

Proposed Padel Courts, Bridgefield Street, Radcliffe

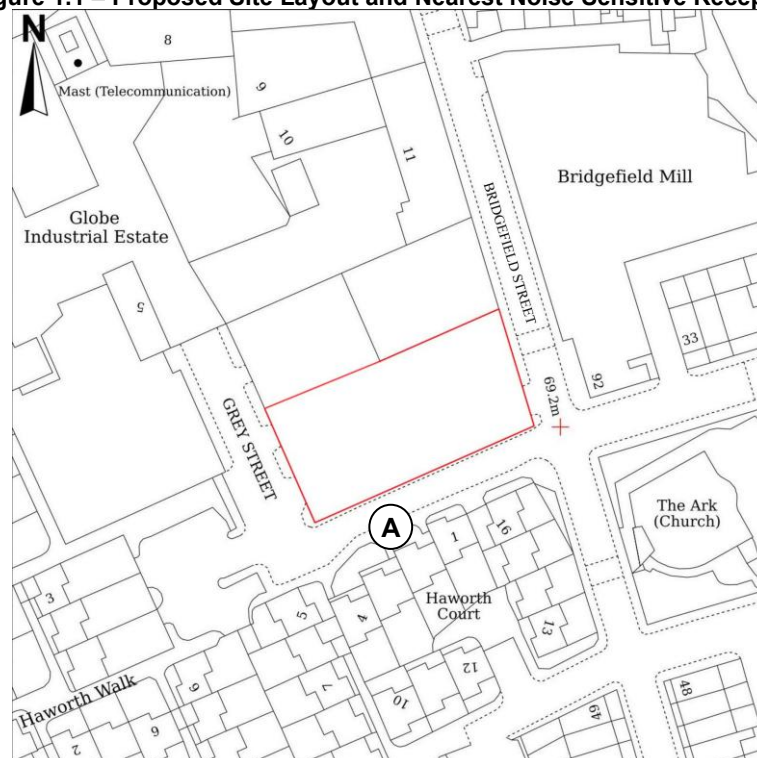
Noise Impact Assessment

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1.0 INTRODUCTION AND DESIGN AIM

- 1.1 Acoustic and Engineering Consultants Limited (AEC) has been appointed by Nabeil Nasr, of Apex Padel Club to prepare a noise impact assessment in relation to the potential impact of noise generated within an existing warehouse on Bridgefield Street, Radcliffe, due to the playing of padel on the nearest noise sensitive receptors.
- 1.2 The existing warehouse building is bound by Bridgefield Street, Haworth Street and Grey Street, presented in Figure 1.1, below, along with the location of the nearest noise sensitive receptor at Haworth Court.

Figure 1.1 – Proposed Site Layout and Nearest Noise Sensitive Receptors



- 1.3 The scheme includes the development of two double and two single padel courts.
- 1.4 This assessment is based on the facility being open between 0600 and 2200h Monday to Sunday, including Bank Holidays.
- 1.5 Acoustic terminology used in this report is described in Appendix A.

2.0 ASSESSMENT OF NOISE FROM PADEL

- 2.1 There is no specific guidance or criteria relating to the assessment of noise from padel courts, however, guidance may be taken from other available documents which provide acceptable internal and external noise levels.

BS8233: 2014

- 2.2 Table 4.1 of the World Health Organisation (WHO) 'Guidelines for Community Noise', 1999 (WHO Guidelines) provides internal and external noise levels for specific environments that indicate the threshold of moderate and serious annoyance for the daytime and night-time periods. The WHO community noise guideline values are reproduced in Table 2.1, below.

Table 2.1 – WHO Community Noise Guideline Values

Specific Environment	Critical Health Effect(s)	L _{Aeq} (dB)	Time Base (Hours)	L _{Amax,F} (dB)
Outdoor living area	Serious annoyance, daytime and evening	55	16	-
	Moderate annoyance, daytime and evening	50	16	-
Dwelling, indoors	Speech intelligibility and moderate annoyance, daytime and evening	35	16	-
Inside bedrooms	Sleep disturbance, night-time	30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60

- 2.3 The WHO Guidelines were translated into UK practice through BS8233:1999 which has since been superseded by British Standard 8233:2014 'Guidance on sound insulation and noise reduction for buildings' (BS8233) and the Association of Noise Consultants (ANC) document Professional Practice Guidance on Planning and Noise 'New Residential Development' (2017) (ProPG) which provide guideline values for external ambient and internal ambient and maximum noise levels for dwellings.

Sport England (AGPA) Design Guidance Note

- 2.4 The Sport England document 'Artificial Grass Pitch Acoustics – Planning Implications' (AGPA) provides an upper ambient noise level limit of 50dB_{L_{Aeq,1h}} external to residential properties to achieve suitable internal noise levels, again based on the WHO Guidelines.

Design Aim

- 2.5 As the padel courts could operate during the daytime (0700 to 2200h) and night-time (0600 to 0700h) periods, it proposed that ambient noise levels are controlled to below 50dB_{L_{Aeq,1h}} during the daytime and 45dB_{L_{Aeq,1h}} during the night-time.

3.0 NOISE ASSESSMENT

Assessment of Existing Building Envelope

- 3.1 The warehouse is constructed from two leaves of brick, with two large roller shutter doors on the elevation facing Grey Street and eleven large windows on the Haworth Street elevation. There is a roller shutter door and five windows on the Bridgefield Street elevation.
- 3.2 It was observed that a number of the window panes were missing on both the Haworth Street and Bridgefield Street elevations.
- 3.3 AEC attended site on Wednesday 18th March 2026 to determine the noise breaking out of the warehouse. A noise level of around 85dB_{L_{Aeq,T}} was generated within the warehouse, measurements were then undertaken at a location representative of the nearest noise sensitive receptor with and without the generated noise.
- 3.4 The measurement location is identified as A on Figure 1.1 in Section 1.0. A full measurement procedure for the survey is presented in Table B.1 in Appendix B.
- 3.5 All measurements were undertaken under free-field conditions and in general accordance with BS7445-1: 2003 '*Description and measurement of environmental noise. Guide to quantities and procedures*'.
- 3.6 The ambient and background noise levels measured with and without the generated noise is presented in Table 3.1, below. During the measurements all doors serving the warehouse were closed, which would be consistent with the usual operation of the padel facility.

Table 3.1 – Measured Noise Levels With and Without Generated Noise Source

Time, h	Generated Noise	Noise Level, dB	
		Ambient, L _{Aeq,T}	Background, L _{A90,T}
1215-1217	On	54.7	54.3
1225-1240	Off	53.8	40.2
1240-1255	Off	51.9	40.2
1255-1310	Off	55.5	39.5

- 3.7 It should be noted that during the measurement undertaken with the generated noise there were no car pass-bys and the ambient and background noise levels were due to the generated noise only.
- 3.8 During the other measurements, the ambient noise level was due to vehicle movements on Haworth Street.
- 3.9 Based on the measured ambient and background noise levels with the generated noise operating, the external envelope of the warehouse is providing a sound insulation performance of around 30dB_{D_w}.

Source Noise Levels

- 3.10 AEC has measured ambient noise levels at a number of padel courts of $60\text{dBL}_{\text{Aeq,T}}$ at 5m from the centre of the court and $54\text{dBL}_{\text{Aeq,T}}$ at 5m from the middle the rear rebound wall. The measured noise levels were due to players shouting, rackets striking the ball and the padel ball hitting the rebound walls. These measurements were undertaken externally, in a reverberant space it is expected that based on the number of proposed courts, the ambient noise level would be no greater than $75\text{dBL}_{\text{Aeq,T}}$.

Predicted Noise Levels

- 3.11 Using the determined noise level within the padel facility of $75\text{dBL}_{\text{Aeq,T}}$ and the sound insulation performance of the external envelope, $30\text{dB}D_w$, the resultant ambient noise level external to the nearest noise sensitive receptor at Haworth Court would be around $45\text{dBL}_{\text{Aeq,T}}$.
- 3.12 As stated previously, there were glazed panels missing from the windows and these are downgrading the performance of the building envelope. Once the glazing has been made good and there are no openings in the building envelope, calculations indicate that the sound insulation performance would be improved by around 10dB.
- 3.13 Therefore, once the glazing has been replaced, ambient noise levels external to the nearest noise sensitive receptors at Haworth Court would be no greater than $35\text{-}40\text{dBL}_{\text{Aeq,T}}$ with all four courts in operation. This is 5-10dB below the night-time design target and 10-15dB below the daytime suggested criterion.

Conclusion and Summary

- 3.14 The above assessment demonstrates that the ambient noise level breaking out of the proposed padel facility to be developed within an existing warehouse would be controlled to around $35\text{-}40\text{dBL}_{\text{Aeq,T}}$ external to the nearest noise sensitive receptor with all four courts in operation.
- 3.15 This is 5-10dB below the night-time design target and 10-15dB below the daytime suggest criterion and should therefore be acceptable to the Local Planning Authority.

APPENDIX A – Acoustic Terminology

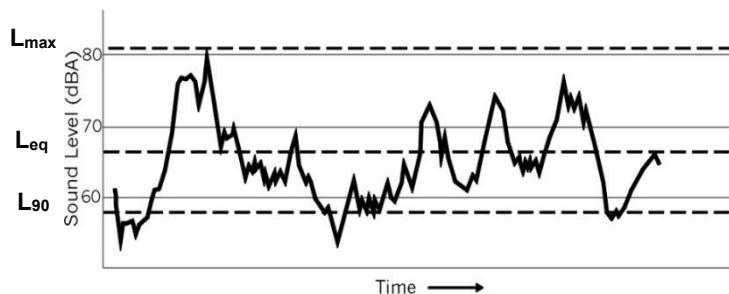
General

Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air. The rate at which the pressure fluctuations occur determines the pitch or *frequency* of the sound. The frequency is expressed in Hertz (*Hz*), that is, cycles per second. The human ear is sensitive to sounds from about 20 Hertz to 20,000 Hertz. Although sound can be of one discrete frequency - a 'pure tone' - most noise is made up of many different frequencies.

The human ear is more sensitive to some frequencies than others, and modern instruments can measure sound in the same subjective way. This is the basis of the A-weighted sound pressure level *dBA*, normally used to assess the effect of noise on people. The dBA weighting emphasizes or reduces the importance of certain frequencies within the audible range

Sound / Noise Units

The figure below shows an example of sound level varying with time. Because of this variation over time the same period of noise can be described by several different levels. The most common of these are described below.



Commonly Used Descriptors for Sound / Noise

$L_{Amax,F/S}$	The maximum (A-weighted) sound level measured during a given time. 'Fast' or 'Slow' meter response should be cited.
$L_{Aeq,T}$	The equivalent continuous (A-weighted) sound level. It may be thought of as the "average" sound level over a given time, T. It is used for assessing noise from various sources: industrial and commercial premises, construction sites, railways and other intermittent noises. It can be considered as the "ambient" noise level.
Free-field Level	This refers to the sound level measured outside, away from reflecting surfaces.

APPENDIX B – Noise Survey Details

Table B.1 – Environmental Measurement Procedure

Date & Time of Survey:	1200 to 1315h on Wednesday 18 th March 2026.					
Personnel:	Paul Knowles (AEC).					
Equipment Used:	B&K 2260 Real Time Analyser (AEC Kit 2).					
Calibration:	The sound level analyser(s), which conforms to BS EN 61672-1: 2013 ' <i>Electroacoustics – Sound level meters - Part 1 Specifications</i> ' for Class 1 Type Z meters, was in calibration and check calibrated before and after the measurement periods using a Brüel & Kjær type 4231 (94dB) calibrator. There was no significant drift of calibration. Calibration certificates are available on request.					
Weather Conditions:	Date	Period	Wet/Dry	Temp °C	Wind Speed & Direction	Cloud Cover
	18.03.26	Day	Dry	18°C	N and 2m/s	25%
Measurement Locations:	Measurements were undertaken at a single location on the development site. Identified as A on Figure 1.1 and described below. A – 12m from the nearest elevation of the warehouse					
Measurement Details:	Measurements at Location A were undertaken under free-field conditions. Measurements were undertaken over various periods in terms of L_{eq} and L₉₀ were logged continuously over 1s for post processing and assessment.					
Measured Data:	Full octave band centre frequency data was obtained for all measurements.					