

Noise Impact Assessment

Site: Dutton Street, Manchester
Reference: 50-161-R1-3
Date: May 24





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QUALITY ASSURANCE

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EXECUTIVE SUMMARY

Site Address	Dutton Street, Manchester M3 1EY
National Grid Reference	E 383879, N 399389
Proposed Development	A planning application for the installation of six Padel Tennis courts within an existing building shell with associated access and parking.
Background	E3P were commissioned to undertake a Noise Impact Assessment in order to consider the potential noise impact of the proposed development upon existing noise-sensitive receptors.
Surveys Completed	A full weekday and weekend background and ambient sound survey has been conducted in a position considered representative of the currently under-construction residential dwellings to the immediate south of the development.
Assessments Completed	E3P have undertaken 3D noise modelling of the proposed sound sources, based on library source data for a typical padel court and worst-case assumptions. The predicted specific noise level is compared with the criterion stipulated in BS 8233 as well as combining with existing ambient noise levels to determine any adverse change in noise levels.
Mitigation Recommendations	<p>The assessment has found that the predicted specific noise levels at the closest façades would be 43 dB resulting in acceptable internal noise levels with windows open and would result in less than a 2.9 dB increase in ambient noise levels at the receptors.</p> <p>As such, no mitigation measures are required.</p>
Conclusion and Discussion	This assessment has shown that no adverse impact is predicted at existing receptors. Indeed, noise levels are less than 48 dB at the worst affected facades with changes in noise levels of 2 dB or less.



TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
1. INTRODUCTION	4
1.1. Background	4
1.2. Report Objectives	4
1.3. Proposed Development.....	4
2. ASSESSMENT METHODOLOGY	6
2.1. National Planning Policy Framework	6
2.2. National Planning Practice Guidance.....	6
2.3. British Standard BS 8233:2014+A1:2019 – Guidance on sound insulation and noise reduction for buildings	8
3. SURVEY RESULTS.....	10
3.1. Unattended Ambient Sound Survey.....	10
3.2. attended Padel Court Sound Survey.....	12
4. NOISE IMPACT ASSESSMENT	13
4.1. Absolute Noise Level Assessment.....	13
4.2. Change in Noise Level Assessment	14
4.3. Proposed Fixed Plant	14
5. CONCLUSIONS AND DISCUSSION.....	15
APPENDIX I LIMITATIONS.....	16
APPENDIX II GLOSSARY	18
APPENDIX III MEASURED SOUND PRESSURE LEVELS.....	1
APPENDIX IV FIGURES	4

Figure List

Figure 1—Snapshot of Proposed Development

Figure 2—Noise Measurement Positions Plan

Figure 3—Daytime Grid Noise Map



1. INTRODUCTION

1.1. BACKGROUND

E3P were commissioned by Pure Padel Clubs Limited to undertake a Noise Impact Assessment to accompany a Planning application for the installation of six Padel Tennis courts within an existing building at Dutton Street in Manchester, to be referred to hereafter as 'the Site'.

This assessment looks to determine the key noise sources associated with the development and to assess their impact, if any, upon existing noise-sensitive receptors and to specify mitigation measures, where required.

1.2. REPORT OBJECTIVES

The objectives of this report are as follows.

- ✦ Establish and measure the existing sound levels across the site and at existing receptors.
- ✦ Consider the potential sources of sound associated with the development making reasonable assumptions.
- ✦ Compare predicted sound levels with absolute criteria as well as considering changes in noise levels as a result of operation of the development.
- ✦ Provide advice on mitigation measures, where required.

1.3. PROPOSED DEVELOPMENT

Pure Padel Clubs Limited intend to install six Padel Tennis courts within an existing building at Dutton Street, Manchester.

A snapshot of the proposed development layout is indicated in Figure 1.

[illegible]



2. ASSESSMENT METHODOLOGY

2.1. NATIONAL PLANNING POLICY FRAMEWORK

To prevent unacceptable risks from pollution, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be considered.

The national planning policy framework states that planning policies and decisions should aim to:

- ✿ Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development.
- ✿ Mitigate and reduce to a minimum, other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions.
- ✿ Recognise 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 because of changes in nearby land uses since they were established.
- ✿ Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

2.2. NATIONAL PLANNING PRACTICE GUIDANCE

Noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment. When preparing local or neighbourhood plans, or taking decisions about new development, there may also be opportunities to consider improvements to the acoustic environment.

Local planning authorities' plan-making and decision-making should take account of the acoustic environment and in doing so consider:

- ✿ Whether or not a significant adverse effect is occurring or is likely to occur.
- ✿ Whether or not an adverse effect is occurring or is likely to occur.
- ✿ Whether or not a good standard of amenity can be achieved.

In line with the explanatory note of the NPSE, this would include identifying whether the overall effect of the noise exposure (including the impact during the construction phase, where applicable) is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.

The "observed effect levels" are as follows:



- 🔊 Significant observed adverse effect level: This is the level of noise exposure above which significant adverse effects on health and quality of life occur.
- 🔊 Lowest observed adverse effect level: This is the level of noise exposure above which adverse effects on health and quality of life can be detected.
- 🔊 No observed effect level: This is the level of noise exposure below which no effect at all on health or quality of life can be detected.

Table 1 summarises the noise exposure hierarchy, based on the likely average response.

Table 1 Noise Exposure Hierarchy

PERCEPTION	EXAMPLES OF OUTCOMES	INCREASING EFFECT LEVEL	ACTION
Not Applicable	No effect	No observed effect	No specific measures required.
Noticeable and Not Intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No observed adverse effect	No specific measures required
Lowest Observed Adverse Effect Level			
Noticeable and Intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television, speaking more loudly, or having to close windows for some of the time because of the noise where there is no alternative ventilation. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed adverse effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Noticeable and Disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion, having to keep windows closed most of the time because of the noise where there is no alternative ventilation. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant observed effect	Avoid
Noticeable and Very Disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening, loss of appetite, significant/medically definable harm (auditory and non-auditory).	Unacceptable adverse effect	Prevent

The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any situation. These factors include the following:



- ✿ The source and absolute level of the noise together with the time of day it occurs. Some types and level of noise will cause a greater adverse effect at night than if they occurred during the day. The adverse effect can also be greater simply because there is less background noise at night.
- ✿ For non-continuous sources of noise, the number of noise events, and the frequency and pattern of occurrence of the noise can be important.
- ✿ The spectral content of the noise and the general character of the noise. The local topology and topography should also be considered along with the existing and, where appropriate, the planned character of the area.

More specific factors to consider when relevant:

- ✿ Where applicable, the cumulative impacts of more than one source should be considered along with the extent to which the source of noise is intermittent and of limited duration.
- ✿ Consideration should also be given to whether adverse internal effects can be completely removed by closing windows and, in the case of new residential development, if the proposed mitigation relies on windows being kept closed most of the time. In both cases, a suitable alternative means of ventilation is likely to be necessary.
- ✿ If external amenity spaces are an intrinsic part of the overall design, then the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.

2.3. BRITISH STANDARD BS 8233:2014+A1:2019 – GUIDANCE ON SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS

The scope of this standard is the provision of recommendations for the control of noise in and around buildings including residential dwellings. It suggests appropriate criteria and limits for different situations, which are primarily intended to guide the design of new buildings or refurbished buildings undergoing a change of use, rather than to assess the effect of changes in the external noise climate.

The standard suggests suitable internal noise levels within different types of buildings, including residential dwellings, as shown in Table 2.



Table 2 BS 8233:2014 Recommended Internal Noise Levels

CRITERION	TYPICAL SITUATION	DESIGN CRITERION, $L_{Aeq,T}$ (dB)
Suitable resting and sleeping conditions	Living Room	35
	Bedroom	30

BS 8233 goes on to recommend noise levels for gardens:

It is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors might be warranted.

BS 8233 goes on to say:

In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces but should not be prohibited.



3. SURVEY RESULTS

3.1. UNATTENDED AMBIENT SOUND SURVEY

As the proposed development could operate Monday to Sunday, E3P has conducted a full weekday and weekend Ambient Sound Survey in order to quantify the existing levels of background sound at a position considered representative of the closest non-associated residential receptors to the development.

The survey was carried out over the following time period:

- 📍 14:00 Friday 15th March to 09:00 Tuesday 19th March 2024.

The following noise measurement position was chosen for the Ambient Sound Survey:

- 📍 Noise Measurement Position 1 (NMP1): Located at the western boundary of the site representative of the currently under construction residential dwelling to the immediate south. This area was partially screened from construction work. The microphone of the sound level meter was set at a height of 2 m above ground level and under façade conditions. Road traffic sound dominated here with construction activity audible when in operation during daytime weekday working.

Table 3 details the range and average measured ambient sound levels. The daytime levels correspond to the $L_{A90,1hr}$ between 07:00 and 22:00 when the courts are likely to be in use. The levels to be used in the assessment are highlighted in bold and correspond to the most robust and worst-case assessment possible. The full hourly data is tabulated in Appendix III.

Table 3 Average and Range of Measured Ambient Sound Pressure Levels (façade corrected)

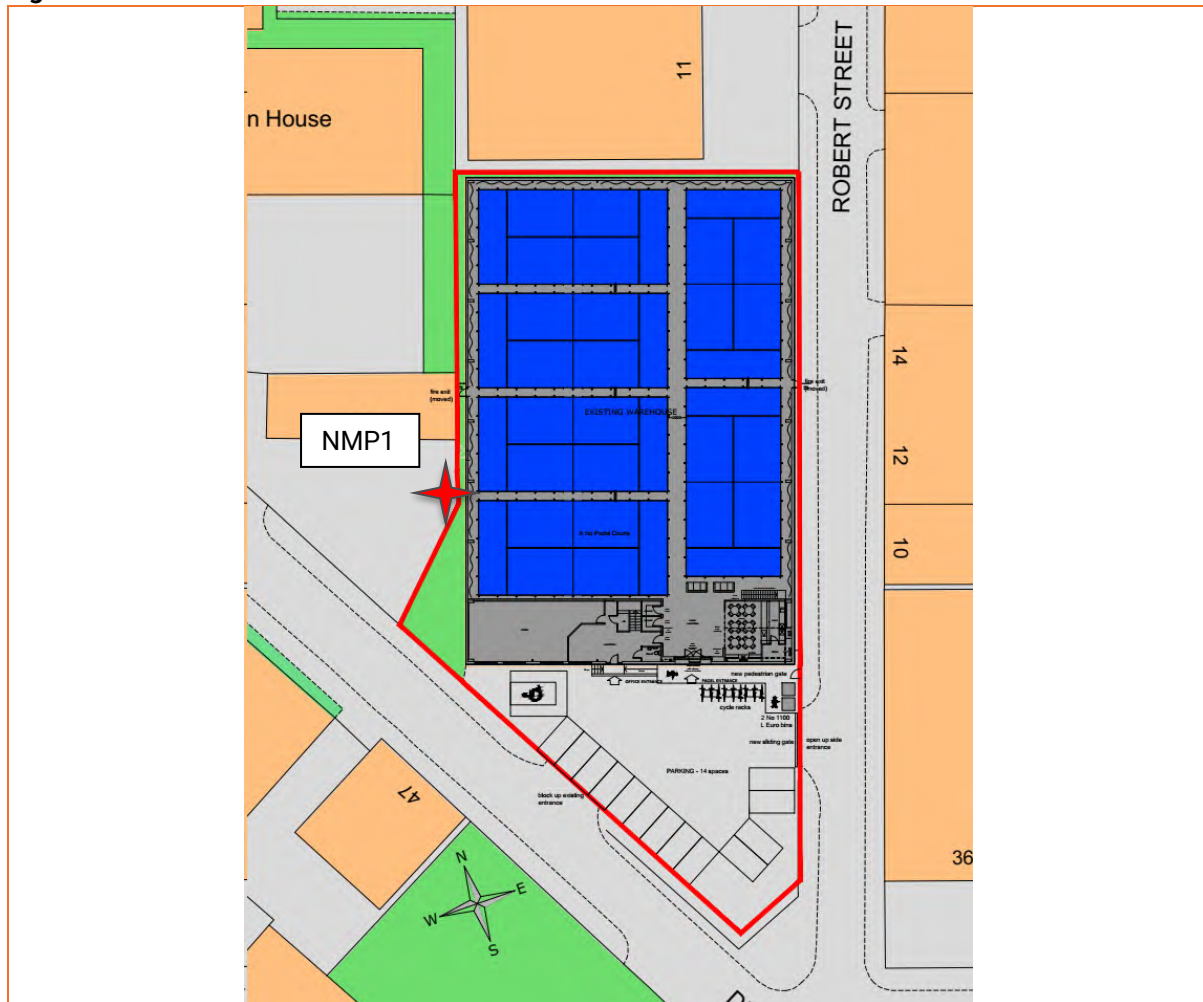
DATE	ASSESSMENT PERIOD	RANGE OF MEASURED AMBIENT SOUND LEVELS, $L_{Aeq,1hr}$ (dB)	AVERAGE MEASURED AMBIENT SOUND LEVELS, $L_{Aeq,1hr}$ (dB)
Friday 15th March 2024	Day	46.2-61.2	53
Saturday 16th March 2024	Day	48.0-55.4	51
Sunday 17th March 2024	Day	44.5-52.6	48
Monday 18th March 2024	Day	47.7-66.6	61

Weather forecasts were monitored throughout the surveys to ensure no adverse conditions as the location of the Site was not suitable for the installation of an unattended weather station. During the survey, conditions remained dry and wind speeds rarely exceeded 10 mph.

Figure 2 below shows the measurement location.



Figure 2 Noise Measurement Positions



The equipment outlined in Table 4 was used for the noise survey.

Table 4 Noise Measurement Equipment and Calibration Dates

MEASUREMENT POSITION	EQUIPMENT DESCRIPTION	MANUFACTURER & TYPE NUMBER	SERIAL NUMBER	CALIBRATION DUE DATE
NMP1	Sound Level Meter	01dB Fusion	12039	28th July 2025
	Pre-amplifier	01dB Pre22	1805124	
	Microphone	GRAS 40CE	330832	
	Calibrator	01dB Cal31	87281	19th January 2025

The sound level meter was calibrated before and after measurements with no significant drift witnessed.



3.2. ATTENDED PADEL COURT SOUND SURVEY

E3P have conducted attended measurements of a Padel Court game at a similar facility to that proposed.

The survey was carried out over the following period:

- 📍 11:00 to 11:40 Friday 4th November 2023.

Due to the nature of Padel courts being of glass construction at the ends of the court, measurements were conducted at the side and end of the court to account for any screening or amplification of sound by the surrounding Padel Court structure.

The following levels were captured:

- 📍 Side of Court – 61 dB $L_{Aeq,T}$ at 4 m from edge.
- 📍 End of Court – 49 dB $L_{Aeq,T}$ at 5 m from edge.



4. NOISE IMPACT ASSESSMENT

For this assessment, E3P has used noise modelling software, CadnaA 2023 MR1, to determine the impact of noise from the proposed site, specifically, the use of the Padel courts.

The following inputs have been included in the model:

- ✿ Due to the padel courts being located internally predicted ambient sound levels at the surrounding residential receptors have been generated by inputting area sources for each façade and the roof based on calculated breakout noise levels from each element. The construction of the existing building is unknown however E3P have made a worst-case assumption that the fabric of the building is providing 31 dB R_w of attenuation which is typical for this building type. The calculations have been based on the sound levels captured of a padel court game detailed in Section 3.2.
- ✿ E3P understand that the doors on the southern façade will be used for ventilation purposes on warm days where ventilation is required. A vertical area source has been input to account for the open doors. It was found that the noise levels 1 m from the open door would be 44 dB when all 6 courts are in use. No other doors or windows would be used for ventilation purposes.
- ✿ Car parking for 14 spaces has been input as an area source using the LUF function within CadnaA. The car park has been assumed to be 100% full to account for the worst-case assessment.
- ✿ Ground elevations have been taken as existing by way of a 2 m grid Digital Terrain Model (DTM) which contains public sector information licensed under the Open Government License v3.0.
- ✿ Existing buildings have been included in the model and assumed to have a structured façade.
- ✿ Proposed residential building to the immediate south have been included within the model as they are currently under construction.
- ✿ No soft ground absorption has been applied.
- ✿ A reflection order of 1 has been used in all calculations.
- ✿ Noise levels generated using ISO 9613-1 and ISO 9613-2 "*Acoustics – Attenuation of sound during propagation outdoors*" as incorporated into CadnaA software.

4.1. ABSOLUTE NOISE LEVEL ASSESSMENT

The model has been used to predict the specific noise level of the above source at each of the receptors. See Figure 3. E3P note no external amenity areas associated with any existing or proposed residential receptors. As such, the assessment of absolute noise levels is based on predicted noise levels at the closest noise-sensitive receptors façade with windows assumed to be open.

A partially open window provides 13 dB of sound reduction. The internal noise level criterion during the daytime period is 35 dB. As such the maximum allowable noise level incident upon the existing and proposed residential receptors would be 48 dB.

The highest predicted specific noise level incident upon the worst affected façade is noted to be 45 dB. This is 3 dB below the criterion. As such, the outcome of the absolute noise level assessment is favourable and a positive indication of the proposed development having a low impact.



4.2. CHANGE IN NOISE LEVEL ASSESSMENT

For the change in ambient assessment, E3P have considered the lowest average ambient noise levels at the receptors, as captured at NMP1. These levels are then combined with the above-predicted level to determine the likely change in noise level.

From Table 3, E3P notes that the lowest average noise level is 48 dB (or 47.7 dB to be more precise). The predicted noise level from all padel courts being in use within the building at the worst affected receptor is 45.5 dB. When logarithmically combined, this results in an expected ambient sound level of 49.7 dB. This equates to a 2 dB increase above existing noise levels. This level of change is not considered significant with changes of more than 2.9 dB perceptible to the human ear.

Given the above, and that levels are below 50 dB, mitigation measures are not considered to be required.

4.3. PROPOSED FIXED PLANT

At the time of submission, E3P are aware that no fixed plant items are to be used as part of the development with natural ventilation being preferred. However, where fixed plant items are required, the following should be observed:

- ✳ Any fixed plant items should be located within the site and not located at facades which face noise-sensitive receptors.
- ✳ The resultant rating level from the cumulative impact of all proposed fixed plant items must not exceed the existing background sound levels (found to be 48 dB), accounting for the above-proposed noise levels, at the closest receptors.

It is assumed that any fixed plant items proposed would have a low noise level and most likely will consist of A/C units. Considering the typical noise levels of these units and the surrounding existing usage, the impact of these would be negligible.

Where this is not the case, it is recommended that an acoustician is involved to ensure the plant to be installed will not adversely affect the receptors.



5. CONCLUSIONS AND DISCUSSION

E3P were commissioned to undertake a Noise Impact Assessment in order to consider the potential noise impact of the proposed padel courts upon existing noise-sensitive receptors.

A full weekday and weekend background and ambient sound survey has been conducted in a position considered representative of the residential dwellings to the immediate south of the development.

E3P have undertaken 3D noise modelling of the proposed sound sources, based on library source data for a typical padel court and worst-case assumptions. The predicted specific noise level is compared with the criterion stipulated in BS 8233 as well as combining with existing ambient noise levels to determine any adverse change in noise levels.

The assessment has found that the predicted specific noise levels at the façade would be less than 48 dB resulting in acceptable internal noise levels and changes in noise levels at the closest receptors would be significantly less than 2.9 dB. As such, no adverse impact is predicted.

END OF REPORT

APPENDIX I

LIMITATIONS



GENERAL

1. This report and any associated works (together comprising the "Services") were compiled and carried out by E3P for the client (as present in Section 1) under the E3P "Terms of Business" or with those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.
2. Unless explicitly agreed otherwise, in writing, this report has been prepared under E3P Standard Terms and Business as included within our proposal to the Client.
3. Project-specific appointment documents may be agreed upon at our discretion and a charge may be levied for both the time to review and finalise appointment documents and also for associated changes to the appointment terms. E3P reserves the right to amend the fee should any changes to the appointment terms create an increased risk to E3P.
4. The report needs to be considered in light of the proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

NOISE AND VIBRATION IMPACT ASSESSMENTS

5. Where a noise or vibration survey is required to inform an assessment, E3P will endeavour to ensure that all noise and vibration measurements taken are robust, representative and reliable in order to inform an accurate assessment.
6. Where mitigation measures are specified in this report, it should be noted that these measures are relative to a specific sound or vibration source, both in terms of the measured sound pressure and vibration level and the character of the sound source. Where either the sound pressure level or the character of the sound varies following completion of the sound survey, E3P cannot be held responsible for any subsequent variations in the proposed mitigation performance.
7. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walkover inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects' responses may not have been received from all parties. E3P cannot be held responsible for any disclosures that are provided post-production of our report and will not automatically update our report.
8. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, E3P reserves the right to review such information and, if warranted, to modify the opinions accordingly.
9. E3P does not warrant work/data undertaken/provided by others.

APPENDIX II

GLOSSARY



NOISE

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source. The most widely used weighting mechanism that best corresponds to the response of the human ear is the "A"-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or LAeq, LA90 etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective but, as a general guide, a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions. An indication of the range of sound levels commonly found in the environment is given in the following table.

Table 5 **Typical Sound Pressure Levels**

SOUND PRESSURE LEVEL	LOCATION/EXAMPLE
0	Threshold of hearing
20-30	Quiet bedroom at night
30-40	Living room during the day
40-50	Typical office
50-60	Inside a car
60-70	Typical high street
70-90	Inside a factory
100-110	Burglar alarm at 1 m away
110-130	Jet aircraft on take off
140	Threshold of pain



ACOUSTIC TERMINOLOGY

Table 6 Terminology

DESCRIPTOR	EXPLANATION
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2E-05 Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. "A" weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
LAeq, T	LAeq is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.
LAmx	LAmx is the maximum A-weighted sound pressure level recorded over the period stated. LAmx is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall Leq noise level but will still affect the noise environment. Unless described otherwise, it is measured using the "fast" sound level meter response.
L10 and L90	If a non-steady noise is to be described, it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L10 is the level exceeded for 10% of the time and as such can be regarded as the "average maximum level". Similarly, L90 is the "average minimum level" and is often used to describe the background noise. It is common practice to use the L10 index to describe traffic noise.
Free-field Level	A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally, as measured outside and away from buildings.
Fast	A time weighting used in the root-mean-square section of a sound level meter with a 125-millisecond time constant.
Slow	A time weighting used in the root-mean-square section of a sound level meter with a 1000-millisecond time constant.
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2E-05 Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. "A" weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.

APPENDIX III

MEASURED SOUND PRESSURE LEVELS



Table 1A **Hourly Measured Data from NMP1 (façade corrected)**

MEASUREMENT START TIME	MEASURED AMBIENT SOUND LEVEL, $L_{Aeq,1hr}$ (dB)	MEASURED BACKGROUND SOUND LEVEL, $L_{A90,1hr}$ (dB)
15/03/2024 14:00	61.0	54.9
15/03/2024 15:00	57.6	52.4
15/03/2024 16:00	61.2	50.6
15/03/2024 17:00	54.0	48.4
15/03/2024 18:00	53.3	46.2
15/03/2024 19:00	48.6	44.5
15/03/2024 20:00	47.1	43.1
15/03/2024 21:00	46.2	39.8
15/03/2024 22:00	50.3	42.9
15/03/2024 23:00	47.8	41.2
16/03/2024 00:00	48.5	41.5
16/03/2024 01:00	46.1	41.4
16/03/2024 02:00	43.7	40.7
16/03/2024 03:00	42.5	39.4
16/03/2024 04:00	42.6	39.5
16/03/2024 05:00	43.0	40.4
16/03/2024 06:00	46.7	41.3
16/03/2024 07:00	48.9	42.7
16/03/2024 08:00	52.0	45.3
16/03/2024 09:00	51.1	46.2
16/03/2024 10:00	51.0	45.5
16/03/2024 11:00	55.4	46.7
16/03/2024 12:00	52.5	45.6
16/03/2024 13:00	50.7	44.9
16/03/2024 14:00	49.3	44.0
16/03/2024 15:00	48.3	43.8
16/03/2024 16:00	48.0	44.0
16/03/2024 17:00	48.1	43.5
16/03/2024 18:00	48.8	43.4
16/03/2024 19:00	55.3	48.8
16/03/2024 20:00	54.5	48.1
16/03/2024 21:00	48.5	43.9
16/03/2024 22:00	51.8	44.3
16/03/2024 23:00	48.7	44.2
17/03/2024 00:00	48.0	44.0
17/03/2024 01:00	48.1	41.9
17/03/2024 02:00	47.0	41.7
17/03/2024 03:00	52.3	42.7
17/03/2024 04:00	52.7	44.4
17/03/2024 05:00	52.7	48.2
17/03/2024 06:00	47.9	41.5
17/03/2024 07:00	44.5	40.7
17/03/2024 08:00	46.5	42.0
17/03/2024 09:00	47.5	43.6
17/03/2024 10:00	48.2	44.8
17/03/2024 11:00	49.1	43.9
17/03/2024 12:00	47.9	43.4
17/03/2024 13:00	47.4	44.0
17/03/2024 14:00	49.0	44.3

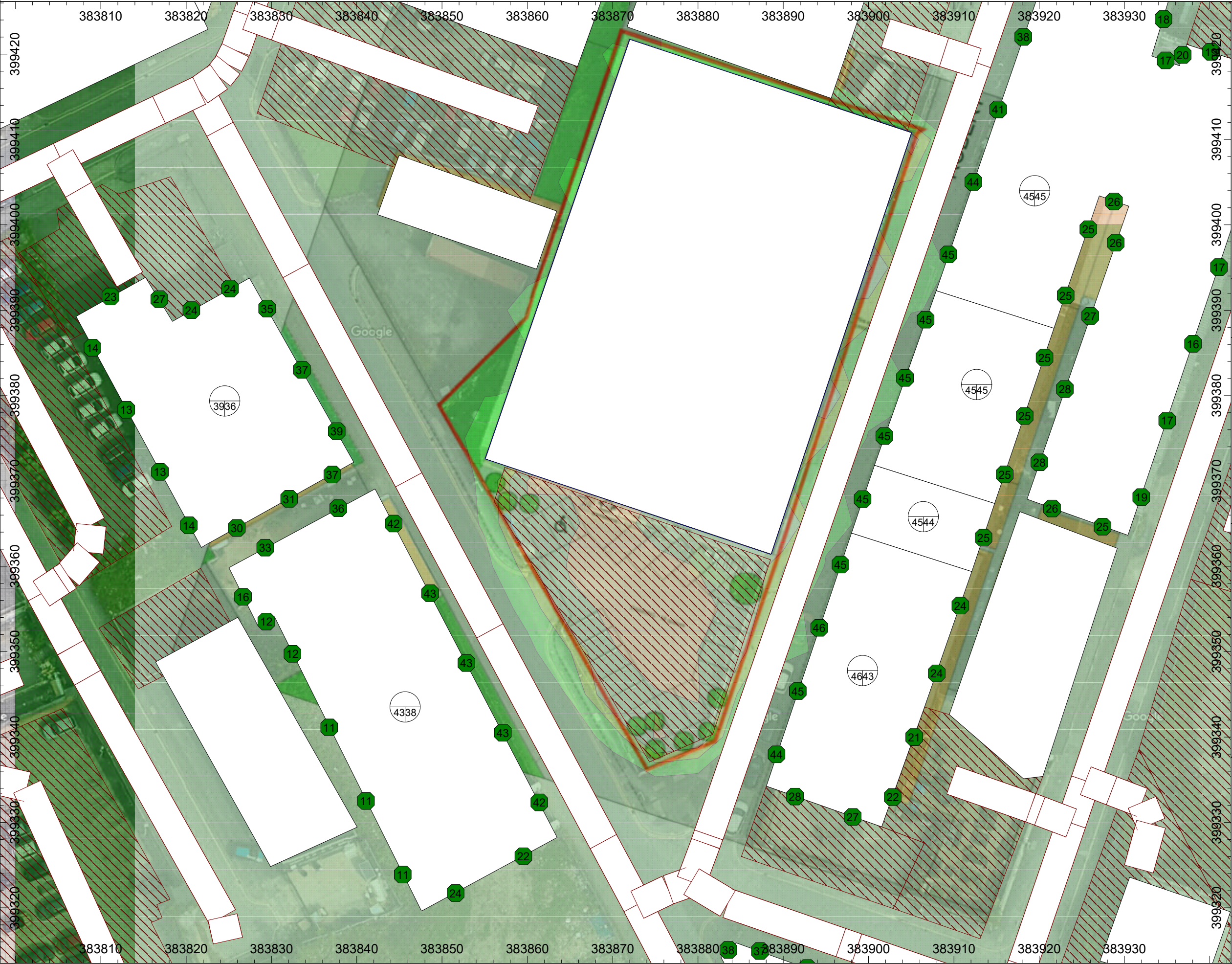


17/03/2024 15:00	49.2	43.8
17/03/2024 16:00	48.4	43.9
17/03/2024 17:00	52.6	47.2
17/03/2024 18:00	48.8	45.0
17/03/2024 19:00	46.9	44.1
17/03/2024 20:00	46.7	43.7
17/03/2024 21:00	46.2	43.3
17/03/2024 22:00	47.4	43.3
17/03/2024 23:00	47.6	42.4
18/03/2024 00:00	44.8	40.5
18/03/2024 01:00	43.4	39.4
18/03/2024 02:00	42.8	38.6
18/03/2024 03:00	42.7	38.5
18/03/2024 04:00	44.8	39.1
18/03/2024 05:00	46.7	42.3
18/03/2024 06:00	48.2	45.0
18/03/2024 07:00	60.2	50.2
18/03/2024 08:00	62.6	53.5
18/03/2024 09:00	61.5	53.9
18/03/2024 10:00	59.0	53.2
18/03/2024 11:00	62.4	55.7
18/03/2024 12:00	59.8	55.4
18/03/2024 13:00	60.9	53.9
18/03/2024 14:00	61.5	54.0
18/03/2024 15:00	63.0	53.6
18/03/2024 16:00	65.3	55.0
18/03/2024 17:00	66.6	56.5
18/03/2024 18:00	53.5	45.6
18/03/2024 19:00	49.5	45.4
18/03/2024 20:00	49.2	44.5
18/03/2024 21:00	47.7	43.3
18/03/2024 22:00	52.9	44.0
18/03/2024 23:00	51.1	42.9
19/03/2024 00:00	45.3	40.3
19/03/2024 01:00	42.6	38.4
19/03/2024 02:00	43.2	38.7
19/03/2024 03:00	42.5	38.8
19/03/2024 04:00	43.4	39.3
19/03/2024 05:00	49.8	43.3
19/03/2024 06:00	50.3	46.5
19/03/2024 07:00	61.6	51.6
19/03/2024 08:00	64.7	56.2
19/03/2024 09:00	66.8	56.1

APPENDIX IV

FIGURES

Figure 3 - Daytime Grid Noise Map - Calculation at 1.5 m above ground level



Project:
Dutton Street,
Manchester

Project-No:
51-161

Client:
Pure Padel Clubs Ltd

**Daytime Noise Level,
LAeq,T (dB)**

...	<= 48
48 < ...	<= 50
50 < ...	<= 52
52 < ...	<= 56
56 < ...	<= 58
58 < ...	<= 60
60 < ...	<= 62
62 < ...	<= 65
65 < ...	

Noise Map Objects

- Area Source
- vert. Area Source
- Road
- Crossing
- Parking Lot
- Building
- Barrier
- Bridge
- Building Evaluation
- Calculation Area

Project Engineer: Scott Boughton
Date: 21/03/2024