MILLER GOODALL
ACOUSTICS - AIR QUALITY - LIGHTING

NOISE IMPACT ASSESSMENT

on behalf of

Stanton Andrews Ltd

for

45-47 Whalley Road, Clitheroe

Report Number NA-103391

Date of Report October 2025

Miller Goodall Ltd
Ashworth House
Deakins Business Park
Egerton
Bolton
Lancashire BL7 9RP
[redacted]

Company registration number 05201673

ANC ACOUSTICS & NOISE CONSULTANTS

Summary

A noise assessment has been undertaken to predict the potential impact of noise on a proposed residential development at 45-47 Whalley Road, Clitheroe. It accompanies a planning application.

An environmental sound survey has been undertaken to establish the existing sound climate within the development during when there is live music in the adjacent venue. An initial noise risk assessment of the development has been undertaken.

The noise levels in the proposed residential spaces have been recorded directly during an event in the adjacent Royal British Legion. This has enabled direct assessment of the party wall performance to be undertaken and mitigation assessed using Insul sound insulation modelling software.

Original Author:	Jo Lacy MIOA	**Reviewed By:**	Lesley Goodall MIOA
Signed:	[redacted]	**Signed:**	[redacted]
Date:	16 October 2025	**Date:**	16 October 2025

Revision Number	Date	Updated by	Checked by	Changes made

Advisory Note

The suitability of any recommended noise mitigation measures within this report should be approved by the relevant architects, structural engineers, building contractors, fire consultants and material manufacturers constituting the wider design team, prior to procurement and field application. This should ensure that when the recommended noise control measures are implemented on site, they will satisfy the requirements of all disciplines and not cause any health and safety issues.

Contents

1 Introduction

1.1 Miller Goodall Ltd has undertaken a preliminary noise assessment to accompany a planning application for a residential development at 45-47 Whalley Road, Clitheroe. The report assesses the potential impact of noise from the neighbouring Royal British Legion (RBL) club on the proposed development and provides details of mitigation measures that are required to achieve appropriate internal and external criteria.

2 Policy, Standards and Guidance

2.1 The following planning policy and acoustics standards and guidance have been considered in this assessment:

- Noise Policy Statement for England (NPSE)
- National Planning Policy Framework (NPPF)
- ProPG: Planning & Noise, Professional Practice Guidance on Planning & Noise: New Residential Development, May 2017 (ProPG)
- BS 8233:2014 '*Guidance on sound insulation and noise reduction for buildings*' (BS 8233)

2.2 Further detail of the scope and extent of this guidance is provided in **Appendix A: Policy, Standards and Guidance**.

3 Site Description

3.1 The site location is shown in **Appendix B: Site and Monitoring Locations**. The site comprises a two storey, vacant building sitting on the east side of Whalley Road and forming part of a group of historic buildings, including the RBL. It is a Grade II listed building and currently has poorly fitting, single-glazed sash windows.

3.2 The area is part of Clitheroe's built-up zone, close to other listed buildings such as Holmes Mill, The Church of St James, and the Commercial Hotel and is within walking distance of Clitheroe town centre. The area is generally commercial in nature, with first floor flats above some of the shops. To the west, the site fronts onto Whalley Road, a busy road which is the main source of noise within the locality.

3.3 Directly to the north and adjacent to the site is the RBL club, a non-profit social club. The RBL holds regular events, including live music events. The entrance to the club is lobbied. The RBL and the site share a party wall and, at ground floor level, two rooms within the site lie adjacent to the main entertainment space within the RBL. This is shown in **Appendix B: Site and Monitoring Locations**.

4 Proposed Development

4.1 The development comprises the conversion of the current building on the site into residential use. In order to improve the thermal performance of the building, the current single glazed sash windows will be replaced with double glazed sash windows and a lining is proposed to the front and rear elevations. In addition, the property will be provided with a mechanical ventilation heat recovery system, allowing the property to be ventilated without the need for windows to be open.

5 Assessment Methodology

5.1 An assessment of the impact of live music within the RNL on the proposed development has been undertaken to compare the noise with recognised criteria contained within the following guidance:

- Environmental Protection Act 1990 (Statutory nuisance provisions); and
- BS 8233 criteria:
  - ≤ 30 dB $L_{Aeq,8hr}$ in bedrooms at night; and
  - ≤ 35 dB $L_{Aeq,16hr}$ in all habitable rooms during the day; and
  - 45 dB $L_{AF,max}$ no more than 10 times at night (2-minute periods).

5.2 Noise monitoring was undertaken simultaneously within both the RBL and the site on either side of the shared party wall when live music (a Ska night) was held within the RBL.

6 Environmental Sound Survey

6.1 Measurements Procedure

6.1.1 Noise monitoring was undertaken simultaneously within the RBL and the site on the evening of 26th September 2025 during a live music event featuring SkaFull, a seven-piece Ska, 2 Tone, and Reggae band. The performance was scheduled to start at 19.30 and finish at 21.15, but it started slightly earlier and finished slightly later.

6.1.2 The sound level meter within the RBL was set up in front of the band, close to a speaker position, near to the party wall with the site. This position, marked RBL, is shown in **Appendix B: Site and Monitoring Locations**.

6.1.3 The sound level meter within the site was initially positioned within the rear room of the site adjacent to the RBL at the position marked Site 1 in **Appendix B: Site and Monitoring Locations**. This room was chosen due to the notable ingress of road traffic noise into the room at the front of the property and adjacent to the RBL from Whalley Road, due to the poor acoustic performance of the windows.

6.1.4 At approximately 20.30 hours, this sound level meter was moved to the front adjacent room to position Site 2, as road traffic noise had diminished and the sound from the RBL was subjectively louder in that room. However, it became clear that this was mostly due to noise egressing the RBL through their open windows and entering the site via the ill-fitting, single glazed sash windows.

6.1.5 Measurement positions were as described in **Table 1**.

Table 1: Noise monitoring locations

Monitoring Location	Location Description
RBL	The microphone was mounted on a tripod. It was positioned in the free-field approximately 1.5 m floor level, and more than 1 m away from any wall.
Site 1	The microphone was mounted on a tripod. It was positioned in the free-field approximately 1.5 m floor level, and more than 1 m away from any wall. This position is shown in **Appendix C: Photos**
Site 2	The microphone was mounted on a tripod. It was positioned in the free-field approximately 1.5 m floor level, and more than 1 m away from any wall. This position is shown in **Appendix C: Photos**

6.1.6 Measurements were undertaken in accordance with BS 7445-1: 2003[1]. Details of the equipment used are set out in **Table 2**.

[1] BS 7445-1: 2003 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures

Table 2: Noise monitoring equipment

Location	Equipment Description	Type Number	Manufacturer	Serial No.	Date Calibrated	Calibration Certification Number
Within 45-47 Whalley Road	Class 1 Integrating Real Time 1/3 Octave Sound Analyser	XL2-TA	NTi Audio	A2A-11111-E0	16/10/2023	05451/1
	Microphone	MA220	NTi Audio	6908	16/10/2023	05451/1
	Pre-amplifier	MC230A	NTi Audio	A14423	16/10/2023	05451/1
	Class 1 Field Calibrator	CAL 200	Larson Davies	14154	02/09/2025	07390/1
Within the RBL	Class 1 Integrating Real Time 1/3 Octave Sound Analyser	XL2-TA	NTi Audio	A2A-15860-E0	12/03/2025	07095/2
	Microphone	MA230	NTi Audio	8102	12/03/2025	07095/2
	Pre-amplifier	MC220	NTi Audio	A16445	12/03/2025	07095/2
	Class 1 Field Calibrator	NOR 1251	Norsonic	32798	06/03/2025	07095/1

6.1.7 The calibration of the sound level meter was checked before and after the measurements, with negligible deviation (≤ 0.1 dB) recorded.

6.1.8 Each measurement period consisted of sequential 100 ms samples. The data has been extracted using NTi Data Explorer software and analysed using an in-house Excel processing sheet to analytically determine representative L_{Aeq}, and $L_{AF,max}$ sound levels. The 100 ms sound levels have not been presented in this report but are kept on file for future reference.

6.2 Environmental Sound Climate

6.2.1 During the installation of the equipment, the residual sound climate was observed to consist of distant road traffic noise and noise from members of the public walking along the pavement outside the building on Whalley Road.

6.2.2 When the band began to set up in the RBL, their sound could be clearly heard outside the site on the street and within the site building. The windows at the RBL were all open and sound was leaving the premises, travelling down the street and into the site building through the windows. Band noise was clearly audible in all of the rooms on the front elevation of the building. Music was also audible in the rear room adjacent to the RBL, songs were recognisable, although, subjectively, not as loud as within the front adjacent room.

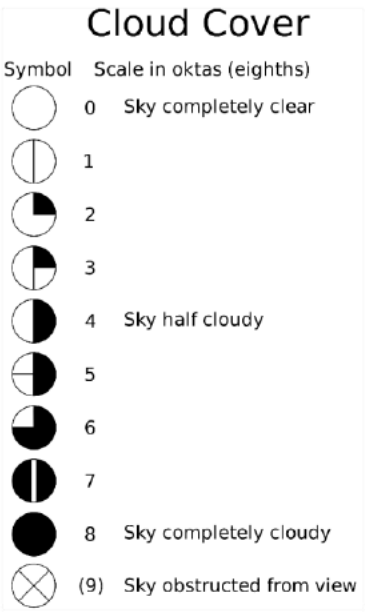
6.2.3 When the band had finished, the dominant noise source affecting the building was road traffic noise again.

6.3 Weather Conditions

6.3.1 Weather conditions were observed during the noise monitoring. A summary of the conditions at the beginning and end of the surveys are provided in **Table 3**.

Table 3: Dates, times and weather conditions during noise measurements

Measurement Locations	Date, Time	Weather conditions		
		Description	At Start of Survey	On Completion
ALL	19.00 to 22.00 26th September 2025	Temperature:	13°C	13°C
		Precipitation:	none	None
		Cloud cover (oktas – see opposite):	4	4
		Any fog/snow/ice?	No	
		Any damp roads/wet ground?	No	No
		Wind speed:	< 5 m/s	< 5 m/s
		Wind direction:	No noticeable wind	No noticeable wind
		Any conditions that may cause temp. inversion (e.g. calm nights with no cloud):	No	No



6.3.2 No data has been excluded from the monitoring data on the basis of inclement weather conditions and no noise due to weather conditions are anticipated.

7 Monitoring Results

7.1 The recorded ambient sound level (L_{Aeq}) within the RBL over the course of the survey period was 99.6 dB, with a highest $L_{AF,max}$ noise level recorded at 108.9 dB. A summary of the noise levels recorded at the site is presented in **Table 4**.

Table 4: Assessed sound insulation performance of existing party wall

Room	Description	Recorded Sound Level (dB) at Octave Band Centre Frequency (Hz) 63	125	250	500	1k	2k	4k	8k	dB(A)
Royal British Legion	L_{Aeq}	96.6	99.7	99.9	95.7	93.2	93.1	90.3	83.0	99.6
	$L_{AF,max}$ (10th highest)	109.0	114.5	117.1	110.6	110.7	106.5	106	101.2	108.9
Front Room	L_{Aeq}	64.3	56.4	52.5	40.6	38.6	34.6	27.5	18.9	47.6
	$L_{AF,max}$ (10th highest)	82.4	73.3	71.4	55.7	56.3	52.8	44.3	42.1	60.9
Back Room	L_{Aeq}	56.7	51.4	51	34.3	29.0	23.9	20.3	16.7	43.0
	$L_{AF,max}$ (10th highest)	83.0	69.4	68.7	55.6	56.2	51.2	51.6	46.0	57.1

7.2 As can be seen from the results in **Table 4**, the noise levels recorded in the front and rear rooms of the proposed residential development exceed the noise criteria for such spaces. Consequently, mitigation must be considered for the control of noise levels in these spaces.

8 Noise Mitigation - Internal Noise Levels

8.1 Calculations have been undertaken to assess the minimum performance required from the existing party wall between the RBL and the proposed residential spaces. It is assumed that, as the buildings were built at different times, the existing party wall will be constructed from 2 layers of plastered brick with an indicative gap of 25 mm between leaves. We have been advised that this is understood to be the construction of the existing party wall.

8.2 The performance of this indicative partition has been predicted using Insul sound insulation prediction software, and is not dissimilar to the estimated performance based on the measurements undertaken at the site. The performance used for the assessment and design of this site moving forwards is therefore as shown in **Table 5** and **Appendix D: Existing Party Wall Prediction**.

Table 5: Assessed sound insulation performance of existing party wall

Element	Sound Reduction Index (dB) at Octave Band Centre Frequency (Hz)								Sound Reduction Performance
	63	125	250	500	1k	2k	4k	8k	$R_w + C_{tr}$ (dB)
Party Wall	30	42	40	48	58	67	77	77[1]	48

[1] Estimated performance.

8.3 While not strictly accurate, subtracting the SRI values from the source levels and comparing them to the recorded noise levels in the residential spaces shows the actual performance is better than predicted here. This is shown in **Table 6** and corresponds to a worst-case scenario.

Table 6: Actual vs. predicted sound levels with modelled party wall

Room	Description	Internal Sound Levels (dB) at Octave Band Centre Frequency (Hz)								dB(A)
		63	125	250	500	1k	2k	4k	8k	
Front Room, L_{eq}	Actual	64.3	56.4	52.5	40.6	38.6	34.6	27.5	18.9	47.6
	Predicted	66.6	57.7	59.9	47.7	35.2	26.1	13.3	6.0	52.8
Front Room, $L_{AF,max}$	Actual	82.4	73.3	71.4	55.7	56.3	52.8	44.3	42.1	60.9
	Predicted	79.0	72.5	77.1	62.6	52.7	39.5	29.0	24.2	69.4
Back Room, L_{eq}	Actual	56.7	51.4	51	34.3	29.0	23.9	20.3	16.7	43.0
	Predicted	66.6	57.7	59.9	47.7	35.2	26.1	13.3	6.0	52.8
Back Room, $L_{AF,max}$	Actual	83.0	69.4	68.7	55.6	56.2	51.2	51.6	46.0	57.1
	Predicted	79.0	72.5	77.1	62.6	52.7	39.5	29.0	24.2	69.4

8.4 The predicted noise levels in the room are between 5 and 12 dB higher than those recorded. The average difference between the predicted and measured L_{Aeq} noise levels is 7.5 dB, and for $L_{AF,max}$ levels is 10.4 dB, so an allowance of 6 dB would be reasonable for uncertainty between the calculations and the real world.

8.5 To control noise transmission into the residential spaces via the party wall, the addition of an independent stud wall within the residential space is required. To allow for uncertainty in the existing party wall construction and to give an allowance for workmanship, the following construction is proposed for the stud wall:

- Independent timber stud (modelled as 65 x 45 mm at 600 mm centres) with no rigid connection to the existing party wall

- 120 mm cavity (from existing party wall face to inside of new plasterboard)
- 60 mm mineral wool or equivalent (≥ 10 kg/m²)
- 2 x 15 mm plasterboard (≥ 12.6 kg/m² per board, e.g. British Gypsum SoundBloc)

8.6 The estimated performance of the indicative party wall with the addition of this stud wall is shown in **Table 7** and in **Appendix E: Mitigated Party Wall Prediction**.

Table 7: Assessed sound insulation performance of mitigated party wall

Element	Sound Reduction Index (dB) at Octave Band Centre Frequency (Hz)								Sound Reduction Performance
	63	125	250	500	1k	2k	4k	8k	$R_w + C_{tr}$ (dB)
Party Wall with Stud Partition	35	72	78	98	119	128	143	*143*[1]	85

[1] Estimated performance.

8.7 The single figure performance is very high and unlikely to be achievable in practice but is suggested to ensure the low-frequency performance is not compromised while the overall sound reduction performance is improved. With this stud wall in place, it is anticipated that sound levels within bedrooms due to sound transmission through the party wall would not exceed the internal ambient noise criteria for bedrooms at night.

8.8 To ensure that external ambient noise entering the rooms via routes other than the party wall is controlled, we would suggest that a similar stud wall is used to improve the performance of the front elevation of the building. As the sound insulation requirements are lower, however, it would be acceptable from a sound insulation perspective to use a lighter construction e.g.:

- Timber stud (modelled as 65 x 45 mm at 600 mm centres)
- 50mm cavity (from existing party wall face to inside of new plasterboard)
- 50 mm mineral wool or equivalent (≥ 10 kg/m²)
- 1 x 12.5 mm plasterboard (≥ 8.0 kg/m² per board, e.g. British Gypsum Wallboard)

8.9 With the proposed double glazing in place, replacing the existing single-glazed sash windows, noise ingress through the external building envelope would be expected to limit noise ingress such that noise criteria are achieved at all times. The estimated sound reduction performances of the building envelope (with additional stud wall), and the performance of standard thermal double glazing (4 mm float glass pane / 12 mm air gap / 4 mm float glass pane) are shown in **Table 8**.

Table 8: Assessed sound insulation performance of building envelope elements

Element	Sound Reduction Index (dB) at Octave Band Centre Frequency (Hz)								Sound Reduction Performance
	63	125	250	500	1k	2k	4k	8k	$R_w + C_{tr}$ (dB)
External Wall	26	47	56	75	99	112	119	*119*[1]	61
Standard Thermal Double Glazing	*18*[2]	24	20	25	35	38	35	*35*[2]	27

[1] Estimated performance.

[2] Estimated performance, data may not be provided.

8.10 As noted previously, internal noise levels predicted simplistically by subtracting the SRI performance of the wall from the source level are expected to show noise levels of at least 6 dB higher than those that would be measured on site. With a 6 dB allowance, therefore, the noise criteria using this method are 36 dB L_{Aeq}, and 51 dB $L_{AF,max}$. The noise levels predicted in the residential spaces using this method are shown in **Table 9**.

Table 9: Actual vs. predicted sound levels with modelled party wall

Room	Description	Internal Sound Levels (dB) at Octave Band Centre Frequency (Hz)								dB(A)
		63	125	250	500	1k	2k	4k	8k	
Front Room	L_{eq}	61.6	27.7	21.9	-2.3	-25.8	-34.9	-52.7	-60.0	35.4
	$L_{F,max}$	74.0	42.5	39.1	12.6	-8.3	-21.5	-37.0	-41.8	47.9

8.11 The internal sound criteria would therefore be achievable at the site with the proposed mitigation measures in place.

9 Summary and Conclusion

9.1 Noise measurements have been undertaken at the site to determine the internal noise levels within the proposed residential spaces and within the RBL during a live music event to quantify the sound reduction performance of the party wall.

9.2 Based on the results of the undertaken survey work, noise modelling has been undertaken to assess the sound reduction performance of the party wall, and to inform mitigation methods required to control noise ingress via the party wall. With the proposed independent stud wall in place, noise transmission through the party wall will be reduced such that internal noise criteria will be achievable during events in the RBL.

9.3 Stud walls and new thermal double glazing are proposed for the external walls of the residential development for thermal control at the site. These stud walls and thermal glazing will, however, also contribute to the acoustic performance of the building envelope such that noise ingress from external noise will be significantly reduced.

9.4 The combination of party wall and building envelope improvements proposed will control noise ingress such that internal L_{Aeq} and $L_{AF,max}$ criteria (defined in BS 8233:2014) are achieved.

APPENDICES

Appendix A: Policy, Standards and Guidance

1 Noise Policy Statement for England

1.1 The Noise Policy Statement for England (NPSE[2]) sets out the long-term vision of noise policy. The Noise Policy aims, as presented in this document, are:

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

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

1.2 The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and the quality of life occur.

1.3 The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case:

"…all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development".

1.4 Importantly, the NPSE goes on to state:

"This does not mean that such adverse effects cannot occur".

---

[2] Noise Policy Statement for England, Defra, March 2010

1.5 The Statement does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that:

> "*Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available*"

1.6 It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

2 National Planning Policy Framework

2.1 The National Planning Policy Framework (NPPF[3]) was updated most recently in February 2025. The NPPF advises that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). One of these is an environmental objective which is described in par. 8 (c):

> *"to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

2.2 At par. 187 NPPF advises that:

> *"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 soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans…"*

---

[3] National Planning Policy Framework, Ministry of Housing, Communities and Local Government, December 2023

2.3 Par. 198 goes on to state:

"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; …"

2.4 Par. 200 seeks to ensure that any development does not prejudice the legally permitted operations and activities of other, existing non-residential uses, stating:

"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."

3 ProPg: Planning & Noise, Professional Practice Guidance on Planning & Noise: New Residential Development, May 2017 (ProPG)

3.1 The primary goal of ProPG is to assist the delivery of sustainable development by promoting good health and wellbeing through the effective management of noise. It seeks to do that through encouraging a good acoustic design process in and around proposed new residential development having regard to national policy on planning and noise.

3.2 It provides a recommended approach for new residential development that would be exposed predominantly to noise from existing transport sources. The recommended approach is also considered suitable where some industrial or commercial noise contributes to the acoustic environment provided that it is not dominant

3.3 ProPG promotes a 2-stage, approach. The two sequential stages of the overall approach are:

Stage 1 – an initial noise risk assessment of the proposed development site; and

Stage 2 – a systematic consideration of four key elements. The four key elements to be considered in parallel

- Element 1 – demonstrating a "Good Acoustic Design Process";
- Element 2 – observing internal "Noise Level Guidelines";
- Element 3 – undertaking an "External Amenity Area Noise Assessment"; and
- Element 4 – consideration of "Other Relevant Issues".

3.4 The approach is underpinned by the preparation and delivery of an "Acoustic Design Statement" (ADS), unless a site is assessed as negligible risk, in which case an ADS is not necessary.

4 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

4.1 This standard provides recommended guideline acoustic design criteria for new dwellings and is supported by guidance contained within WHO GCN[4]. The guideline noise design criteria of BS 8233 apply to external noise "*without a specific character*" (previously and sometimes termed or referred to as "*anonymous noise*") such as that associated with road and rail traffic.

Internal Amenity

4.2 The Standard states that for external noise without a specific character, such as road traffic, it is desirable that the internal ambient noise level does not exceed the guideline values shown in **Table A4.1**.

4.3 The note to paragraph 7.7.1 states that where noise has a specific character (i.e. it contains features such as a distinguishable, discrete and continuous tone, is irregular enough to

[4] World Health Organisation Guidelines for Community Noise, 1999

attract attention, or has strong low-frequency content) *"lower noise limits might be appropriate".*

Table A4.1: BS 8233: 2014 guideline indoor ambient noise levels for dwellings

Location	Activity	07:00 to 23:00	23:00 to 07:00
Living Room	Resting	35 dB $L_{Aeq,16hr}$	-
Dining room/area	Dining	40 dB $L_{Aeq,16hr}$	-
Bedroom	Sleeping (daytime resting)	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

4.4 Note 7 to Table 4 of BS 8233 states:

> *"Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved."*

4.5 Guidance on reasonable acoustic design criteria for individual noise events are also provided, and the Standard advises that:

> *"regular individual noise events…can cause sleep disturbance. A guideline value may be set in terms of SEL[5] or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values".*

4.6 For Internal spaces, the Standard states that:

> *"..to avoid sleep disturbance, sound pressure levels at the outside facades of living spaces should not exceed 45 dB L_{Aeq} (taken as a façade level, and equating to a free-field external level of 42 dB L_{Aeq}) and 60 dB L_{AFmax} so that people may sleep with bedroom windows open."*

External Amenity

4.7 BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens, patios and private outdoor amenity spaces. BS 8233:2014 adopts

[5] Sound exposure level or L_{AE}

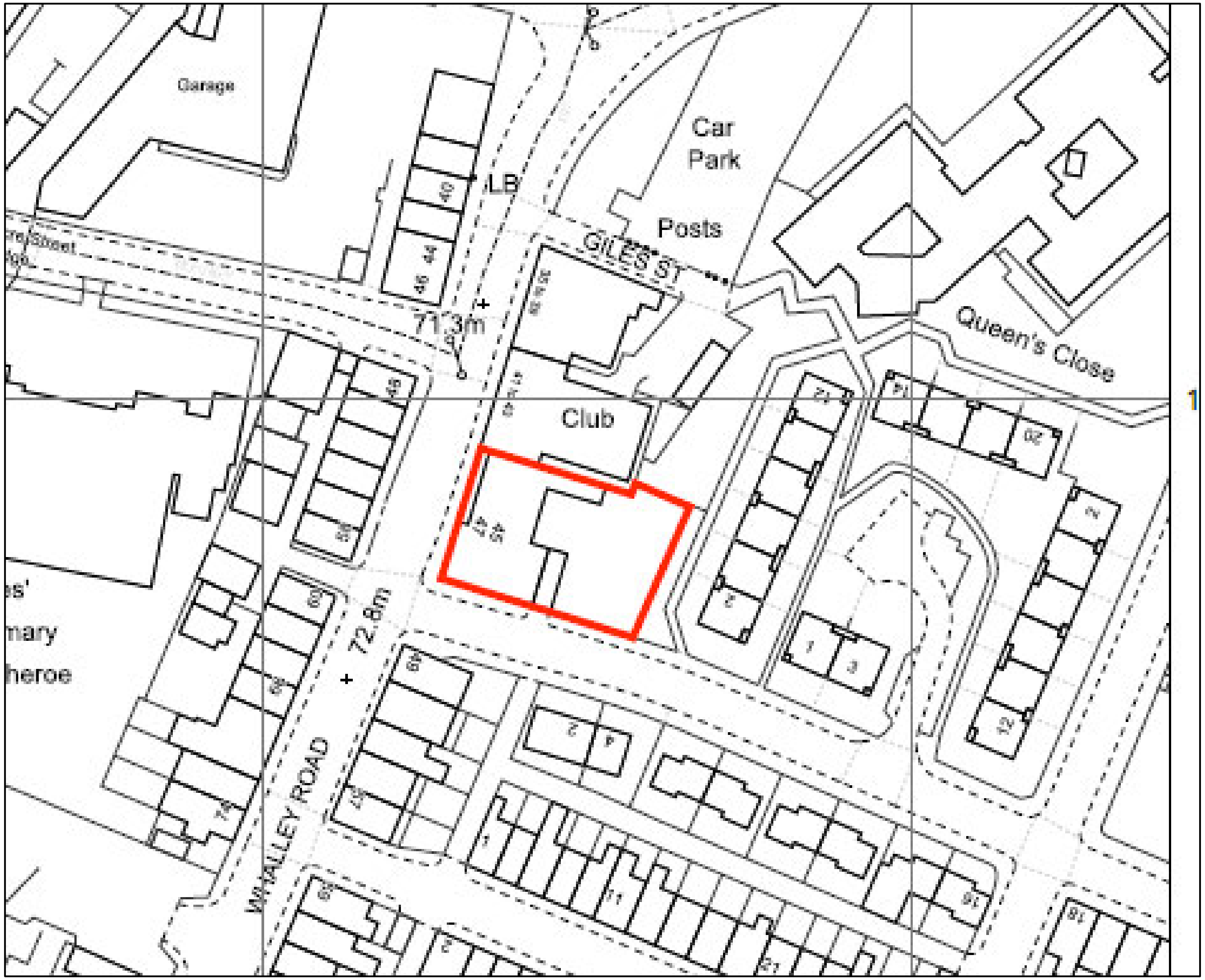
guideline external noise level limits provided in WHO for external amenity areas such as gardens and patios. The standard states that it is "*desirable*" that the external noise does not exceed 50 dB $L_{Aeq,16hr}$ with an upper guideline value of 55 dB $L_{Aeq,16hr}$ whilst recognising in paragraph 7.7.3.2 that development in higher noise areas, such as urban areas or those close to the transport network, may require a compromise between elevated noise levels (i.e., above 55 dB $L_{Aeq,16hr}$) and other factors that determine if development in such areas is warranted. In such circumstances, the development should be designed to achieve the lowest practicable noise levels in external amenity areas, but should not be prohibited.

4.8 The standard also states:

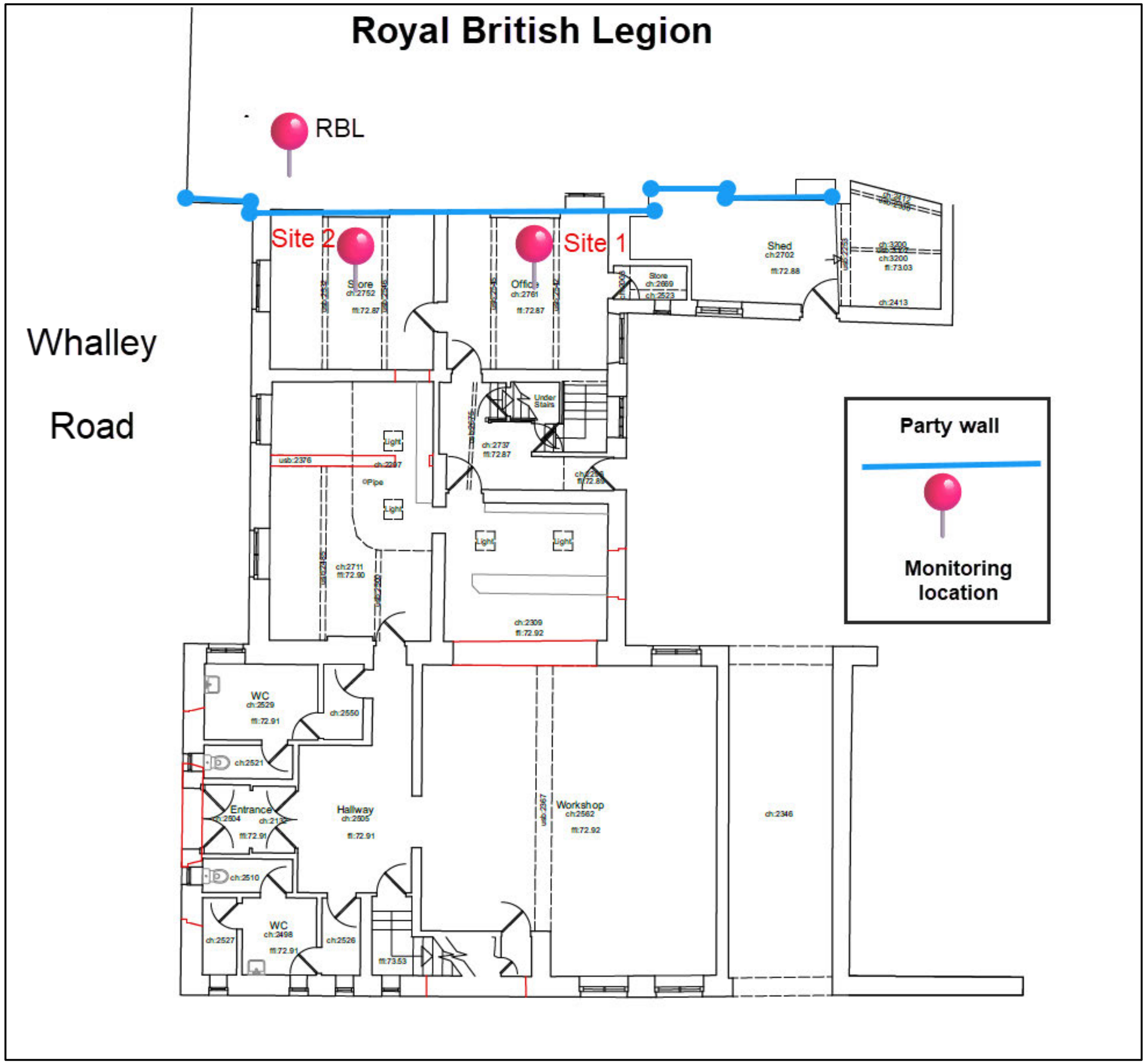
> *"Other locations, such as balconies, roof gardens and terraces, are also important in residential buildings where normal external amenity space might be limited or not available, i.e. in flats, apartment blocks, etc. In these locations, specification of noise limits is not necessarily appropriate. Small balconies may be included for uses such as drying washing or growing pot plants, and noise limits should not be necessary for these uses. However, the general guidance on noise in amenity space is still appropriate for larger balconies, roof gardens and terraces, which might be intended to be used for relaxation. In high-noise areas, consideration should be given to protecting these areas by screening or building design to achieve the lowest practicable levels. Achieving levels of 55 dB $L_{Aeq,T}$ or less might not be possible at the outer edge of these areas, but should be achievable in some areas of the space."*

Appendix B: Site and Monitoring Locations

Site Location



Monitoring Locations



Appendix C: Photos

Site 1 position

Site 2 Position

Appendix D: Existing Party Wall Prediction

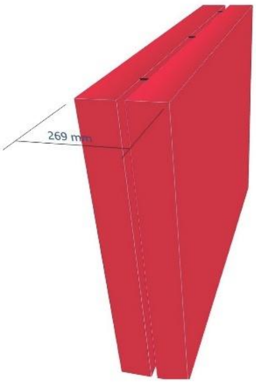
Sound Insulation Prediction (v9.0.24)

Program copyright Marshall Day Acoustics 2017
Margin of error is generally within Rw ±3 dB
- Key No. 5579

Job Name:45 - 47 Whalley Road, Clitheroe
Job No.:SI103391 Initials:JL
Date:15/10/2025
File Name:Proposed Party Wall.ixl

INSUL

Notes:



Rw 53 dB
C -1 dB
Ctr -5 dB

Mass-air-mass resonant frequency = =37 Hz

Panel Size = 2.7 m x 4.0 m

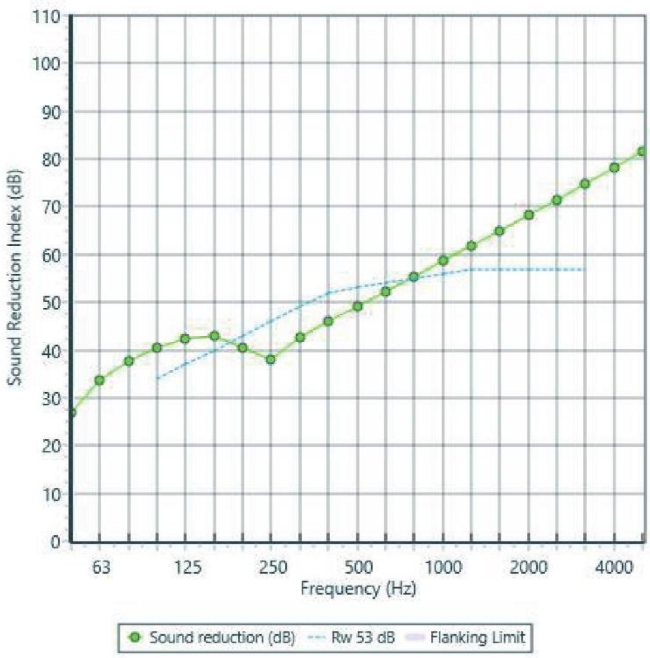
Partition surface mass = 390 kg/m²

System description

Panel 1 : 1 x 122 mm Plastered Brick

Frame: Point Connection (25 mm x 45 mm), Stud spacing 600 mm ; Cavity Width 25 mm
Panel 2 : 1 x 122 mm Plastered Brick

freq.(Hz)	R(dB)	R(dB)
50	27	
63	34	30
80	38	
100	41	
125	42	42
160	43	
200	40	
250	38	40
315	43	
400	46	
500	49	48
630	52	
800	55	
1000	59	58
1250	62	
1600	65	
2000	68	67
2500	71	
3150	75	
4000	78	77
5000	81	



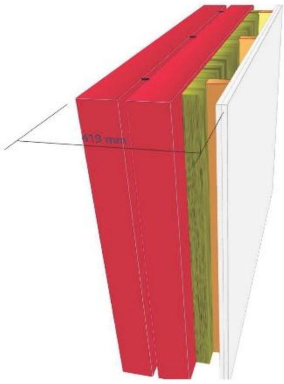
Appendix E: Mitigated Party Wall Prediction

Sound Insulation Prediction (v9.0.24)

Program copyright Marshall Day Acoustics 2017
Margin of error is generally within Rw ±3 dB
- Key No. 5579

Job Name:45 - 47 Whalley Road, Clitheroe
Job No.:SI103391 Initials:JL
Date:15/10/2025
File Name:Proposed Party Wall.ixl

Notes:



Rw 93 dB
C -2 dB
Ctr -8 dB

Mass-air-mass resonant frequency = =34 Hz , 47 Hz

Panel Size = 2.7 m x 4.0 m

Partition surface mass = 416 kg/m²

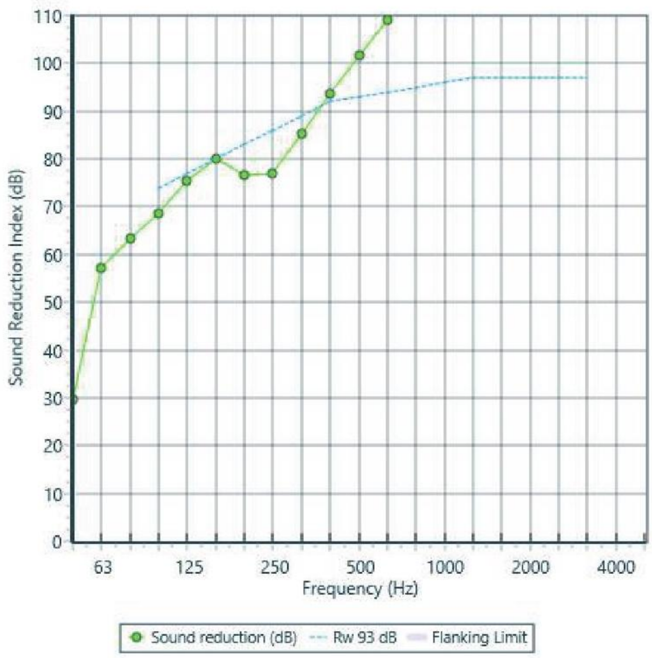
System description

Panel 1 : 1 x 122 mm Plastered Brick

Frame: Point Connection (25 mm x 45 mm), Stud spacing 600 mm ; Cavity Width 25 mm
Panel 2 : 1 x 122 mm Plastered Brick

Frame: Right timber stud + air gap (65 mm x 45 mm), Stud spacing 600 mm ; Cavity Width 120 mm , 1 x Fibreglass (10kg/m3) 60mm Thickness 60 mm ...
Panel 3 : 2 x 15 mm Gyproc SoundBloc 15mm

freq.(Hz)	R(dB)	R(dB)
50	30	
63	57	35
80	63	
100	68	
125	75	72
160	80	
200	77	
250	77	78
315	85	
400	94	
500	102	98
630	109	
800	116	
1000	121	119
1250	125	
1600	128	
2000	128	128
2500	129	
3150	140	
4000	144	143
5000	147	



Glossary of Terms

Decibel (dB) The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μPa, the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under laboratory conditions.

dB L_A Decibels measured on a sound level meter incorporating a frequency weighting (A-weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A.

$L_{Aeq,T}$ The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.

$L_{AF,max}$ The highest A-weighted noise level recorded during the time-period using a Fast time-weighting. It is usually used to describe the highest noise level that occurred during the event.

R_w Single number rating used to describe the sound insulation of building elements and is defined in BS EN ISO 10140-2: 2010 (formerly BS EN ISO 140-3:1995). It is derived by measurement under laboratory conditions and does not take into account the effects of flanking transmissions.

$D_{nT,w}$ The weighted standardized level difference is a single figure rating used to describe the sound insulation of a construction separating two rooms, for example a wall or floor, and is defined in BS EN ISO 16283-1:2014 (formerly BSEN ISO 140-4:1998). It is derived by measurement of an in-situ construction and therefore takes into account the effects of flanking transmissions, workmanship etc.

C_{tr} A single-number spectrum adaptation term used to characterise the sound insulation rating with respect to urban traffic. It is defined in ISO 717-1:2013.

MILLER GOODALL

ACOUSTICS - AIR QUALITY - LIGHTING