

Greenfinch Public House Didsbury

Noise Impact Assessment Report

28495/NIA1

01 June 2021

For:

Wren Properties Limited

246 Deansgate
Manchester
M3 4LY



Hann Tucker Associates

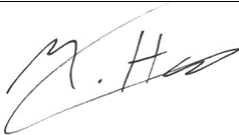
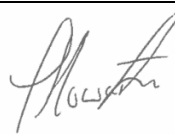
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Noise Impact Assessment Report 28495/NIA1

Document Control

Rev	Date	Comment	Prepared by	Checked by
0	18/01/2021			
			Michael Hartley Consultant MEng(Hons), AMIOA	Jake Howarth Principal Consultant BEng(Hons), MIOA
1	20/01/2021	Update following Design Team review		
			Jake Howarth Principal Consultant BEng(Hons), MIOA	Jake Howarth Principal Consultant BEng(Hons), MIOA
2	01/06/2021	Update following revision site layout.		
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Time History Graph – 28495/TH1



1.0 Introduction

It is understood that the development will include change of use and conversion of former Greenfinch Public House including selective demolition to provide office accommodation (use class E) and 3 apartments (use class C3), and redevelopment of site to provide 9 dwellings (use class C3) with associated works including landscaping and car parking.

As such, Hann Tucker have been commissioned to undertake an environmental noise survey and assess any potential impact on the proposed residential building from environmental sources in order to ensure compliance with Local Authority requirements.

Our assessment findings are presented herein.

2.0 Objectives

To establish the prevailing environmental noise levels in line with current (at the time of writing) ANC and IOA guidance.

Based on the above, to undertake a noise impact assessment of the proposed development, covering:-

- i. Incident external noise levels/sources & suitability of the site for residential use;
- ii. Measures to achieve acceptable noise levels within new dwellings;
- iii. Measures to achieve acceptable noise levels in new outdoor living spaces;
- iv. Noise limits for future fixed plant and equipment to protect the locality.

To provide preliminary specifications for windows and ventilators to control external noise intrusion, along with preliminary guidance on commercial noise control measures

To set plant noise emission limits in accordance with Local Authority guidance.

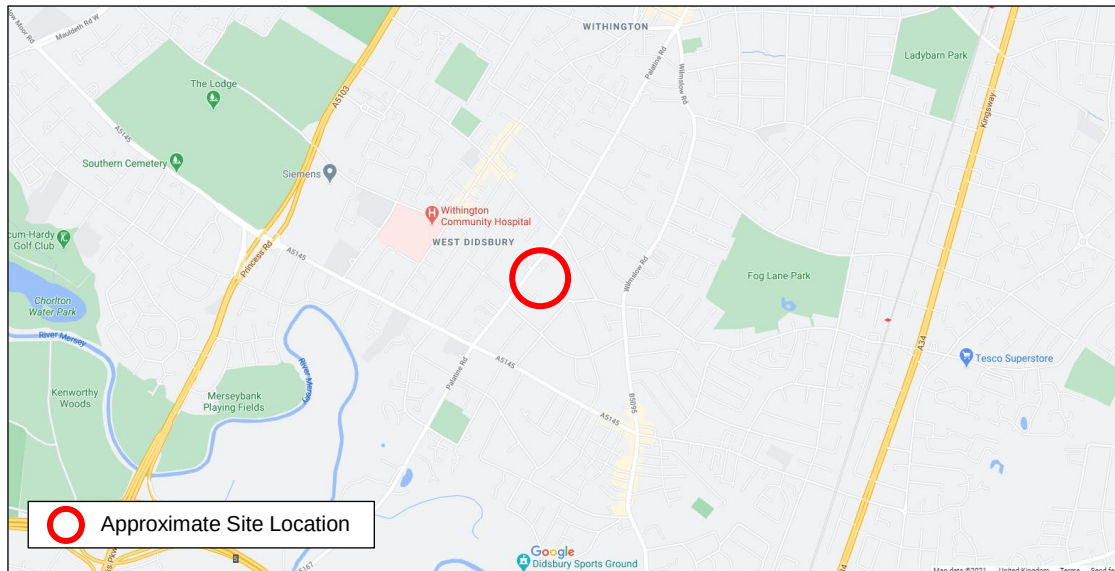
3.0 Acoustic Terminology

Please refer to Appendix A for an explanation of acoustic terminology used herein.

4.0 Site Description

4.1 Location

The site is located on the junction of Palatine Road and Lapwing Lane in West Didsbury and falls under the jurisdiction of Manchester City Council. See the location below.



Site Location (© maps.google.co.uk)

4.2 Description

The site is located on a four-way traffic light junction and is bound by Lapwing Lane to the northeast and Palatine Road to the south east. The surrounding around comprises of a mix of commercial/office spaces with first floor residential, residential buildings and restaurants.

Residential properties are to the south and west of the site, and commercial properties to the north and east of the site. A Pizza Express restaurant is located approximate 60 metres across the road junction to the east.

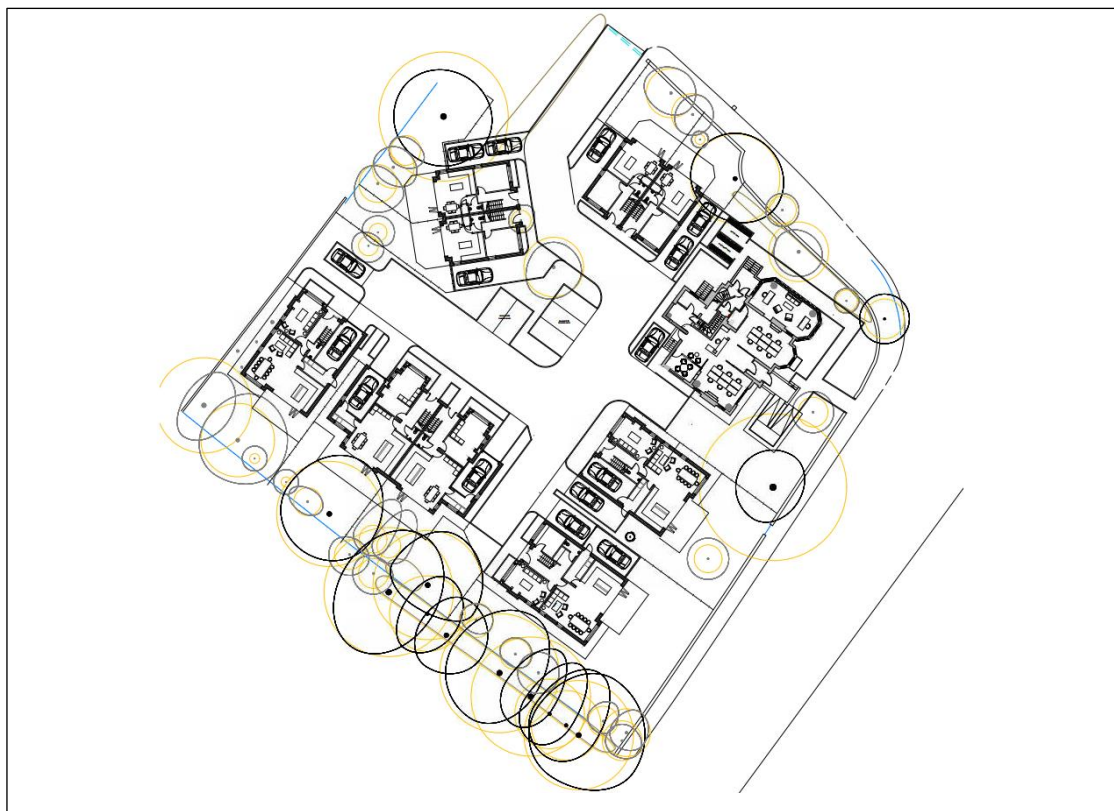
The site in relation to its surroundings is shown overleaf:



Site Plan (© maps.google.co.uk)

4.3 Project Proposals

The current proposals are to include the change of use and conversion of former Greenfinch Public House including selective demolition to provide office accommodation (use class E) and 3 apartments (use class C3), and redevelopment of site to provide 9 dwellings (use class C3) with associated works including landscaping and car parking.



Proposed Site Plan c/o AXI Architects



5.0 Acoustic Standards & Guidelines

5.1 Guidance on the Impact of COVID-19 (ANC/IOA)

Joint guidance on the impact of COVID-19 on the practicality and reliability of baseline sound level surveying and the provision of sound & noise impact assessments was published on 23 March 2020 as a joint venture between the Institute of Acoustics (IOA) and the Association of Noise Consultants (ANC).

The document, provided in Appendix B for reference, highlights that as the responsible bodies, the ANC and IOA are keen to ensure that it is 'business as usual', as far as is practicably possible and responsible. The document sets out a number of methods in which a suitable assessment could be carried out during the outbreak.

The document states that rather than a baseline noise survey *"other approaches can be taken to establish an appropriate robust estimate of baseline conditions, such as using existing data (for example, from previous local surveys and noise maps) or undertaking baseline sound predictions. These approaches can be supplemented by additional limited on-site sound level measurements, as necessary. Each of the possible options will need to be reviewed on a case-by-case basis, in order to identify the most appropriate approach, assessing the level of uncertainty and including this information in the reporting. Most importantly at this time, before progressing with surveying, there should be discussion of the intended approach with the relevant regulating authority"*.

Based on the above, the baseline acoustic conditions of the site have been established through noise levels measured as part of previous local surveys adjacent to the proposed site.

Local Authority Liaison

Hann Tucker Associates contacted the Manchester City Council with regards to the above on 04 May 2020. A response was received on 7 January 2021 stating that MCC are *"happy with the approach you intend to take."*

The email response is provided in Appendix C for reference.



5.2 Local Planning Requirements

Manchester City Council requirements are outlined in Section 3.0 of Manchester City Council's Planning & Noise Technical Guidance document (December 2015).

Achieving Suitable Noise Levels

Section 3.6.1.1 sets out the following noise levels to be achieved for residential developments:

- *“Bedrooms (Night time - 23:00 to 07:00): 30dB L_{Aeq} and individual noise events should not normally exceed 45 dB (L_{Amax}).*
- *Living Rooms (Day time 07:00 to 23:00): 35 dB (L_{Aeq}).*
- *Gardens and terraces (daytime) 55 dB (L_{Aeq}).”*

Section 5.3.1.3.1.2 of the Planning & Noise – Technical Guidance December 2015 document states the following with regards to maintaining internal ambient noise levels when it desired to keep windows closed but provide adequate ventilation:

“Occupants should be provided with a supply of fresh air in habitable rooms without having to open windows (whilst also having the option to do this for purge ventilation, or at the occupant’s discretion.”

Where ambient noise levels are high a scheme of ventilation will need to be provided that does not compromise the acoustic attenuation afforded by glazing. This may come in the form of individual window trickle vents or acoustic trickle vents.”

Plant Noise

Section 3.6.1.5.1 of the Planning & Noise – Technical Guidance December 2015 document states the following with regards to noise and vibration from fixed plant / equipment:

“The noise assessment should be based on BS 4142: 2014 and any application of fixed plant, equipment or machinery must demonstrate that:

Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.”

5.3 National Planning Policy Framework

The following paragraphs are from the NPPF (published June 2019):

180. *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.*

182. *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.”*

Paragraph 180 also references the Noise Policy Statement for England. This document does not refer to specific noise levels but instead sets out three aims:

- *“Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.*
- *Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.*
- *Where possible, contribute to the improvement of health and quality of life through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.”*

5.4 ProPG: Planning & Noise

ProPG: Planning & Noise ‘Professional Practice Guidance on Planning & Noise’ was issued in May 2017 with the primary goal of assisting the delivery of sustainable residential development by promoting good health and well-being 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.

It is applicable to noise from existing transport sources (noting that good professional practice should have regard to any reasonably foreseeable changes in existing and/or new sources of noise). The recommended approach is also considered suitable where some industrial or commercial noise contributes to the acoustic environment provided that is “not dominant”.

ProPG advocates a systematic, proportionate, risk based, 2-stage, approach. The approach encourages early consideration of noise issues, facilitates straightforward accelerated decision making for lower risk sites, and assists proper consideration of noise issues where the acoustic environment is challenging.

The ProPG considers suitable guidance on internal noise levels found in BS8233:2014 ‘Guidance on sound insulation and noise reduction for buildings’ with the addition of an “ideal” $L_{Amax,f}$ requirement for bedrooms at night (45 dB L_{Amax}).



5.5 BS 8233:2014

British Standard 8233: 2014 “Sound insulation and noise reduction for buildings” recommends design criteria for internal ambient noise levels for dwellings providing a reasonable or good level of protection from external noise. It states that it is desirable that ambient noise levels do not exceed the following guidelines:

Activity	Location	Desirable Ambient Criteria	
		07:00 – 23:00	23:00 – 07:00
Resting	Living Rooms	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 $L_{Aeq,8hour}$

The document goes on to state that all of the above target levels may be relaxed by 5 dB and “reasonable” internal conditions would still be achieved.

6.0 Establishing Baseline Conditions

6.1 Previous Local Surveys

As an environmental noise survey could not be fully relied upon to provide accurate results due to the current England lockdown restrictions, Hann Tucker have reviewed nearby planning applications in order to establish if a suitable noise survey has previously been carried out in the vicinity of the site.

6.1.1 Application Reference (125449/JO/2019)

A noise survey was undertaken by RBA Acoustics in December 2019 in relation to planning application of Pizza Express. The survey methodology and results are presented in RBA Acoustics Report 9884.RP01.NAR.1 Revision 1.

As part of this survey 1No measurement position was surveyed as indicated in the plan overleaf. The report states that this position was selected “*To determine the existing noise climate around the site*”.



RBA Acoustics measurement position.

A summary of the noise levels measured in the above position are presented below. All noise levels presented are understood to be free-field.

Measurement Period	Measured Sound Pressure Levels (dB)		
	Average $L_{Aeq,1hour}$	$L_{A90,1hour}$	$L_{Amax,f}$ (dB)
08:00 – 09:00	63	57	83
09:00 – 10:00	63	64	86
10:00 – 11:00	62	62	85
20:00 – 21:00	64	54	88
21:00 – 22:00	61	55	91
22:00 – 23:00	59	54	80

Section 4.2 of the Noise Assessment Report states the following with regards to the noise climate in the vicinity of the site:

“Whilst on site, it was noted the prevailing noise climate mainly consisted of road traffic movements the junction of Lapwing Lane and Palatine Road, tram movements from West Didsbury Metrolink Station, as well as patrons from the nearby pubs and restaurants.”

Based on the above, we would expect the noise climate in the vicinity of the Greenfinch Pub site to be similar to the description provided above.

6.1.2 Application Reference (125235/FO/2019)

An additional noise survey was undertaken by Acoustic Consultants LTD at 121 Palatine Road. The survey methodology and finding are presented in the Acoustic Consultants LTD report 8235/PR/DO.

As part of this survey 2No measurement position was surveyed as indicated in the plan overleaf.



Acoustic Consultants LTD Survey measurement locations.

A summary of the noise levels measured in the above positions is presented below. All noise levels presented are understood to be free-field.

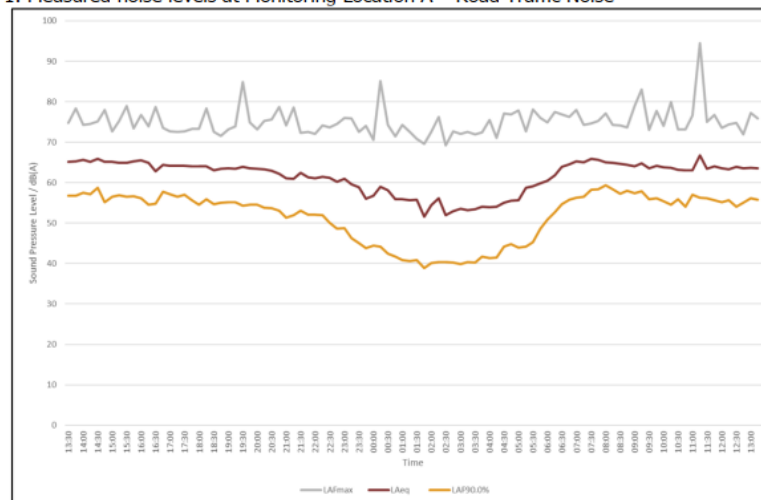
Position	Measured Sound Pressure Levels (dB)				
	Daytime (07:00–19:00)		Night-time (23:00–07:00)		
	$L_{Aeq,16h}$	Lowest 'typical' $L_{A90,15min}^{(2)}$	$L_{Aeq,8h}$	Lowest 'typical' $L_{A90,15min}^{(2)}$	$L_{Amax,5min}^{(1)}$
A	64	49	58	39	78
B	55	42	49	33	63

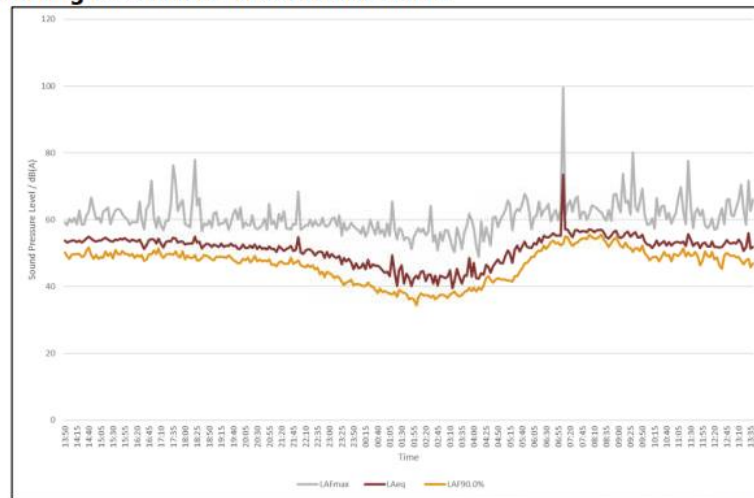
⁽¹⁾ 10th highest maximum night time noise level as defined in WHO.

⁽²⁾ Inferred from the Time history graph plots.

The lowest typical L_{A90} noise level is not presented as a value for either measurement position but can be seen in the time history graphs below.

Chart 1: Measured noise levels at Monitoring Location A – Road Traffic Noise



**Monitoring Location B –Tram Traffic Noise**

Section 4.2 of the Acoustic Consultants LTD Report states the following with regards to the noise climate in the vicinity of the site:

“The purpose of this monitoring exercise was to measure noise levels of passing trams travelling on the adjacent tramline to the east of the site and the road traffic noise levels along Palatine Road to the north of the site”.

This is reflected in the selection of measurement positions, i.e. Position A to capture road noise, and Greenfinch Pub site to be similar to the description provided above.

6.2 Hann Tucker Survey

6.2.1 Overview

Although Covid-19 restrictions were still in place it was deemed appropriate to undertake a noise survey at site so establish noise levels from nearby roads and rail sources and to compare the noise levels measured with the results of the proviso noise surveys undertaken in the vicinity of the site.

The following sections details the method and results of the noise survey carried out by Hann Tucker.

6.2.2 Procedure

Unattended noise level measurements were undertaken at 1No. Locations at the site from approximately 10:30 hours on Wednesday 13 January 2021 to 14:30 hours on Friday 15 January 2021 in order to establish incident noise levels over a weekend period.

All measurements were taken of the A-weighted (dBA) L_{90} , L_{eq} and L_{Fmax} sound pressure levels over discrete 15 minute periods. Measurements were undertaken in accordance with BS 7445-1:2003 *Description and Measurement of Environmental Noise*.



6.2.3 Measurement Positions

Noise level measurements were undertaken at 1No positions on site, as described/illustrated below.

Position	Description
1	Microphone positioned out of a 3 rd floor window approximately 1m from the facade.



Plan Showing Unmanned Measurement Position (Map Data © 2018 Google)

6.2.4 Instrumentation Weather Conditions

The instrumentation used during the survey is presented in the table below.

Description	Manufacturer	Type	Serial Number	Calibration
Type 1 Data Logging Sound Level Meter	Larson Davis	LxT	4568	28/07/2020
Type 1 Calibrator	Larson Davis	CAL200	3083	19/05/2020

All equipment was calibrated prior to and on completion of the survey. No significant deviations occurred (no more than 0.1 dB).



6.2.5 Weather Conditions

Due to the nature of the survey, i.e. unmanned, it is not possible to accurately describe the weather conditions throughout the entire survey period. However, upon set-up and collection of the equipment wind conditions were calm, road surfaces were dry and the sky was generally overcast.

Weather reports for the area indicate that some rain showers did occur. However, reports also indicate there were large periods of calm, dry, weather during the survey. These conditions are considered suitable for obtaining representative measurement results.

6.2.6 Results

A summary of the results from the automated noise survey, as used to inform subsequent assessments against current guidelines, is presented in the table below. L_{A90} values represent the 'typical lowest' 15-minute level and L_{Amax} values are taken as the '15th highest' 5 minute value. All results presented as facade levels.

Position	Measured Sound Pressure Levels (dB)				
	Daytime (07:00–19:00)		Night-time (23:00–07:00)		
	$L_{Aeq,16h}$	Lowest 'typical' $L_{A90,15min}$	$L_{Aeq,8h}$	Lowest 'typical' $L_{A90,15min}$	$L_{Amax,5min}$ *
MP1	65	51	59	31	81

6.3 Comparison of Results

Comparing the results of the Hann Tucker noise survey provided in Section 6.2.6 and the results of the noise surveys carried out for applications 125449/JO/2019 and 125235/FO/2019 it is clear to see that the impact of the COVID-19 restrictions imposed at the time of the Hann Tucker survey did not lower the ambient noise levels in the vicinity of the site.

As such, we consider the ambient noise level results of our noise survey are representative of "pre/post COVID" noise levels.

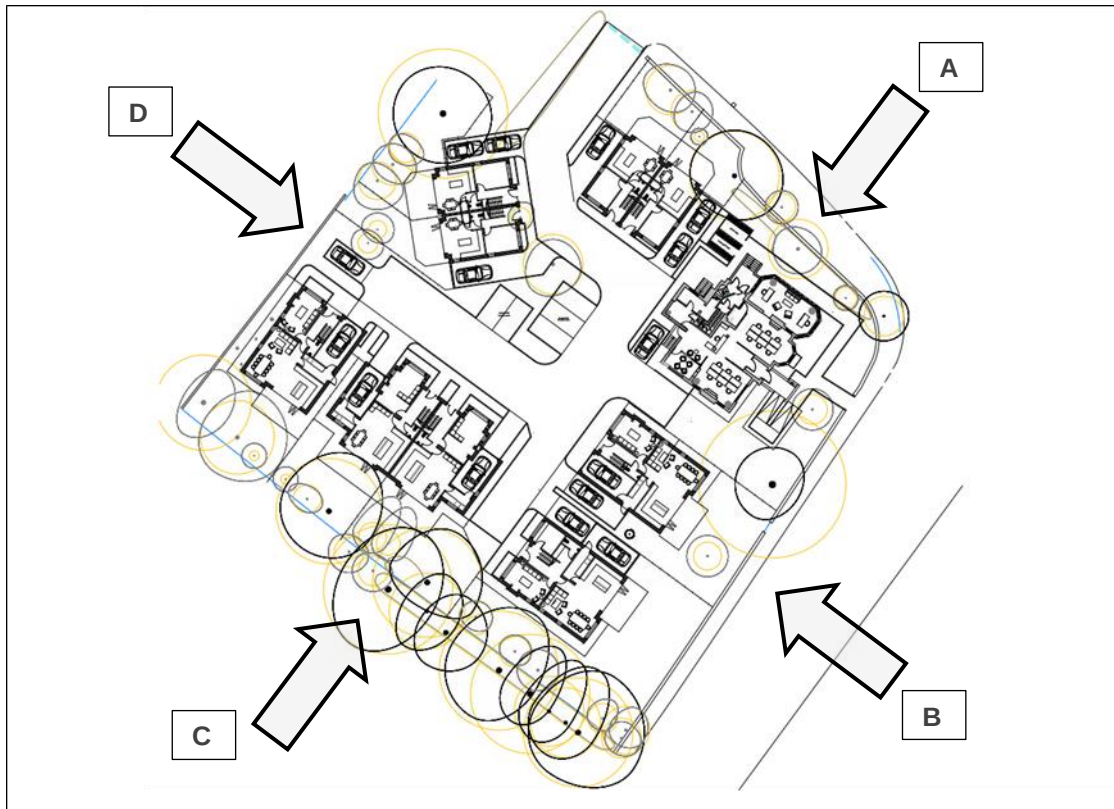
6.4 Calculated Incident Noise Levels

Based on the noise surveys carried out around the development site we have estimated the incident noise levels at development site as per the table below and marked-up plan overleaf.



Elevation	Estimated Incident Noise Level (dB)		
	Daytime	Night-time	
	L _{Aeq,16h}	L _{Aeq,8h}	L _{AFMax} *
A	66	59	81
B	66	59	81
C	56	49	70
D	56	49	70

*10th highest maximum event during the night.



Site plan Indicating Calculated Noise Levels Across the Site

7.0 Internal Ambient Noise Assessment

7.1 Overview

This section assesses external noise intrusion into residential rooms (living rooms and bedrooms) in order to determine preliminary acoustic performance specifications for the critical façade elements, namely windows and ventilators.

The design proposals allow for twin leaf masonry walls external walls and background ventilation by means of either whole-house MVHR or constant mechanical extract ventilation (MEV) and trickle ventilators in window heads (1 x 2,500 mm² min. per habitable room).



These units shall be appropriately sized to achieve Building Regulations Part F background ventilation rates with purge ventilation provided via openable windows.

The external walls are expected to comprise twin leaf masonry walls. The overall sound reduction afforded by the walls is expected to be at least 50 dB $R_w + C_{tr}$, which will far surpass the sound reduction requirements for this site.

Our calculations follow BS 8233 procedures and consider bedroom and living room dimensions and window sizes as per the latest design drawings (at the time of writing), and the intent is to ensure internal noise levels do not exceed limits proposed in Section 5.2.

7.2 Preliminary Guidance for Windows & Ventilators

Preliminary sound insulation calculations have been undertaken in order to specify the minimum sound insulation performance of the façade elements to meet the Local Planning Authority internal noise criteria.

From the results of our assessment, the following minimum preliminary acoustic performance specifications are recommended for the windows and ventilators to habitable rooms to achieve the internal ambient noise criteria. Our assessment has considered the equivalent continuous level (L_{Aeq}) during all periods and $L_{A_{fmax}}$ events during night-time periods.

Type		Façade Element	Preliminary Minimum Sound Reduction Specification	Example Configuration (For Guidance Only)
A	Red	Window	35 dB $R_w + C_{tr}$	- 10 / 16 / 8.8 mm laminated acoustic double glazing
		Ventilator	41 dB $D_{ne,w} + C_{tr}$	- Specialist in-wall acoustic ventilator with MEV or MVHR
B	Orange	Window	33 dB $R_w + C_{tr}$	- 10 / 16 / 8 mm uprated double glazing
		Ventilator	39 dB $D_{ne,w} + C_{tr}$	- 1 x 2,500 mm ² acoustic trickle vent per habitable room with MEV or MVHR
C	Green	Window	27 dB $R_w + C_{tr}$	- 4 / 12 / 6.8 mm uprated double glazing
		Ventilator	33 dB $D_{ne,w} + C_{tr}$	- 1 x 2,500 mm ² standard trickle vent per habitable room with MEV or MVHR

The following sketch illustrates the extent of the above Glazing Type zones for residential dwellings. The ground floor office accommodation will likely require standard thermal double glazing (ie Glazing Type C).



Glazing Type Zones for Residential Dwellings

In summary, our calculations indicate that the internal ambient noise criteria should be achievable in all habitable rooms and office spaces using appropriately specified façade elements.

The information presented above is intended as planning guidance only, with the aim of demonstrating that solutions are available to suitably mitigate noise intrusion. Detailed acoustic façade specifications shall be produced through detailed design.

7.3 Ventilation & Overheating

The above presents solutions to satisfy the proposed internal ambient noise limits within dwellings during normal ventilation conditions where windows are closed but ventilators (to meet Part F minimum ventilation requirements) are operational.

Openable windows are likely to be required for rapid ventilation (i.e. to assist in expelling smoke from burnt toast or paint fumes), which would only be required for a short amount of time during which acoustic conditions would not be a concern.



Where openable windows will be relied upon to assist with summer cooling to prevent overheating, 'reasonable' internal acoustic conditions should be maintained. 'Reasonable' limits would arguably be within 5-10 dB of the normal condition BS 8233 limits; 5 dB being ideal in line with BS 8233 and 10 dB being an absolute maximum above which an onset in serious annoyance might occur as per ANC draft guidelines.

BS 8233:2014 states that: *"If partially open windows were relied upon for background ventilation, the insulation would be reduced to approximately 15 dB..."*

Based on the above, openable windows to assist with summertime cooling might be considered appropriate where external noise levels do not exceed 60 dB $L_{Aeq,16hr}$ daytime or 55 dB $L_{Aeq,8hr}$ night-time. These levels are, however, likely to be exceeded in **Orange** and **Red** zones.

It would therefore be prudent to ensure habitable rooms in the **Orange** and **Red** zones are designed so as to remove (or severely restrict) the reliance on openable windows to satisfy overheating targets. This can be achieved by use of solar rated glazing, black out blinds, or through fenestration design. It can be assisted with mechanical ventilation too, such as MVHR with a manual summer boost function. Air conditioning can also be considered for quality developments. However, the introduction of mechanical solutions should be considered carefully; not only with regard to cost and maintenance, but sustainability and the environment, which are likely to be more prominent drivers for any new development with MCC's jurisdiction.

8.0 Outdoor Living Areas

On this scheme, there are private gardens to the rear of all of the 10No houses within the development, in this regard, MCC has a desired maximum noise level of 55 dB $L_{Aeq,T}$, which BS8233:2014 states *"might not be possible at the outer edge of these areas, but should be achievable in some areas of the space"*.

Our calculations indicate that the private gardens to the rear of the development (ie those gardens that are away from the adjacent roads are likely to achieve the desired level of 55 dB $L_{Aeq,T}$. However, the gardens that look out to the adjacent roads are expected to have noise levels up to 65 dB $L_{Aeq,T}$. See the plan overleaf showing the expected noise levels across the development.



We understand that following liaison with the planners at MCC, a desire to avoid any fencing was expressed by MCC due to the visual impact of any fencing. Therefore, the scheme is being designed with a dense hedgerow around the perimeter gardens.

Ultimately, given the context of the site, the potential benefits of the development and the planners initial desire to avoid fencing should be considered when considering the noise in gardens and that introducing any screening to reduce the noise levels in the most affected gardens will affect the aesthetics of the development.

9.0 Fixed Plant Noise Emissions

On the basis of the aforementioned acoustic standards and guidance we propose that the following plant noise emission criteria be achieved at 1 metre from the nearest noise sensitive residential window with all plant associated with the proposed development operating simultaneously.



Period	Cumulative Plant Noise Emission Limit (BS 4142:2014 Rating Level)
Daytime (07:00-23:00)	46 dBA
Night-time (23:00-07:00)	30 ¹ dBA

¹Nighttime limit set at a floor level of 30 dB to avoid overly onerous limits due to low background noise at the site.

Noise shall be assessed in accordance with BS 4142:2014 with corrections applied for any plant emitting noise of a tonal or irregular quality. Emergency plant items (e.g. smoke extract equipment) should be subject to more relaxed criteria to be agreed with MCC.

The above limits shall be subject to the final approval of MCC.

10.0 Conclusions

In line with current ANC and IOA guidance relating to the practicality and reliability of baseline sound level surveying and the provision of sound & noise impact assessments, Hann Tucker have estimated the existing noise climate within the vicinity of the proposed development site through reviewing nearby Planning Applications to establish if a noise survey has been carried out in the vicinity of the site

The acoustic requirements of local planning requirements and current industry guidelines have been reviewed and used to inform an assessment of environmental noise sources affecting the proposed residential properties.

Our assessment indicates that acceptable internal noise levels should be achievable through the appropriate selection of critical façade elements.

Openable windows may not be relied upon as a means of background ventilation, and an alternative ventilation strategy should be offered such as appropriately specified trickle ventilators on MVHR systems. Openable windows to provide overheating control should be acceptable on some facades with the exception of facades close to the Palatine Road and Lapwing Lane, where alternative overheating strategies should be adopted to reduce reliance on openable windows where possible.

Most private gardens are screened from the nearest noise sources by the proposed building massing and calculations indicate that noise levels on the rooftop areas should be below proposed criterion of 55 dB L_{Aeq}. The private gardens that are close to Palatine Road and Lapwing Lane are unlikely to achieve the proposed criterion of 55 dB L_{Aeq}, however, MCC have expressed a desire to avoid any solid fencing around the perimeter of the development and the scheme has been designed with this in mind.

Noise emission limits have also been set for new items of fixed plant related to the development.

Appendix A

The acoustic terms used in this report are defined as follows:

dB	Decibel - Used as a measurement of sound level. Decibels are not an absolute unit of measurement but an expression of ratio between two quantities expressed in logarithmic form. The relationships between Decibel levels do not work in the same way that non-logarithmic (linear) numbers work (e.g. 30dB + 30dB = 33dB, not 60dB).
dBA	The human ear is more susceptible to mid-frequency noise than the high and low frequencies. The 'A'-weighting scale approximates this response and allows sound levels to be expressed as an overall single figure value in dBA. The _A subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted It should be noted that levels in dBA do not have a linear relationship to each other; for similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is just perceptible.
L _{90,T}	L ₉₀ is the noise level exceeded for 90% of the period <i>T</i> (i.e. the quietest 10% of the measurement) and is often used to describe the background noise level.
L _{eq,T}	L _{eq,T} is the equivalent continuous sound pressure level. It is an average of the total sound energy measured over a specified time period, <i>T</i> .
L _{max}	L _{max} is the maximum sound pressure level recorded over the period stated. L _{max} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the L _{eq} noise level.
L _p	Sound Pressure Level (SPL) is the sound pressure relative to a standard reference pressure of 2×10^{-5} Pa. This level varies for a given source according to a number of factors (including but not limited to: distance from the source; positioning; screening and meteorological effects).
L _w	Sound Power Level (SWL) is the total amount of sound energy inherent in a particular sound source, independent of its environment. It is a logarithmic measure of the sound power in comparison to a specified reference level (usually 10^{-12} W).

Appendix B

Joint Guidance on the Impact of COVID-19 on the Practicality and Reliability of Baseline Sound Level Surveying and the Provision of Sound & Noise Impact Assessments



Joint Guidance on the Impact of COVID-19 on the Practicality and Reliability of Baseline Sound Level Surveying and the Provision of Sound & Noise Impact Assessments

By the Association of Noise Consultants [ANC] and the Institute of Acoustics [IOA]

Introduction

The level of concern across the United Kingdom in relation to the spread of the COVID-19 means that there is now forced or self-imposed home working, along with restricted travel arrangements encouraged or enforced by the Government.

With regard to the provision of Sound and Noise Impact Assessments, many Members of the ANC and IOA, are finding their normal work practices impacted, such that even where opportunities to work from home exist, it will not be 'business as usual'. Nevertheless, there will be a continuing requirement to maintain as far as possible the standard of our working practices, and also to maintain the flow of acoustic reporting which has an important role in the fabric and functioning of society. Acoustic reports are utilized for many purposes including to assist planning applications, the discharge of planning conditions and the implementation of Building Regulations. Continuing to provide high quality acoustic reporting in a timely manner for scrutiny by regulators and decision makers will allow the important aspects of planning to continue to move forward to support our society in the longer term beyond this national emergency.

As the responsible bodies, the ANC and IOA are keen to ensure that it is 'business as usual', as far as is practicably possible and responsible; not only to support continued on-going financial stability for our members, but also for the myriad strands of society that rely on our reports and input to projects. With the limitations on travel for all, we recognize that there will have to be changes to the manner in which acoustic monitoring and reporting is carried out (both how much and where). We have, therefore, recommended below some changes in working practices in the production of such reports. In so doing, it is still important to minimize uncertainties in surveying and to select appropriate baseline conditions, in a clear and transparent way. Furthermore, by good communication between those preparing the reports and those that will be reviewing them, the planning process (and other relevant processes) will be able to continue as smoothly as possible, without what could be a delay of many months.

We consider that by implementing these measures the provision of Sound and Noise Impact Assessments will be able to continue in a timely manner.

Competence

Appropriate sound level surveying should always be designed to obtain data which is representative of normal conditions, whilst taking account of variations in sound levels due to, for example, fluctuations in transportation traffic flows and industrial output. Acoustics professionals are skilled in understanding the effects of such variations and, therefore, check that results are representative and conclusions technically robust, so that clients and decision-makers can come to well-informed judgements.

In these more uncertain times, where sound level climates may be affected by changing work patterns, school closures, etc. it is more important than ever that where surveys are undertaken, and the results assessed, these are done by suitably qualified professional acousticians.

Baseline Sound Level Measurements

The COVID-19 outbreak presents new challenges in obtaining representative baseline sound levels because typical road, air and rail transport usage have been reduced by travel restrictions and social distancing measures. Other sound sources may also be affected – for example, due to changes in operating patterns at industrial and commercial premises. However, other approaches can be taken to establish an appropriate robust estimate of baseline conditions, such as using existing data (for example, from previous local surveys and noise maps) or undertaking baseline sound predictions. These approaches can be supplemented by additional limited on-site sound level measurements, as necessary. Each of the possible options will need to be reviewed on a case-by-case basis, in order to identify the most appropriate approach, assessing the level of uncertainty and including this information in the reporting. Most importantly at this time, before progressing with surveying, there should be discussion of the intended approach with the relevant regulating authority.

Methodology

For some projects there will be similar challenges when determining the sound levels associated with the development. Where possible, site visits to understand the sound environment will assist the professional in understanding the sources contributing to the sound environment, and where these may not be typical due to current circumstances. Any such site visits would need to comply with any restrictions on movement and ensure that social distancing is embedded within the site visit methodology.

For transport schemes, there may be a heavier reliance on predicted sound levels to describe the baseline conditions, with a corresponding need to source flow/activity data. There are now many sources of transport data available and these should be used, where possible, as an alternative to, or to augment direct site measurements to describe baseline conditions.

Where sound from existing facilities is needed to inform future noise levels, or where it is the existing sound that is being assessed, enquiries will be needed to understand whether or not the facility is running as normal. Discussions with other operators may be needed to understand whether nearby facilities are operating normally, and whether any changes might affect sound emissions. Examples may include where the BS4142 methodology is being used to assess the impact from an industrial / commercial facility following complaints, or where existing machinery needs to be measured to use as a reference for predicted future levels.

The acoustics professional will need to consider whether alternative sources of information in respect of sound levels can reasonably be used. Where appropriate, a case should be made regarding why any alternative methods are suitable for a robust assessment, and should clearly set out the estimated uncertainties in the assessment. In a small number of cases (most likely those relating to investigation of complaints), professional judgement will be needed as to whether the assessment can go ahead straightaway, or whether it would be prudent to wait until conditions are more representative of normal activities.



As with the determination of baseline conditions, discussions with the relevant regulators, who may be able to provide vital local knowledge, will be key.

Liaison with Regulators and Decision Makers

Liaison between acoustics professionals and relevant regulators is especially important during this period where environmental sound climates may vary from representative conditions. It is recognised that sites should be assessed on a case by case basis. A pragmatic approach may be needed with regard to the information required for planning applications and/or the discharge of planning conditions. Having said that, it will continue to be important that such assessments remain robust, and follow current good practice.

One outcome may be that supplementary information will be required at a later date or controlled by condition to allow planning authorities to maintain momentum in the planning system during this period.

Summary

In summary, we are experiencing extremely unusual conditions but yet, it is essential that we continue to exercise our professional skills diligently and cope with these changed circumstances. The advice contained in this guidance is not new, and all professionals have probably had to cope previously with unusual circumstances from time to time in their day to day life. It is just that, at the moment, every day presents an unusual situation.

It is important that decision making and associated development continue, including the planning process and the discharge of planning conditions. But it is also important to avoid poor decisions being made because the highest standard of acoustic assessment was not maintained during these challenging times.

The Association of Noise Consultants

The Institute of Acoustics

23rd March 2020

Appendix C

Local Authority Liaison

From: Sharon McAndrew [<mailto:sharon.mcandrew@manchester.gov.uk>]
Sent: 07 January 2021 15:06
To: Michael Hartley <m.hartley@hanntucker.co.uk>
Subject: RE: Greenfinch PH, Didsbury - noise assessment (HT 28495)

Dear Michael

I have had a look at your proposals for the noise assessment for the site, and am happy with the approach you intend to take.

Although I have not looked at the planning applications 125235/FO/2019 and 125449/JO/2019 in any detail, I see that both sites are very close to the proposed application site, and the noise assessments were carried out pre-COVID so they should be a good indicator of the 'normal' noise levels in the area. This should provide you with the information you require to recommend any noise mitigation measures that may be needed to ensure MCC's noise requirements are met.

Further information can be found in our Noise and Planning Guidance, which will provide you with details of what we require from noise assessments, and the noise requirements we have for new developments.

https://secure.manchester.gov.uk/downloads/download/5199/environmental_and_public_protection_information_for_developers

Kind regards

Sharon McAndrew
Neighbourhood Officer
Environmental Protection Section
Neighbourhoods Directorate
Community Safety, Compliance and Enforcement
Manchester City Council
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Gorton
Manchester
M18 8EQ

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Web: www.manchester.gov.uk

We are now on Twitter, for latest news and updates follow us @EnvHealthMcr
For the latest support and information about the coronavirus visit www.manchester.gov.uk/coronavirus

I work Thursdays, Fridays and alternate Wednesdays.

[cid:image002.png@01D2FFE4.0FC8C30](#)

I ♥ MCR

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From: Graeme Souter [<mailto:graeme.souter@manchester.gov.uk>]
Sent: 05 January 2021 10:15
To: Michael Hartley <m.hartley@hanntucker.co.uk>
Cc: Sharon McAndrew <sharon.mcandrew@manchester.gov.uk>
Subject: RE: Greenfinch PH, Didsbury - noise assessment (HT 28495)

Hi Michael

I have asked that your enquiry is logged on our system and the district officer will get back to you when she has had chance to review your proposals

Kind regards

Graeme

From: Michael Hartley <m.hartley@hanntucker.co.uk>
Sent: 04 January 2021 16:56
To: Graeme Souter <graeme.souter@manchester.gov.uk>
Cc: Jake Howarth <j.howarth@hanntucker.co.uk>
Subject: Greenfinch PH, Didsbury - noise assessment (HT 28495)

Hello Graeme

We are working with Paul Butler Associates on a planning application at the site of the former Greenfinch Pub in Didsbury and would like to get the thoughts of Environmental Health our proposed methodology.

During this time we are aware that noise levels are currently atypical due to Covid restrictions, however, joint guidance on the impact of COVID-19 on the practicality and reliability of baseline sound level surveying and the provision of sound & noise impact assessments was published on 23 March 2020 as a joint venture between the Institute of Acoustics (IOA) and the Association of Noise Consultants (ANC).

The document highlights that as the responsible bodies, the ANC and IOA are keen to ensure that it is "business as usual", as far as is practically possible and responsible. The document sets out a number of methods in which a suitable assessment could be carried out during the COVID restrictions. These are:

- Using existing data (for example, from previous local surveys and noise maps)
- Undertaking baseline sound predictions.

The document also goes on to say that *"most importantly at this time, before progressing with surveying, there should be discussion of the intended approach with the relevant regulating authority"*. Therefore, I am getting in contact with you to agree the most pragmatic approach at this time.

Based on the above, we plan to provide a suitable assessment for planning by undertaking a noise survey, as normal, during the current restrictions and comparing our measured results with the results of historical noise surveys carried out in the vicinity of the site to establish the "post/pre COVID" noise levels across the site.

We have found that planning applications, 125235/FO/2019 & 125449/JO/2019 included a noise assessment. Therefore, we aim to noise the results of these surveys to effectively check our results and apply corrections if needed.

We feel that the above methodology is the most robust assessment possible during the COVID-19 outbreak and current restrictions.

Can you confirm if the above methodology is considered acceptable and is there anything further you would require us to address?

Kind Regards

Michael Hartley MEng(Hons), AMIOA
Consultant | 0161 832 7041 | 07943 857779

Hann Tucker Associates

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[Click here to read the HTA COVID-19 Business Continuity Update](#)

Greenfinch, Didsbury

Position 1

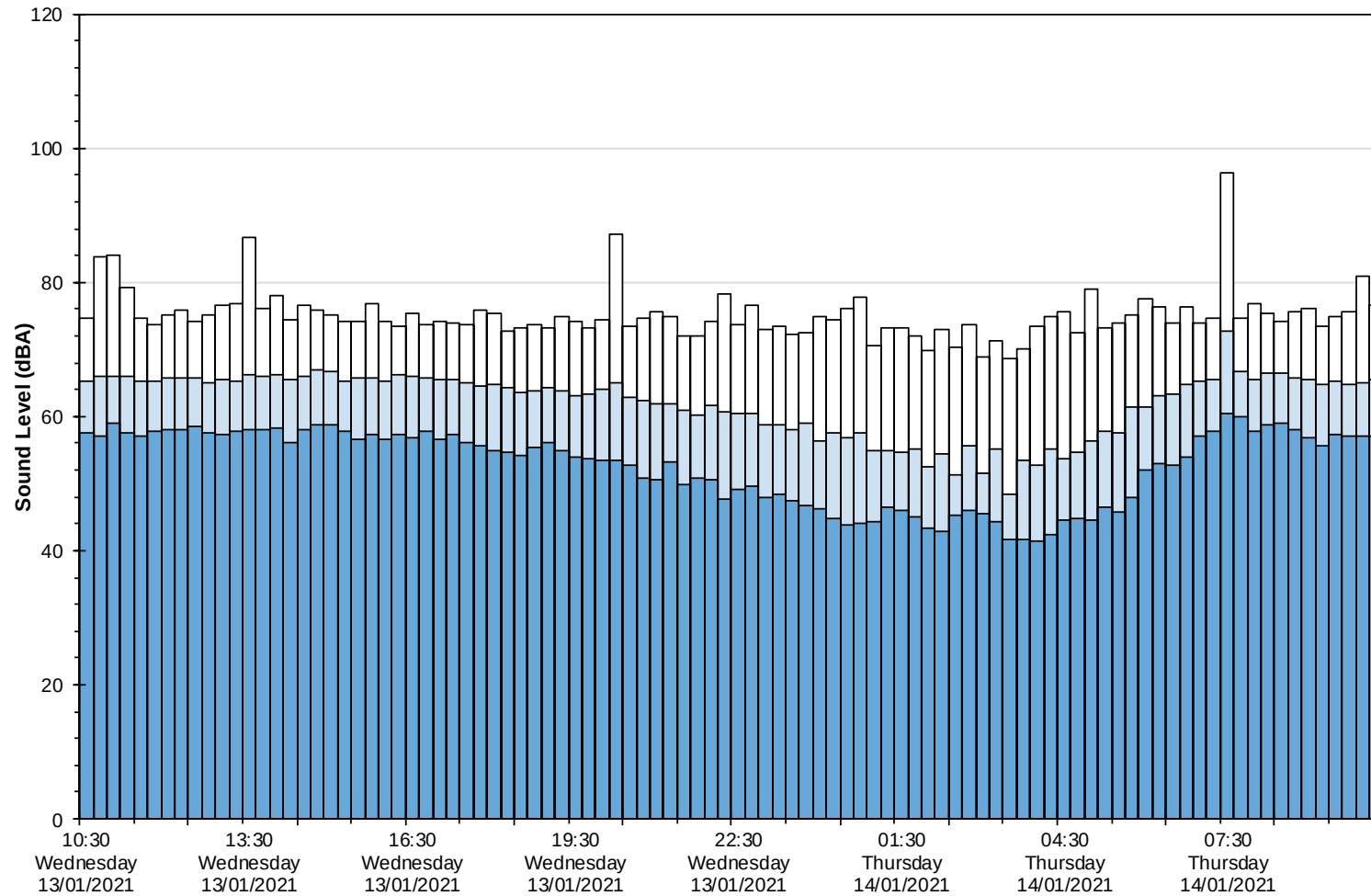
L_{eq} , L_{max} and L_{90} Noise Levels

Wednesday 13 January 2021 to Thursday 14 January 2021

□ L_{max}

□ L_{eq}

■ L_{90}



Date and Time

28495/TH1