NOISE IMPACT ASSESSMENT

47, Grovelands Road, Haringey, London N15 6BT

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This report has been compiled by Deane Austin Ltd (DAA) with all reasonable skill, care and diligence in accordance with generally accepted acoustic consultancy principles. Information contained in this document contains confidential and commercially sensitive information and shall not be disclosed to third parties.

1.0 INTRODUCTION

DAA Group has been appointed to carry out a Noise Impact Assessment at 47, Grovelands Road, Haringey, London N15 6BT to support a Planning Application for the Extension of existing synagogue in accordance with the provisions of:

- The National Planning Policy Framework
- The Noise Policy Statement for England (NPSE)
- The World Health Organisation Guidelines for Community Noise 1999 (WHO)
- Policy D14 of the London Plan 2021 and Policies DM1 and DM23 of The Development Management DPD 2017.

The purpose of this survey is to ensure that the amenity of nearby noise-sensitive properties is not compromised and to satisfy the following condition:

"11 Full details of the sound insultation of the Synagogue, including specific measures between the synagogue and adjoining residential building, shall be submitted to and approved in writing by the Local Planning Authority, and the approved scheme shall be installed before the commencement of the use hereby approved and permanently retained thereafter".

The technical content of this assessment has been provided by a Tech member of the Institute of Acoustics.

The Institute of Acoustics is the UK's professional body for those working in acoustics, noise and vibration.

2.0 NOISE CRITERIA

2.1 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

The Department for Communities and Local Government introduced the National Planning Policy Framework (NPPF) in March 2012. The latest revision of the NPPF is dated July 2021.

The NPPF sets out the Government's planning policies for England and how these are expected to be applied. It provides a framework where local Councils can produce their own local and neighbourhood plans which reflect the needs of their communities.

In conserving and enhancing the natural environment, the planning system should prevent both new and existing development from contributing to, or being put at, unacceptable risk from environmental factors including noise.

Planning policies and decisions should aim to avoid noise giving rise to significant adverse impacts on health and quality of life as a result of new development. Conditions may be used to mitigate and reduce noise to a minimum so that adverse impacts on health and quality of life are minimised. It must be recognised that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them. Reference is made within NPPF to the Noise Policy Statement for England (NPSE) as published by DEFRA in March 2010.

2.2 NOISE POLICY STATEMENT FOR ENGLAND (NPSE)

The long-term vision of the NPSE is stated within the documents scope, to 'promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development'. The policy aims are stated to:

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

The application of NPSE should mean that noise is properly taken into account at the appropriate time (for example in planning applications or appeals) where it must be considered alongside other relevant issues. The guiding principles of Government policy on sustainable development should be used to assist in the implementation of the NPSE.

The NPSE should apply to all types of noise apart from occupational noise in the workplace. The types of noises defined in the NPSE includes:

- Environmental noise from transportation sources;
- Neighbourhood noise which includes noise arising from within the community; industrial premises, trade and business premises, construction sites and noise in the street

The Noise Policy Statement England (NPSE) outlines observed effect levels relating to the

above, as follows:

• **NOEL – No Observed Effect Level**

o 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**

o This is the level above which adverse effects on health and quality of life can be detected.

• **SOAEL – Significant Observed Adverse Effect Level**

o This is the level above which significant adverse effects on health and quality of life occur.

As stated in The Noise Policy Statement England (NPSE), it is not currently possible to have a single objective based measure that defines SOAEL that is applicable to all sources of noise in all situations. Specific noise levels are not stated within the guidance for this reason, and allow flexibility in the policy until further guidance is available.

2.3 ProPG: PLANNING AND NOISE

As outlined above, the National Planning Policy Framework encourages improved standards of design, although it provides no specific noise levels which should be achieved on site for varying standards of acoustic acceptability, or a prescriptive method for the assessment of noise.
ProPG: Planning and Noise was published in May 2017 in order to encourage better acoustic design for new residential schemes in order to protect future residents from the harmful effects of noise. This guidance can be seen as the missing link between the current NPPF and its predecessor, PPG24 (Planning Policy Guidance 24: Planning and Noise), which provided a prescriptive method for assessing sites for residential development, but without the nuance of 'good acoustic design' as outlined in ProPG.
ProPG allows the assessor to take a holistic approach to consider the site's suitability, taking into consideration numerous design factors which previously may not have been considered alongside the noise level measured on site, for example the orientation of the building in relation to the main source of noise incident upon it.
It should be noted this document is not an official government code of practice, and neither replaces nor provides an authoritative interpretation of the law or government policy, and therefore should be seen as a good practice document only.

2.4 BRITISH STANDARD 4142: 2014+A1:2019

British Standard (BS) 4142:2014 "Methods for rating and assessing industrial and commercial sound" describes methods for assessing the likely effects of sound on premises used for residential purposes.
It includes the assessment of sound from industrial and manufacturing processes, M&E plant and equipment, loading and unloading of goods and materials, and mobile plant/vehicles on the site. It can be used to assess sound from proposed, new, modified or additional industrial/commercial sources, at existing or new premises used for residential purposes.
The method described in BS4142: 2014 use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

The standard describes methods to measure and determine ambient, background and residual sound levels, and the rating levels of industrial/commercial sound. BS 4142: 2014 requires consideration of the level of uncertainty in the data and associated calculations. BS 4142 is not intended to be used for the derivation or assessment of internal sound levels, or for the assessment of non-industrial / commercial sources such as recreational activities, motorsport, music and entertainment, shooting grounds, construction and demolition, domestic animals, people, and public address systems for speech.

The Reference Time Interval, T, is defined in the standard as the “specified interval over which the specific sound level is determined”, which is 1 hour during the daytime (07:00 to 23:00 hours) and 15 minutes during the night (23:00 to 07:00 hours).

Ambient sound is defined in BS 4142: 2014 as "totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far". It comprises the residual sound and the specific sound when present.

Residual sound is defined in BS 4142: 2014 as "ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound".

The background sound level is the LA90, T of the residual sound level, and is the underlying level of sound. Measurements of background sound level should be undertaken at the assessment location where possible or at a comparable location.

The measurement time interval should be sufficient to obtain a representative value (normally not less than 15 minutes) and the monitoring duration should reflect the range of background sound levels across the assessment period. The background sound level used for the assessment should be representative of the period being assessed.

The specific sound level is the LAeq,T of the sound source being assessed over the reference time interval, Tr. BS 4142: 2014 advises that Tr should be 1 hour during the day and 15 minutes at night.

The rating level is the specific sound level plus any adjustment for the characteristics of the sound (tone, impulse, intermittent or other acoustic feature). The standard describes subjective and objective methods to establish the appropriate adjustment. The adjustments for the different features and assessment methods are summarised in the table below.

Acoustic Feature Corrections in BS4142: 2014

Acoustic Feature	Adjustment for Acoustic Feature		
	Subjective Methods	Objective Methods	
Tonality	+2 dB if just perceptible +4 dB if clearly perceptible +6 dB if highly perceptible	Third Octave Analysis	Narrow Band Analysis
		+6 dB if tones identified	Sliding scale of 0 to +6 dB depending on audibility of tone
Impulsivity	+3 dB if just perceptible +6 dB if clearly perceptible +9 dB if highly perceptible	Sliding scale of 0 to +9 dB depending on prominence of impulsive sound	
Intermittency	+ 3 dB if intermittency is readily distinctive	n/a	
Other	+ 3 dB if neither tonal nor impulsive, but otherwise readily distinctive	n/a	

Where tonal and impulsive characters are present in the specific sound within the same reference period then these two corrections can both be taken into account. If one feature is dominant, it might be appropriate to apply a single correction. The rating level is equal to the specific sound level if there are no features present.
The level of impact is assessed by comparing the rating level of the specific sound source with the background sound level. Typically the greater the difference the greater the magnitude of the impact, depending on the context.
Other factors that may require consideration include the absolute level of sound, the character and level of the residual sound compared to the specific sound, and the sensitivity of the receptor and scope for mitigation.
When the rating level is above the background sound level, a difference of around +5 dB is likely to indicate an adverse impact and a difference of around +10 dB or more is likely to indicate a significant adverse impact, depending on the context.
The lower the rating level with respect to the background sound level, the less likely it is that the specific sound source will have an adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

2.5 BRITISH STANDARD BS 8233:2014

British Standard Code of Practice BS8233:2014 'Sound insulation and noise reduction for buildings' provides recommended guideline value for internal noise levels within dwellings which are similar in scope to guideline values contained within the World Health Organisation Guidelines for Community Noise 1999 (WHO).

Activity	Location	07:00 to23:00	23:00 to 07:00
Resting	Living room	35 dB $L_{Aeq,\ 16hour}$	
Dining	Dining room/area	40 dB $L_{Aeq,\ 16hour}$	
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,\ 16hour}$	30 dB $L_{Aeq,\ 8hour}$

2.6.1 Indoor ambient noise levels for dwellings

The WHO guideline noise criteria set an internal sleep disturbance noise limit of 45dB LAmax,F which should not be exceeded on a regular basis.

3.0 SITE SURVEYS

3.1 SITE DESCRIPTION

The site is a semi-detached property located on Grovelands Road. The area is a mix of commercial and residential properties, typical of an urban cityscape environment. The dominant noise source is road traffic noise from the surrounding roads. (See Figure 3.1).



Figure 3.1 – Site Location

3.2 ENVIRONMENTAL SITE SURVEY PROCEDURE

In order to characterise the sound profile of the area an environmental sound survey has been carried out from 20/05/2024 to 21/05/2024.
The monitoring position was chosen in order to collect representative sound levels at the NSR.
Noise Measurements were carried out free on the roof at the façade closest to the NSR. See figure 5.1.

3.3 EQUIPMENT

Instrument manufacturer	**Cirrus**
Model	**CR:247 Invictus**
Serial Number	**V069182**
Microphone Type	**MK: 224**
Serial Number	**217360D**
Calibrator	**NC-74**
Serial Number	**34494274**
Cirrus CK: 675 Outdoor Kit	

The calibration of the sound level meters was verified in-situ before any measurements were taken, using the handheld calibrator and reference tone of 114dB at 1kHz. Validation checks at the end of the survey indicated that all instruments had operated within permitted tolerances for drift and measured level.

Calibration certificates are available on request.

3.4 METEOROLOGICAL CONDITIONS

As the environmental noise survey was carried out over a long un-manned period no localized records of weather conditions were taken. However, during the set up and collection of the monitoring equipment, the weather conditions have been documented in the following table. All measurements have been compared with met office weather data of the area, specifically the closest weather station, the data from the weather station is outlined in the table below. When reviewing the time history of the noise measurements, any scenarios that were considered potentially to be affected by the local weather conditions have been omitted. The analysis of the noise data includes statistical and percentile analysis and review of minimum and maximum values, which aids in the preclusion of any periods of undesirable weather conditions. The weather conditions were deemed suitable for the measurement of environmental noise in accordance with BS7445 Description and Measurement of Environmental Noise. The table below presents the average temperature, wind speed and rainfall range for each 24-hour period during the entire measurement.

Weather Conditions – Northolt Weather station				
Time Period	**Air Temp (◦C)**	**Rainfall mm/h**	**Prevailing Wind Direction**	**Wind Speed (m/s)**
20/05/2024 – 13:00 – 23:59	10 - 21	0.0	ENE	8- 9
21/05/2024 – 00:00 – 13:00	11- 15	0.0	NW	5 - 8

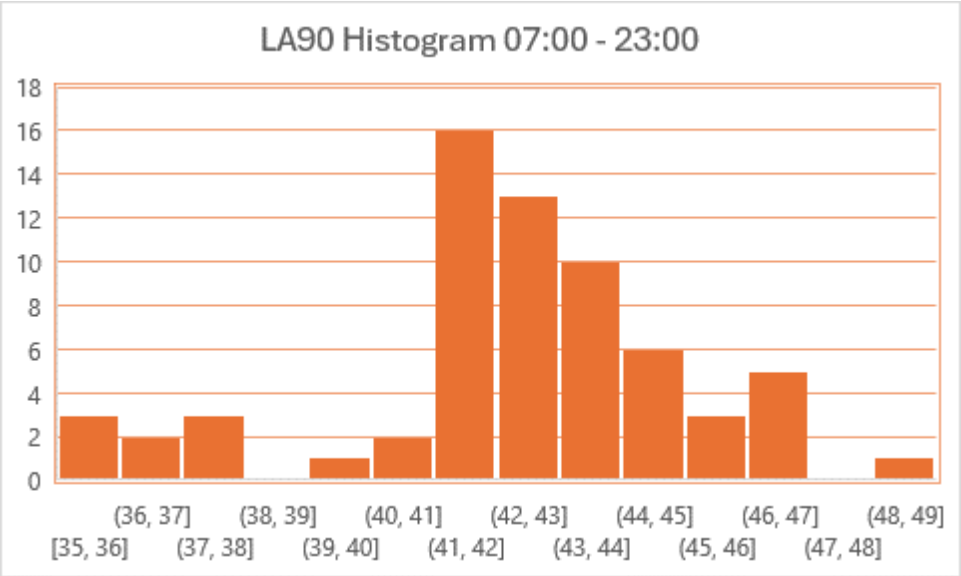
Table 3.4 – Weather Summary

4.0 NOISE SURVEY

The background sound levels have been calculated in accordance with BS 4142:2014, which represents the most up-to-date guidance on the subject. Prior to the publication of the 2014 version of BS 4142, acousticians would use the lowest measured background sound levels; however, BS 4142: 2104 provides substantially more guidance on the determination of background sound levels. Section 8.1 of BS 4142: 2014 states that "for this purpose, the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods. Among other considerations, diurnal patterns can have a major influence on background sound levels and, for example, the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night-time period for sleep purposes".
The guidance goes on to say that "a representative level ought to account for the range of background sound levels and ought not automatically to be assumed to be either the minimum or modal value".

Measurement Data	Free Field Sound Pressure Level dB		
	MP1		
Time	$L_{Aeq,T}$	$L_{AMAX,(f)}$	L_{A90}
07:00 – 23:00	53dB LAeq,15	71dB $L_{AMAX,15}$	41dB, $L_{90,15}$
23:00 – 07:00	43dB LAeq,15	61dB LAMAX,15	30dB, L90,15

Table 4.0 - Noise Measurement Levels


LA90 Histogram 07:00 - 23:00
18
16
14
12
10
8
6
4
2
0
(36, 37]
(38, 39]
(40, 41]
(42, 43]
(44, 45]
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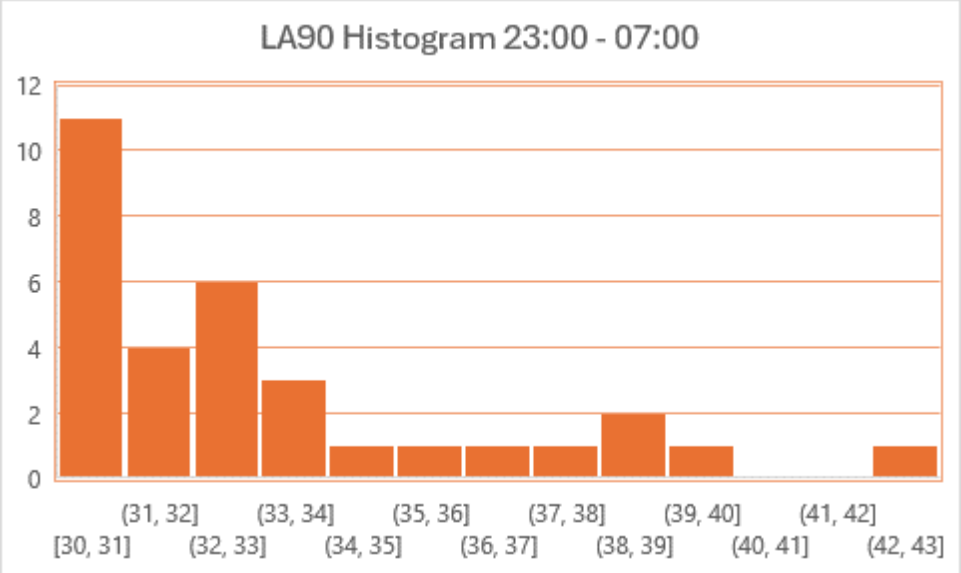
LA90 Histogram 23:00 - 07:00
12
10
8
6
4
2
0
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(38, 39]
(40, 41]
(42, 43]

5.0 PROPOSAL

47, Groveland's Road, Haringay, London N15 6BT is a long-established Synagogues serving the Jewish Community. The building is in need of modernisation and expansion to cater for surrounding community.

There are currently there are 1500 Jewish Families in Haringey and only 4 Synagogues.

Currently the Synagogue has approximately 100 members who will attend the premise three times a day from Monday to Sunday.

The proposal would allow to accommodate a further 150-200 people on the first floor, which is much needed within the local community. The synagogue has currently the approved hours of operation:

"The use hereby permitted shall not be operated before 7:30 hours or after 19:00 hours on any day."

There will be no amplification of music / voices.



Figure 5.0 – proposed Elevations

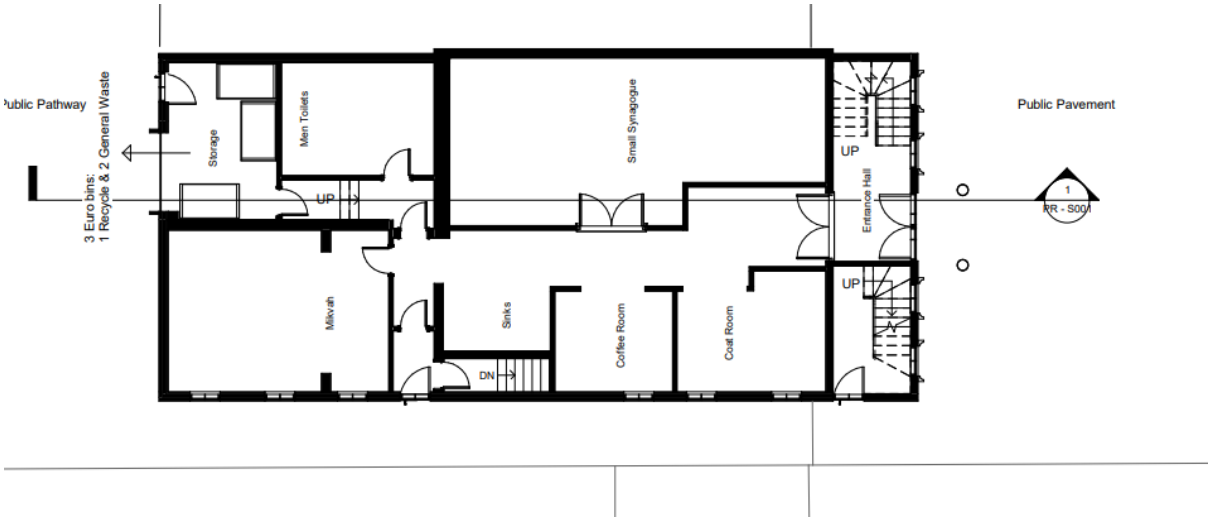


Figure 5.0.1 – Proposed Ground Floor Layout

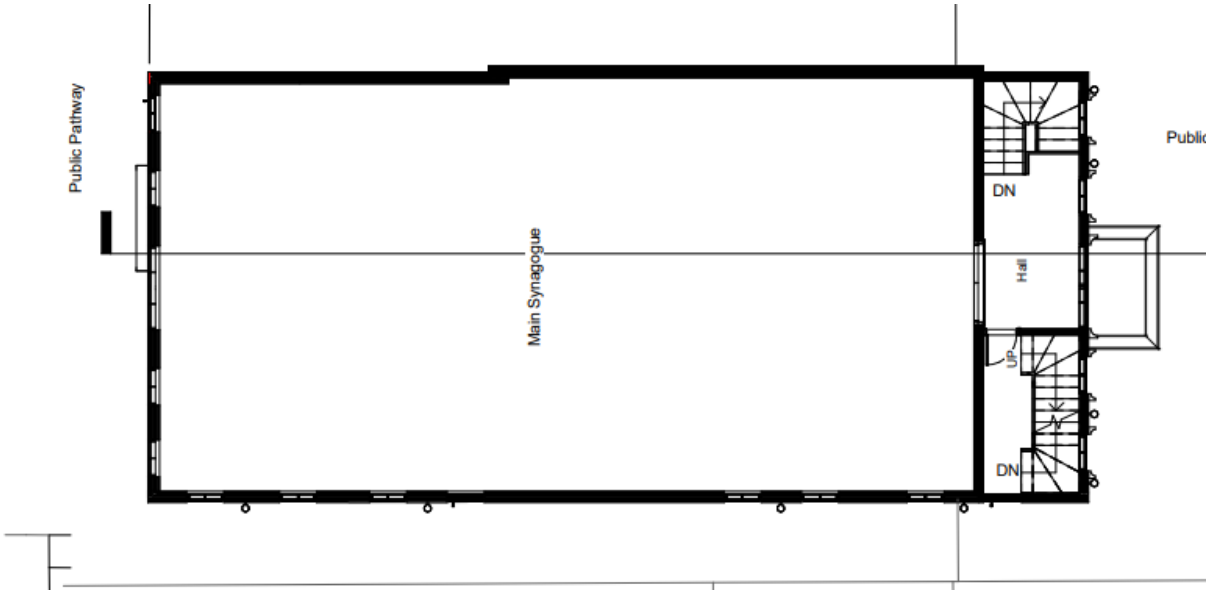


Figure 5.0.2 – Proposed First Floor Layout

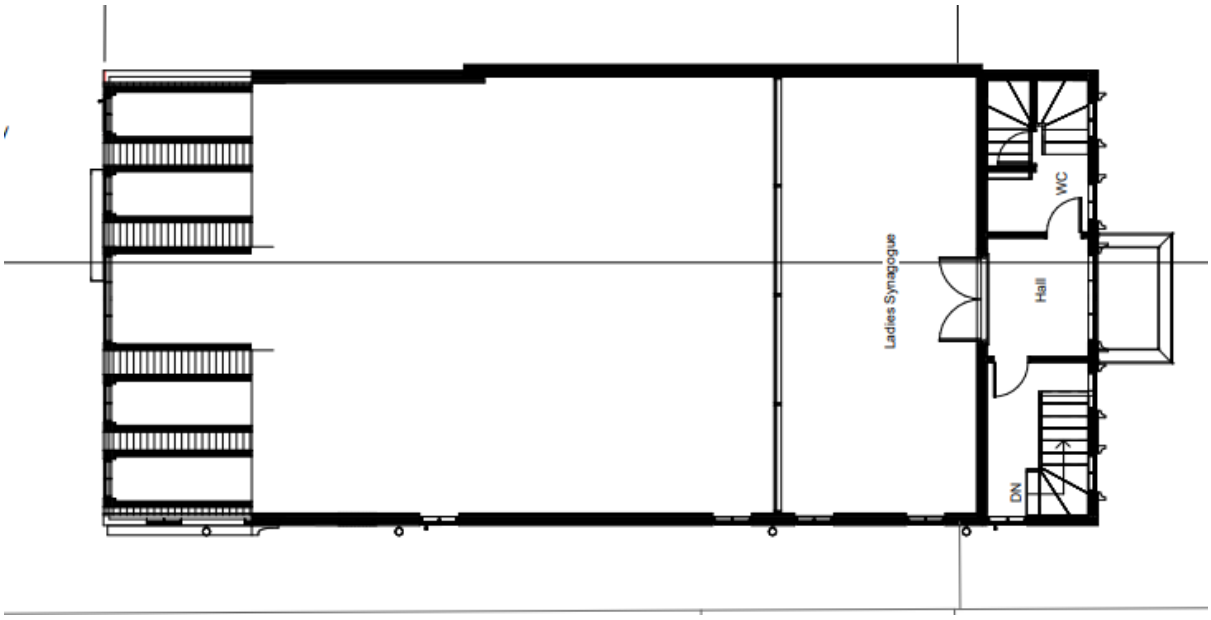


Figure 5.0.3 – Proposed Second Floor Layout

5.1 NEAREST NOISE SENSITIVE RECIEVERS

The synagogue is shown below in Figure 5.1. The NSR (flat on 1st floor of 45 Grovelands Road) is adjoined to the site with windows to the front and rear approximately 4 meters away from the proposed glazing (weakest element of façade) of the synagogue as shown in Figure 5.1.



Figure 5.1 - Nearest Sensitive Receivers

	SIte
	NSR (Nearest Sensitive Receptor)
	Measurement Location

5.2 NOISE EMMISSION CRITERION

It is expected that all applications for this type of premises should properly address noise issues. As a general principle, music and noise from customers activity (talking, shouting and applauding) emanating from entertainment premises (including external areas such as balconies, gardens and smoking areas) should not be audible within any noise sensitive premises. Developers should assess the likely impact of the new entertainment premises upon the noise environment. The premises must be designed so to ensure that associated noise is controlled, so as to be inaudible inside any residential premises within the vicinity.

Inaudibility is defined by the Institute of Acoustics' Good Practice Guide on the Control of Noise from Pubs and Clubs 2003 as: Entertainment Noise Level, LAeq (1 minute) should not exceed Representative Background Noise Level, LA90.

Entertainment Noise Level, L10 (5 minutes) should not exceed Representative Background Noise Level, L90, in any 1/3 octave band from 40Hz to 160Hz.
or:
The use of Noise Rating (NR) curves, as discussed in the DEFRA document, 'Noise from Pubs and Clubs, Phase I' (2005), is an alternate way of establishing acceptable levels in noise sensitive premises where low frequency noise may be an issue. The following NR curves should be achieved: NR 20 in bedrooms (23:00 to 07:00 hours). NR 25 in all habitable rooms (07:00 to 23:00 hours). Noise rating curves should be measured as a 15 minute linear Leq at the octave band centre frequencies 31.5 to 8 KHz.

5.3 NOISE IMPACT ASSESSMENT

Internal sound pressure levels of circa LAeq 87 dB have been used for this assessment from previously obtained sound from spaces of similar function including amplified music and speech. It is noted that there will be no amplified music so this is a robust assessment.

OUTLINE EXTERNAL BUILDING FABRIC PERFORMANCE

The following design review is based on the architectural drawings provided by SAM Planning Services for the proposed construction and targets the internal noise levels set out above.

It has been assumed that all non-glazed elements, i.e. walls/facings and the roof systems, will provide the minimum sound insulation performances as presented in Table 5.3, if tested in accordance with ISO 10140-2:2010.

CONSTRUCTION	SINGLE FIGURE WEIGHTED SOUND REDUCTION FIGURE
Non-Glazed Elements	Rw 50dB

Table 5.3 – Single figure weighted sound reduction figure for non-glazed external building fabric elements.

Description of Source	Acoustic Criteria	Calculated Level	Comments
Operational Noise emissions to outside residential windows	LAeq ≤ 31dB	LAeq 31dB	Event emissions to not exceed the measured background LA90 outside the closest noise sensitive properties
Music Noise Emissions - Low Frequency	L10 ≤34dB at 63Hz and L10 ≤40dB at 125Hz	L10 31dB	Noise emissions to not exceed the measured background L90 in 1/3 octave bands between 40Hz and 160Hz outside the closest noise-sensitive properties.
Indoor Noise level Resultant of Event Noise	NR25	NR16	Expected noise levels resultant of event noise

Table 5.3.1 – Calculated Noise Levels – External Break In

Calculations indicate that target noise levels can be met using acoustically specified acoustic double-glazing options with an acoustic performance in the order of Rw 44 dB for all areas. Due to the character of live voices and music, the performance of the glazing at 250Hz will be no less than Rw34 dB. This can typically be achieved by glazing systems such as Guardian Glass 6mm / 16mm / 11.4mm Lamiglass , or equivalent. See Appendix B.

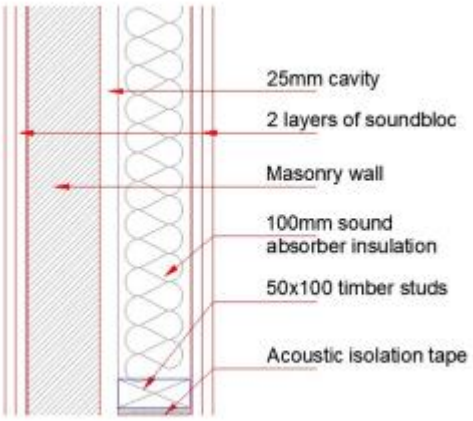
5.4 SEPERATING WALL

Construct a single frame of 50x100mm timber stud independently from the masonry wall. Ensure a min gap of 25mm from the existing masonry to the stud frame. Ensure the stud sole and head plate is isolated from the floor by using heavy duty isolation tape.

Insulate within the stud frame with 100mm Sound absorber insulation (65kg m3) tightly fixed into the studs. Face the masonry side and stud side with 2 layers of 15mm Soundbloc plasterboard.

Perimeter of the plasterboards to be sealed with acoustic sealant.

The calculations indicate a performance value of Airborne: 62 Dnt,w+ctr (dB)



The predicted internal noise level inside the adjacent residential unit is 25dB (NR25).

5.4.1 WALL JUNCTIONS AND PENETRATION DETAILS

Interfaces between walls and all other adjacent elements should be built to ensure that the sound insulation performance of the wall is not affected. All gaps should be tightly packed with mineral wool and all joints should be sealed with a flexible sealant, such as silicone caulk.

Where any ducts, pipes, conduits or other services penetrate the wall, provide an air-tight seal between the service and partition using a flexible sealant. All gaps should be tightly packed with mineral wool and sealed with plasterboard pattress and mastic seal. We would recommend the incorporation of PFC Corofil intumescent collars in all pipe penetrations.

Isolating strips such as Monarfloor or CMS-Danskin should be used in order to block horizontal flanking.

5.4.2 DOOR REQUIREMENTS

Where a degree of sound insulation is deemed necessary, doors with rated acoustic performance would be required. Recommendations with regards to the necessary sound insulation performance of the door to be installed should be a minimum of Rw 44dB.

6.0 SUMMARY AND CONCLUSIONS

DAA Group has been appointed to carry out a Noise Impact Assessment at 47, Grovelands Road, Haringey, London N15 6BT. The purpose of the survey was to assess the level of noise emanating from the proposed synagogue Extension.

The acoustic design review and advice provided in this document are based on the assumption that there will be no major mistakes in workmanship regarding the acoustic detailing and finishing of the party elements proposed in this development.

It is concluded that the proposed extension, will not cause any adverse effects to the nearest residential receptors provided the above points are taken into account.

APPENDIX A ACOUSTIC TERMINOLOGY

B.1 WEIGHTED DECIBEL, dB(A)

The unit generally used for measuring environmental, traffic or industrial noise is the A-weighted sound pressure level in decibels, denoted dB(A). The weighting is based on the frequency response of the human ear and has been found to correlate well with human subjective reactions to various sounds. An increase or decrease of approximately 10 dB corresponds to a subjective doubling or halving of the loudness of a noise, and a change of 2 to 3 dB is subjectively barely perceptible.

B.2 EQUIVALENT CONTINUOUS SOUND LEVEL, LAeq

Another index for assessment for overall noise exposure is the equivalent continuous sound level, L_{Aeq}. This is a notional steady level which would, over a given period, deliver the same sound energy as the actual time-varying sound over the same period.

B.3 MAXIMUM NOISE LEVEL, LAmax

The maximum noise level identified during a measurement period. Experimental data has shown that the human ear does not generally register the full loudness of transient sound events of less than 125 ms in duration.

B.4 NOISE RATING, NR

Noise ratings are used as a single figure criterion for specifying services noise in buildings. Each noise rating value has an associated spectrum of defined values in each third or octave frequency band. To determine the noise rating of a room the measured spectrum is compared to a set of noise rating curves. The highest NR curve that crosses any single frequency band of the measurement determines the noise rating for the room. The single figure noise rating is read at the 1 kHz band.

B.5 SOUND LEVEL DIFFERENCE (D)

The sound insulation required between two spaces may be determined by the sound level difference needed between them. A single figure descriptor which characterises a range of frequencies, the weighted sound level difference, D, is sometimes used (BS EN ISO 717-1). This parameter is not adjusted to reference conditions.

The standardized level difference, Dn, T is a measure of the difference in sound level between two rooms, in each frequency band, where the reverberation time in the receiving room has been normalised to 0.5 s. This parameter measures all transmission paths, including flanking paths.

The weighted standardized level difference, DnTw, is a measure of the difference in sound level between two rooms, which characterises a range of frequencies and is normalised to a reference reverberation time

B.6 SOUND REDUCTION INDEX (R)

The sound reduction index (or transmission loss) of a building element is a measure of the loss of sound through the material, i.e. its attenuation properties. It is a property of the component, unlike the sound level difference which is affected by the common area between the rooms and the acoustic of the receiving room. The weighted sound reduction index, Rw, is a single figure description of sound reduction index characterising a range of frequencies, which is defined in BS EN ISO 717-1: 1997. The Rw is calculated from measurements in an acoustic laboratory

B.7 STATISTICAL NOISE LEVELS (L_{A90}, (T) L_{A1}, (T) L_{A10}, (T) etc.)

For levels of noise that vary widely with time, for example road traffic noise, it is necessary to employ an index which allows for this variation. The L_{A10} is the level exceeded for ten per cent of the time under consideration, has historically been
adopted in the UK for the assessment of road traffic noise. The LA90 is the level exceeded for ninety per cent of the time, has been adopted to represent the background noise level. The L_{A1} the level exceeded for one per cent of the time, is representative of the maximum levels recorded during the sample period. A weighted statistical noise levels are denoted LA10, dB LA90, dB. etc. The reference time (T) is normally included, e.g. LA10, (5min), & LA90, (8hr).

B.8 TYPICAL NOISE LEVELS

Typical noise levels are given in the following table.

Noise Level dB(A)	Example
130	Threshold of pain
120	Jet aircraft take-offs at 100 m
110	Chain saw at 1 m
100	Inside disco
90	Heavy lorries at 5 m
80	Kerbside of busy street
70	Loud radio (in typical domestic room)
60	Office or restaurant
50	Domestic fan heaters at 1m
40	Living room
30	Ventilation Noise in Theatre
20	Remote countryside on still night
10	Sound insulated test chamber
0	Threshold of hearing.

APPENDIX B GLAZING REQUIREMENTS

GUARDIAN GLASS

Acoustic Performance

Glazing Configuration

6mm Float Glass

16mm Cavity

11.14mm (46.3) LamiGlass Sound Reduction

Sound Reduction Indices

Frequency, Hz / dB						Rw	C	Ctr	OITC	STC
125	250	500	1000	2000	4000	43	-2	-5	34	43
26	34	41	47	44	58					

Disclaimer: The acoustic performance data provided in the reports is based on a test protocol or an estimation and may be used if user actual glazing is identical to input data described herein. Acoustic performance data herein is only applicable for glazing dimensions 1,23 m x 1,48 m (as per testing standard). Estimation of acoustic performance is based on component-similarity assumptions which are derived from measured data and interpolation to expand the database of values from test protocols. Due to inherent variations in acoustic performance when testing in accordance with EN ISO 10140-3/EN ISO 10140-2, some variation in the calculated performance can also be expected. As such, the weighted performance, Rw, and adaptation terms, C and Ctr, should typically be considered to be accurate within ±2 dB. However, wider deviations can occur. Actual performance may vary according to the glazing dimensions, frame system, noise sources and many other parameters. The acoustic performance data herein should not be used as a substitute for tests of actual glazing. For more information, please consult Assumptions and Terminology section in Guardian Acoustic Assistant. By accessing this calculator, you agree not to alter or modify the generated report data and information, by any means. Any manual alteration will be your own responsibility and will annul all the content of the report.

Tuesday, June 4, 2024 | Acoustic database 20210629 | ASSUMPTION

APPENDIX C - MEASUREMENTS

