration)

The EV charging unit is located adjacent to the site boundary and is a BP Chargemaster Ultracharge 500S. Manufacturer information gives a sound power level of <45 dB(A). For the purposes of this assessment, a conservative sound power level of 47 dB L_{WA} has been adopted to account for uncertainty and to ensure a robust appraisal.

Noise propagation from the charger has been modelled to the worst affected receptor position at the proposed dwelling. The predicted specific sound level at the most exposed window is 19 dB L_{AS} . No clearly identifiable tonal, impulsive or otherwise distinctive acoustic characteristics were observed during the site visit; however, a conservative character correction of +3 dB has been applied. The resulting rating level is therefore 22 dB L_{Ar} .

The measured night-time background sound level at the site is 32dB $L_{A90,T}$. The rating level is therefore 10dB below the background level, which is indicative of a low likelihood of adverse impact in accordance with the guidance in BS4142.

During the site visit the EV charger was inaudible at the development site, and the intervening proposed detached garage is anticipated to provide additional screening between the unit and the proposed dwelling.

9.4. Kitchen Extract

The Sutton Arms kitchen extract system is installed to the rear of the public house to the southeastern side and represents a fixed plant noise source with the potential to contribute to the local sound environment during periods of kitchen operation.

A screening assessment has been undertaken to consider relative receptor exposure from the extract system. The nearest existing noise-sensitive dwelling (8 West Street) is located approximately 16 m closer to the extract than the proposed dwelling and has a more direct acoustic pathway. The proposed dwelling therefore experiences both increased separation distance and partial screening from intervening built form and boundary features.

On this basis, the proposed dwelling would not represent the worst-affected receptor in relation to kitchen extract noise. The extract system operates within an established residential context and is already constrained by the presence of existing, more exposed dwellings. If extract noise were at a level likely to give rise to adverse impact at the proposed dwelling, it would reasonably be expected to be at least as intrusive at the closer existing receptor, for which there is no evidence of substantiated complaint or enforcement action associated with the extract system.

Accordingly, and consistent with the risk-based intent of BS4142, the kitchen extract is not considered likely to give rise to an adverse impact at the proposed dwelling, and no further detailed BS4142 assessment is considered proportionate.

9.5. Garage

The vehicle garage and MOT facility located to the south of the site represents a daytime commercial activity with the potential to contribute to the local sound environment during periods of operation.

A screening assessment has been undertaken to consider the relative exposure of surrounding noise-sensitive receptors to garage activity. Noise propagation modelling indicates that the existing dwelling at 14 West Street is located approximately 35 m to the south-west of the garage entrance and shares a boundary with the garage yard. This property is therefore more exposed to garage-related noise than the proposed dwelling, due to its relative position and acoustic pathway.

The proposed dwelling benefits from increased separation and a less direct line-of-sight to the principal garage activities when compared with the existing receptor. As such, the proposed development would not represent the worst-affected receptor in relation to noise from the garage.

The garage operates during daytime hours only, and therefore does not give rise to night-time noise exposure at the proposed dwelling. In the absence of evidence of statutory nuisance or substantiated complaints associated with the garage at the existing, more exposed dwelling, garage activity is not considered likely to give rise to an adverse impact at the proposed development.

On this basis, and in accordance with the risk-based intent of BS4142, no further detailed BS4142 assessment of garage noise is considered proportionate.

10. Conclusions

A noise assessment has been undertaken at 8 West Street, Scawby in relation to the proposed development of a detached dwelling within the existing rear garden. Environmental noise monitoring was undertaken between 17th and 18th June 2025 to characterise the existing sound environment.

The assessment has been carried out in accordance with ProPG: Planning & Noise – Professional Practice Guidance, adopting a systematic, proportionate and risk-based approach. Stage 1 of the ProPG assessment identified the site as Low Risk, and a proportionate Stage 2 assessment was undertaken to confirm the acceptability of the development and to inform the acoustic design of the dwelling.

The assessment demonstrates that acceptable internal noise conditions can be achieved within the proposed dwelling with appropriate façade design, glazing and ventilation, in accordance with the internal noise criteria set out in BS 8233:2014. External amenity conditions are also considered acceptable within the context of the established mixed-use environment.

Potential noise sources associated with nearby commercial activities, including the public house, EV charging infrastructure and vehicle garage, have been considered in a proportionate manner, including reference to BS 4142 where appropriate. These sources are not assessed as giving rise to significant adverse effects at the proposed dwelling, taking account of existing receptor exposure, separation distances and site context.

On this basis, the proposed development is considered acceptable in acoustic terms and suitable for residential use within its existing noise environment, without the need for disproportionate mitigation.

APPENDIX A – Measurement Details

Measurement(s)	Kit	Start Date	Start Time	End Date	End Time
M1	2	17/06/2025	11:25	18/06/2025	11:10

APPENDIX B - Equipment Details

Kit	Equipment	Make	Model	Class	Serial Number
2	Sound Meter	Svantek	977A	1	69273
	Pre-Amp	Svantek	SV12L	1	71601
	Microphone	ACO	7052E	1	68217
	Calibrator	Svantek	SV33	1	83715

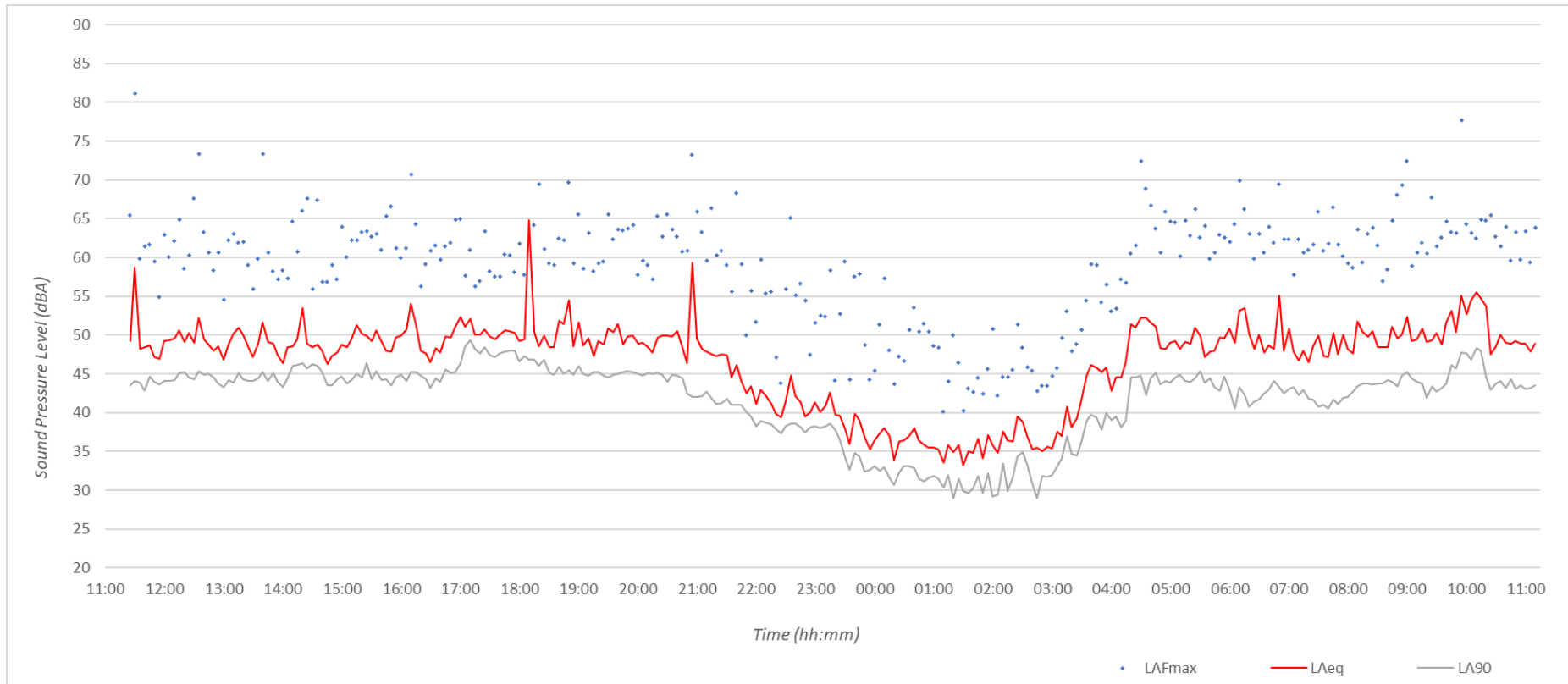
APPENDIX C - Meteorology Details

Date	Temp C°	Wind Speed m/s	Wind Direction	Humidity %	Precipitation mm	Cloud Cover (Oktas)
17/06/2025	18	3	W	62	0	6/8
18/06/2025	23	5	W	45	0	6/8

APPENDIX D - Calibration Details

Kit	Calibrator Ref Level (dB)	Deviation Before (dB)	Deviation After (dB)
2	113.80	0.37	0.34

APPENDIX E – Noise Survey Time History



Environmental Noise Measurement M1 Time History: 17th – 18th June 2025

APPENDIX F – BS8233 Rigorous Design Calculations

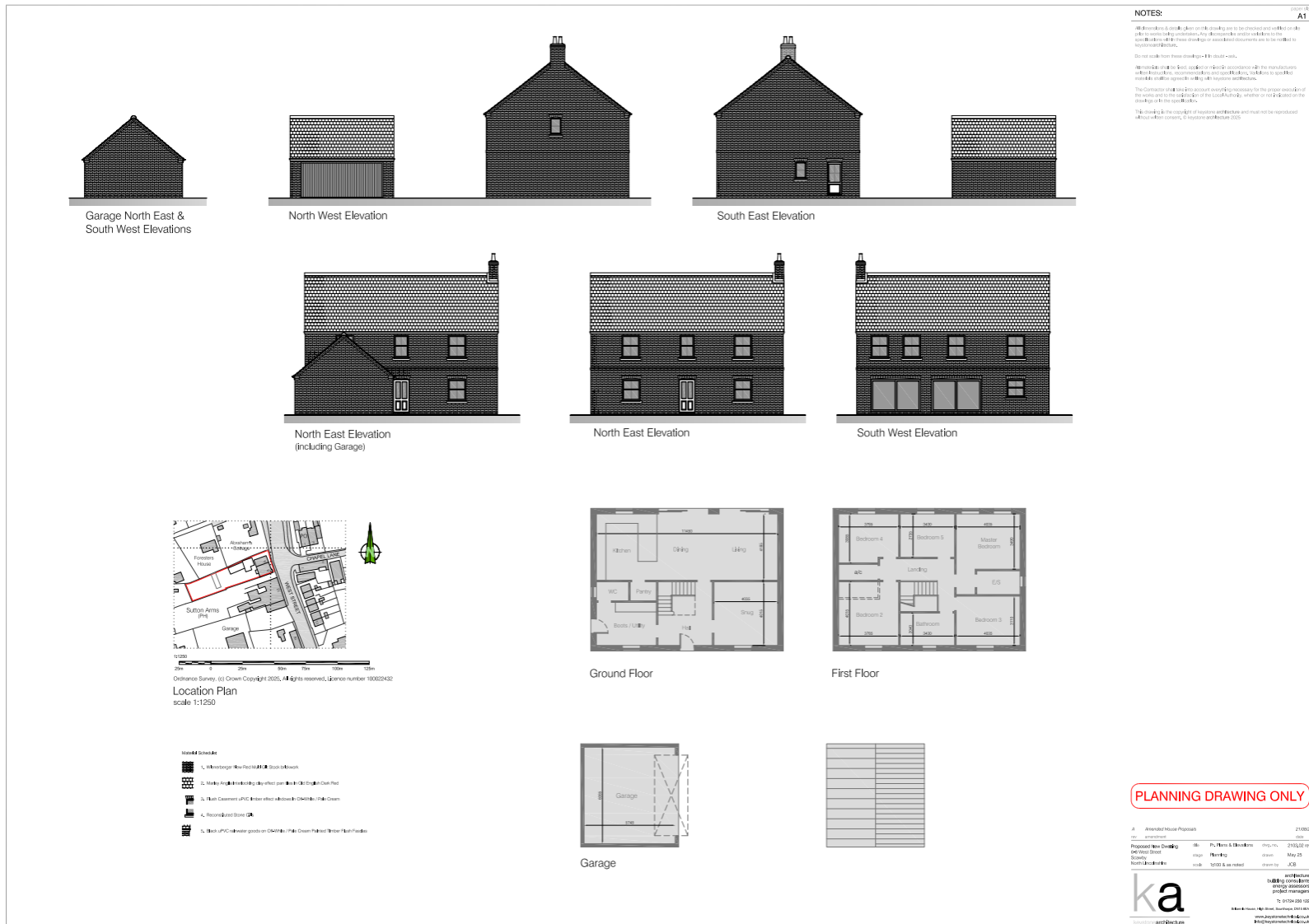
Living Room																																			
BS8233:2014 Façade Noise Break In Calculator																																			
Daytime External Noise Level - LAeq - 1 hour																																			
Night-time External Noise Level - LAeq - 1 hour																																			
Night-time Lmax Noise Levels - 10 times per night																																			
Room Properties																																			
Width (m)	Height (m)	Depth (m)	Glazing	Reverb Time																															
11	2.4	4	13	0.7																															
Façade Construction																																			
Wall Construction	Brick and block, 75mm cavity, 60mm Fibreglass																																		
Roof Construction	Not Within Roof Space																																		
Glazing Spec	4 / 16 / 4																																		
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Sound Insulation Requirement		
Minimum Sound Insulation Requirement		
Glazing	30(26)	dB R _{W(+Ctr)}
Ventilation	32	D _{n,e,w+Ctr}
Suitable Systems Double Glazing 4 / 16 / 4 Hit & Miss Trickle Vent (Open) Titon Trimvent XS13 4400EA		
<i>Suitable systems given as reference only. Other products that achieve the required sound insulation values are available.</i>		
Calculations conducted in accordance with BS8233:2014 rigorous calculation method $L_{eq,2} = L_{eq,eff} + 10 \log_{10} \left(\frac{A_0}{S} 10^{-\frac{D_{0,2}}{10}} + \frac{S_{wi}}{S} 10^{-\frac{R_{wi}}{10}} + \frac{S_{ew}}{S} 10^{-\frac{R_{ew}}{10}} + \frac{S_{r}}{S} 10^{-\frac{R_r}{10}} \right) + 10 \log_{10} \left(\frac{S}{A} \right) + 3$		

Bedroom																																			
BS8233:2014 Façade Noise Break In Calculator																																			
Daytime External Noise Level - LAeq - 1 hour																																			
Night-time External Noise Level - LAeq - 1 hour																																			
Night-time Lmax Noise Levels - 10 times per night																																			
Room Properties																																			
Width (m)	Height (m)	Depth (m)	Glazing	Reverb Time																															
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Façade Construction																																			
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<p>Calculations conducted in accordance with BS8233:2014 rigorous calculation method</p> $L_{eq,2} = L_{eq,ff} + 10 \log_{10} \left(\frac{A_0}{S} 10^{-\frac{D_{0,2}}{10}} + \frac{S_{wi}}{S} 10^{-\frac{R_{wi}}{10}} + \frac{S_{ew}}{S} 10^{-\frac{R_{ew}}{10}} + \frac{S_{r}}{S} 10^{-\frac{R_{r}}{10}} \right) + 10 \log_{10} \left(\frac{S}{A} \right) + 3$		

APPENDIX G – Site Plans



APPENDIX H – Legislation, Policy and Guidance

Guidance for the assessment of noise affecting new residential development is given in the National Planning Policy Framework (NPPF). Section 15 of the NPPF states:

“174. Planning policies and decisions should contribute to and enhance the natural and local environment by:

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

Section 185 further 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 impact 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.”

Section 187 states:

“Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities 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 or community facility 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.”

To avoid and mitigate adverse noise effects on health arising from and impacting on new development, the NPPF makes reference to NPSE. The Noise Policy Statement for England (NPSE) was published in March 2010 and covers all forms of noise other than occupational noise.

The Noise Policy Statement for England (NPSE) states the following aims in paragraph 2.2.

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.

The NPSE does not define the SOAEL numerically, stating in paragraph 2.22:

“It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the “NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.”

There is no local or national guidance on how the three terms should be defined numerically, it is for the assessor to collate and interpret appropriate guidance on noise, such as may be found in British Standards, and correlate the guidance with the concepts of NOEL, LOAEL and SOAEL.

BS8233:2014 - *Guidance on sound insulation and noise reduction for buildings* suggests indoor ambient noise levels for dwellings in Table 4, Section 7.7.2. These are summarised below.

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35 dB L _{Aeq,16hour}	-
Dining	Dining room/area	40 dB L _{Aeq,16hour}	-
Sleeping	Bedroom	35 dB L _{Aeq,16hour}	30 dB L _{Aeq,8hour}

BS8233 states that the guideline values given above are for ‘noise without character’, further stating:

“Noise has a specific character if it contains features such as a distinguishable, discrete and continuous tone, is irregular enough to attract attention, or has strong low-frequency content, in which case lower noise limits might be appropriate.”

Table 4 of BS8233 also has accompanying notes that were subject to additions in ProPG. The relevant notes with the additions of ProPG are given below.

“NOTE 4 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. 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. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as the source, number, distribution, predictability and regularity of noise events.”

“NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal L_{Aeq} target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.”

APPENDIX I – Acoustic Terminology

To aid the understanding of acoustic terminology and the relative difference between noise levels the following background information is provided.

We perceive sound when the ear detects fluctuations in air pressure (sound waves), which are then processed by the brain and perceived as sound. Humans can hear an incredibly wide range of sound intensities ranging from jet engines to fingertips lightly brushing against each other. This range is quantified using a logarithmic scale called the decibel scale (dB). The comfortable range of the decibel scale typically ranges from 0dB (the threshold of hearing) to around 140dB. Here are some examples of common environments and their typical noise levels.

Noise Level	Environment
0 dB(A)	Threshold of hearing
20 to 30 dB(A)	Quiet bedroom at night
30 to 40 dB(A)	Living room during the day
40 to 50 dB(A)	Typical office
50 to 60 dB(A)	Inside a moving car
60 to 70 dB(A)	Typical high street
100 to 110 dB(A)	Fire alarm at 1 meter away
140 dB(A)	Threshold of pain

Terminology

dB (decibel) – A unit used to quantify the pressure level of sound. Defined as 20 times the logarithm of the ratio between the root-mean-square pressure of a given sound field and a reference pressure level (2×10^{-5} Pa – threshold of hearing).

$L_{Aeq, T}$ – The equivalent continuous sound pressure level over a stated period. It quantifies a fluctuating sound level over a given period as the equivalent continuous sound level over which the same amount of acoustic energy is contained over. This is A-weighted in order to assess human perception.

L_{Amax} – the maximum RMS A-weighted sound pressure level occurring within a specified time period; the time weighting is typically either Fast or Slow.

A-Weighting – A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.

R_w – The Weighted Sound Reduction Index (R_w) is a number used to rate the effectiveness of a soundproofing system or material.

$D_{n,e,w}$ – The Weighted Sound Reduction Index specifically for ventilators.

C_{tr} – C_{tr} is a spectrum adaptation term which method is defined in BS EN ISO 717. The standard uses a reference curve to determine the weighted value of airborne sound insulation. The spectrum adaptation terms C and C_{tr} may be used to take into account different source spectra. ' C_{tr} ' is the A-weighted urban traffic noise spectrum.