

SANDY BROWN

Consultants in Acoustics, Noise & Vibration

026026-R01-B

3 May 2025

Blackheath Park, Padel Courts

Peer review of noise impact assessment

Planning reference 25/0793/F

London, Manchester, Edinburgh, Birmingham, Leeds, Bristol

Sandy Brown Ltd

Registered in England & Wales

No. 13227735

post@sandybrown.com

www.sandybrown.com

Registered Office: 55 Charterhouse Street, London EC1M 6HA

SANDY BROWN

Consultants in Acoustics, Noise & Vibration

Version	Date	Comments	Author	Reviewer
A	2 May 25		Valerie Van den Hende	Mark Howarth
B	3 May 25	Receptor road name update	Valerie Van den Hende	Mark Howarth

Disclaimer

This report has been prepared for the sole benefit and use of our client based on their instructions and requirements. Sandy Brown Ltd extends no liability in respect of the information contained in the report to any third party.

Summary

- 0.1 A peer review has been undertaken of the noise impact assessment submitted as part of the planning application 25/0793/F.
- 0.2 The application relates to the creation of a padel tennis facility providing a total of eight courts, alongside the erection of a new clubhouse and associated works including parking and limited mechanical services provisions.
- 0.3 The site is the former location of four tennis courts that have been derelict for at least 15 years, and is overlooked by residential premises to the north, west and east, with Blackheath High School sports grounds (athletics field) to the south.
- 0.4 Concerns have been raised by local residents that the impact of the proposed development will cause significant adverse impact and significant harm to the residential amenities of neighbouring residents. This peer review has been instructed due to the worry that the noise impact of the proposed development has not been adequately assessed.
- 0.5 We do not believe that, within the context of industry guidelines and best practice, the noise impact assessment (NIA) presented by Savills represents the significance of the noise impact likely to occur. The assessment presented risks substantially underpredicting the effect of new padel courts and associated facilities in the proposed location.
- 0.6 The key problems have been identified as follows:
- 0.7 The scope of the noise impact assessment does not fully consider all noise sources associated with the proposed development. The plans indicate a main club room with seating, bar area, kitchen/wash up, combined with sizable areas of openable facade on the east and north elevations. The openable facade has been highlighted in the energy and sustainability statement as providing crossflow ventilation to assist in reducing overheating as part of the natural ventilation proposals for the project. Noise breakout from use of the clubhouse and consequent impact on the amenity of neighbouring residences (particularly during periods of warm weather) has not been addressed. It therefore cannot be concluded that the noise impact from the proposed clubhouse will be acceptable. In addition, there is also no discussion of the proposal's impact on local roads, particularly in relation to existing traffic management systems in the area, and the slamming of car doors during the night/early morning and late evening periods.
- 0.8 The survey location used to establish baseline noise conditions cannot be considered representative of all noise receptors assessed. There is a risk that baseline noise levels, particularly with respect to ambient noise levels which have been used to assess the impact of operational noise, will be lower than stated. The receptors likely to be disadvantaged by this approach include 1 Paddock Close, 31 Morden Road,

82 Blackheath Park and 107 Blackheath Park, as well as the gardens of 82-72 Blackheath Park (which are fully screened by dense housing from local road and rail noise). Where this is the case, the impact of the proposed development will have been underestimated. It therefore cannot be concluded that the noise impact assessed against the baseline noise conditions will be acceptable.

- 0.9 The graphical time history of the survey provided at the back of the noise impact assessment indicates that maximum noise levels were measured by Savills, but the associated data has not been processed or discussed. As the predicted maximum noise levels due to the padel court play are presented as part of the assessment, a key element to understanding the impact of maximum noise levels is missing. There should have been an analysis of existing maximum noise levels and regularity of occurrence, especially during late evening and night time periods, such that direct comparison with the proposed development could have been carried out. The omission of this analysis poses a significant risk that the impact of maximum noise levels created by padel court play (or the slamming of car doors) has been under-represented.
- 0.10 The description of the 3D model created raises concerns with respect to inappropriate application of non-related source data. Evidence is missing with respect to how key aspects of the development, including the courts' glazed screens and wider fabric structure (at both low and high level), have been modelled. It is not acceptable for a noise impact assessment to use source data for a different sport, which has been shown to demonstrate functional and objective acoustic differences to padel. The description of the model structure and assumptions are insufficient to demonstrate that suitable assumptions have been made with respect to how sound will propagate both within and from the structure.
- 0.11 The predicted noise levels are below those expected with reference to published data. The peer review indicates that the difference between the modelled results and published data could be in the region of 10 decibels (or greater) for residences closest to the proposed site. The differences between the predicted levels and measured data for padel court play are hard justify based on the presented information regarding the wider court enclosure with lightweight fabric with areas of perforation or other openings. It is considered likely that the noise levels generated by padel court play are measurably greater than those presented.
- 0.12 Predicted noise levels are presented at first floor level only, free-field, with no supporting information for claims relating to conditions within gardens at ground level. Noise levels within gardens could be greater than those presented due to localised building reflections and/or increased proximity to the proposed site. Based on the information presented, it cannot be concluded that the noise impact from padel courts will be acceptable within gardens.

- 0.13 The assessment methodology does not consider, in qualitative terms or otherwise, the effect of the change in the type of noise source, the nature of the change, and other factors such as frequency of occurrence, spectral characteristics, and the influence of the noise indicator used. Our review has shown that there is sufficient industry guidance and journalistic evidence indicating that maximum noise levels of the type of sound expected at neighbouring residential properties are likely to result in significant annoyance and sleep disturbance.
- 0.14 Where contextual assessment methodology is applied to account for established tonal and intermittency of sources, penalties should be accounted for in the predicted noise from padel. Our review demonstrates that, with this approach, the increase in noise level at neighbouring residential properties has the potential to be significant.
- 0.15 Our professional opinion is that the noise impact assessment submitted to support the planning application is insufficient, such that it cannot be concluded that the noise levels at neighbouring residential receptors will be acceptable.
- 0.16 The proposed development risks causing significant adverse impact and significant harm to the residential amenity of neighbouring residential properties and should be rejected as being contrary to Policy E(a) of the Royal Greenwich Local Plan.

Contents

1	Introduction.....	7
2	Peer review scope	7
3	Overview of noise impact assessment.....	7
4	Industry guidelines for noise impact assessments.....	11
5	Peer review.....	12
6	Implications of adverse effects	20
7	Statement of truth.....	21
	Appendix A	22
	References.....	22
	Appendix B	23
	Glossary of acoustic terms	23

1 Introduction

- 1.1 A peer review has been undertaken of the noise impact assessment submitted as part of the planning application 25/0793/F.
- 1.2 The application relates to the creation of a padel tennis facility providing a total of eight courts, alongside the erection of a new clubhouse and associated works including parking and limited mechanical services provisions.
- 1.3 The site is the former location of four tennis courts that have been derelict for at least 15 years, and is overlooked by residential premises to the north, west and east, with Blackheath High School sports grounds (athletics field) to the south.
- 1.4 Concerns have been raised by local residents that the impact of the proposed development will cause significant adverse impact and significant harm to the residential amenities of neighbouring residents. This peer review has been instructed due to the worry that the noise impact of the proposed development has not been adequately assessed.
- 1.5 A list of primary sources are referenced at the end of this report in Appendix A.

2 Peer review scope

- 2.1 The peer review process has included a literature review of the available guidance on the assessment of noise from padel courts and wider industry good practice, in the context of the Institute of Environmental Management & Assessment (IEMA) *Guidelines for Environmental Noise Impact Assessment*¹.
- 2.2 We have also provided technical commentary on the submitted noise impact assessment (NIA) and outlined the likely implications of a robust assessment methodology based on the submitted measurements and wider published data.

3 Overview of noise impact assessment

- 3.1 The NIA for the planning application has been prepared by Savills, dated 13 March 2025².

NIA scope

- 3.2 The report considers noise from the eight padel courts, the car park, and a proposed air source heat pump. All are to be considered operational between 06:00-23:00. The report does not consider changes to vehicular traffic on local roads, maximum noise levels from the car park, or potential noise break-out from the new clubhouse.

Receptors

- 3.3 The report identifies noise sensitive receptors to the north, west and east of the proposed site boundary. The nearest properties can be listed as follows:
- 1 Paddock Close (south)
 - 82 Blackheath Park (west) & 100 Blackheath Park (east)
 - 105 & 107 Blackheath Park (east and north)
 - 1 Sweyn Place & Sweyn Place flats (north)
 - 31 Morden Road (north)
- 3.4 The nearest physical facades to the proposed site boundary are around 3 metres (100 Blackheath Park), and 6 metres (82 Blackheath Park).
- 3.5 The gardens of the residential properties to the north are approximately 15 metres from the site boundary, with the dwellings themselves set further back at a range of approximately 25 to 40 metres distant.

Referenced policy and guidance documents

- 3.6 The NIA makes reference to the National Planning Policy Framework (NPPF)³, Noise Policy Statement for England⁴, Planning Practice Guidance on Noise⁵, local planning policy⁶, WHO Guidelines for Community Noise⁷, IEMA Guidelines for Environmental Noise Impact Assessment¹, Sport England Design Note⁸, British Standards 8233⁹ and 4142¹⁰.

Baseline noise survey

- 3.7 Baseline noise monitoring of ambient (dB $L_{Aeq,T}$) and background (dB $L_{A90,T}$) noise was undertaken by Savills at a single location for a period of six full days, including a weekend period (27 November 2024 to 4 December 2024).
- 3.8 The equipment used was a SRST Mk3 sound level meter, which is sold with a Type 1 digital MEMS microphone, with raw data measured as contiguous 125 ms periods which is then post processed into 15-minute periods. It is stated that the meter was calibrated, but details of the equipment used to do this are not included.
- 3.9 The weather conditions are described and are generally suitable, but data has been omitted where wind speeds exceeded 5m/s, based on weather data received from a local weather station.
- 3.10 The survey location was at the north-west boundary of the site, immediately adjacent to Blackheath Park (road). The noise sources observed during deployment and collection of equipment included road traffic from Blackheath Park, general nature and aircraft.

3.11 During the proposed operational period for the padel club, baseline levels ranged between:

- Ambient: $L_{Aeq,15min}$ 41 - 67 dB
- Background: $L_{A90,15min}$ 39 - 57 dB.

3.12 Representative values based on the 25th percentile have been calculated for the day, evening and night time periods, as well as broken down into weekend and weekday.

3.13 These are summarised in the following table:

Table 1 Blackheath Padel Club, Savills representative baseline survey results

Weekday or weekend	Period		Background dB $L_{Aeq,15min}$	Ambient dB $L_{Aeq,15min}$
Weekday	Day (07:00-19:00)		44	51
	Evening (19:00-23:00)		42	48
	Night (06:00-07:00)		42	49
Weekend	Day (07:00-19:00)		45	51
	Evening (19:00-23:00)		41	47
	Night (06:00-07:00)		43	49

3.14 The graphical figure provided at the end of the report indicates that maximum noise levels were measured, but survey results have not been presented in a format that can be properly reviewed, and have not been discussed in the body of the report.

Calculations and modelling

3.15 A 3D noise map was developed using SoundPLAN v9.1 noise modelling software. The software references ISO 9613-2:2024¹¹ and is commonly used in the acoustics industry for environmental noise mapping.

Padel and car park noise

3.16 The car park has been modelled based on two area sources based on source data within the SoundPLAN library. The source noise levels have been set as single a-weighted sound power levels at one metre above ground level.

3.17 All of the eight proposed padel courts have been included within the model, represented as separate area sources at 1 metre above ground level. Each court has been assigned an average and a maximum sound power level, based on data for tennis play (not padel) from the SoundPLAN library. This is not appropriate as tennis and padel have exhibit acoustic differences, as discussed in Section 5 of this report.

The courts themselves have been modelled with 3 - 4 metre high glass walls, and a canopy roof at approximately 7 metres above ground level.

- 3.18 The results have been presented in tabular form only, free-field, with the average and maximum sound pressure levels at the nearest receptors at 4 metres above ground level (approximate first floor). It is presumed that these levels are those incident on the residential building facades, rather than the boundary of their properties.
- 3.19 The average noise levels presented range between L_{Aeq} 36 dB to L_{Aeq} 47 dB.
- 3.20 The maximum noise levels presented range between L_{AFmax} 41 dB to L_{AFmax} 54 dB.

Air source heat pump

- 3.21 The single proposed air source heat pump has been modelled as a point source at 1 metre above ground level, situated on the south facade of the proposed club house. It is stated that this will be housed with an enclosure, however details for this have not been provided.
- 3.22 The predicted noise levels from the air source heat pump range between L_{Aeq} 14-27 dB, with the worst affected noise sensitive receptor at Paddock Close.

Savills' assessment

Padel and car park noise

- 3.23 The predicted noise levels of up to L_{Aeq} 47 dB and L_{AFmax} 54 dB are compared to rustling trees and normal conversation. It is stated that, while of a different character, the noise levels are commensurate with what would be expected in a general rural area during the day time. No discussion of how the character of the noise might differ (quantitatively or qualitatively), or the implications of this, is presented.
- 3.24 The change in noise level has been calculated as between 1 dB and 3 dB, with the greatest change predicted during the evening period. This change has been classified as negligible to minor.
- 3.25 Reference has also been made to Sport England, noting that as noise levels in gardens fall below 50 dB and do not exceed the existing ambient level, the predicted noise level would not exceed the Sport England criteria. It is observed that the predicted noise levels have only been presented as free-field 4 metres above ground level at building facades. Noise levels within gardens could be greater than those presented due to localised building reflections and/or increased proximity to the proposed site. As such, evidence to support this claim is missing.
- 3.26 The predicted noise level of L_{AFmax} 54 dB has been stated as acceptable with reference to a proposed upper limit of L_{AFmax} 60 dB. Savills strongly imply that sleep disturbance effects at this level are considered unlikely to occur.

- 3.27 With respect to context, the report states that the assessment represents a worst case scenario in which all eight padel courts are in use, assessed against weekend baseline sound levels.
- 3.28 Reference is also made to the site's historic use as a tennis facility, and as such, padel has not been considered a new noise source. We believe that this is an inappropriate conclusion due to the acoustic differences between padel and tennis, and that the site has not been used to play tennis for over 15 years.

Air source heat pump

- 3.29 No penalties have been applied for character corrections at the receptor, as Savills have concluded that specific features are not anticipated to be audible or readily distinctive above the existing ambient sound environment. In our professional opinion, this is not unreasonable.
- 3.30 Predicted noise levels are assessed as being substantially below the existing background noise level (≤ 14 dB) at the nearest affected residential premises at Paddock Close. This has been assessed as very low risk of adverse impact.

4 Industry guidelines for noise impact assessments

- 4.1 For common situations, there are well established approaches and methodologies laid out in British Standards or guidance published by relevant professional organisations.
- 4.2 While this approach provides a framework for the assessment of regular noise sources (eg, road, rail, building services, grass pitch sport, entertainment), there will inevitably be occasions where developments introduce less common noise sources for which bespoke approaches become necessary. In such cases, it is always best to draw from published guidance as far as is practicable; however, the specific assessment methodology will ultimately be a matter for professional and planning judgement.
- 4.3 None of the policy and guidance documents referenced by Savills establishes a detailed assessment methodology directly applicable to padel courts. Such a document does not exist in the United Kingdom.
- 4.4 The IEMA Guidelines for Environmental Noise Impact assessments provide specific support on the scoping of noise assessments, issues to be considered when defining the baseline noise environment, and prediction in change of noise levels. The principles are relevant to all types of project, regardless of size or whether they are part of a wider environmental impact assessment.
- 4.5 In particular, this document provides guidance on how to qualify the subjective reaction to a change in sound levels, stating that it is not just the magnitude of a sound which is an important feature to consider, but also the sound's character or features. Critically, it also notes that the use of 3 dB as a threshold for perceptible change under

normal conditions may not always apply. The reason given for this is where the change in noise level is due to the introduction of a noise with a different frequency and/or temporal characteristics compared to sounds making up the existing noise climate.

5 Peer review

- 5.1 The following sections outline the findings of the peer review.

Noise impact assessment scope

- 5.2 The noise impact assessment does not consider all noise sources associated with the development.
- 5.3 While use of the car park has been quantified based on the expected number of guests, there is no discussion of how this will impact local roads, particularly as traffic on Blackheath Park is already heavily controlled. There is also no consideration of noise from actions like slamming of car doors from the car park, particularly during the night/early morning and late evening periods. There is a risk that regular actions like this could result in sleep disturbance, and this should be quantified with an appropriate study.
- 5.4 Another aspect which has not been considered is noise breakout from the clubhouse itself. The clubhouse plans (drawing no. 1194-DFA-XX-XX-DR-A-PL_104-3, dated 24 February 2025) show significant seating and a bar area with associated kitchen/wash up. The facade has fully retractable glazing on the east facade, and full height glazed double doors on the north facade which slide open. The Energy & Sustainability Statement (dated 6 March 2025) shows that passive ventilation will be used across the scheme to assist in the reduction of overheating and draws attention to the use of cross ventilation for the main club room as a significant aspect of the design.
- 5.5 Where the clubhouse functions as a bar, with members gathering to talk or drink, it represents a noise source. Noise breakout from use of the clubhouse and consequent impact on the amenity of neighbouring residences (particularly during periods of warm weather) has not been addressed. It cannot therefore be concluded that the noise impact from the proposed clubhouse will be acceptable. A study to quantify and assess noise from the main club room with the open glazing and doors should be undertaken to properly assess the noise impact from the clubhouse.

Establishment of baseline noise conditions

Baseline survey measurement location

- 5.6 The location used to measure baseline noise levels is adjacent to Blackheath Park road. This means that the data gathered is representative of the conditions experienced at

noise sensitive receptors close to this, and other local through roads, such as 100 Blackheath Park (the residential property directly to the east of the proposed site).

- 5.7 All other receptors are set further back from local roads, in particular, 1 Paddock Close, 31 Morden Road, 82 Blackheath Park and 107 Blackheath Park. The gardens of 82-72 Blackheath Park are fully screened by dense housing from local road noise and the Bexleyheath railway line to the south. It is normally the case that the further away or more screened a location is from local roads, the lower the environmental noise level.
- 5.8 The standard approach taken to fully quantify the variability of baseline noise conditions is to either increase the number of measurement locations for the unattended survey period or (where appropriate secure locations cannot be sourced) supplement the measurements with attended measurements. There is no evidence that this has been done.
- 5.9 In our opinion, the baseline conditions presented cannot be considered fully representative of all noise receptors assessed. There is a risk that the baseline noise levels, particularly with respect to ambient noise levels which have been used to assess the impact of operational noise, will be lower than stated. Where this is the case, the impact of the proposed development will have been underestimated. It therefore cannot be concluded that the noise impact assessed against the baseline noise conditions will be acceptable.

Presentation of survey measurement parameters

- 5.10 The acoustic parameters presented to establish the baseline noise conditions were the L_{A90} and the L_{Aeq} .
- 5.11 The L_{A90} is used as an approximation of the background noise level. It is a statistical parameter which gives the sound pressure level which is exceeded for 90 percent of the time. It is normally used as a threshold level for rating and assessing the effects of industrial and commercial sound (defined as industrial and manufacturing processes, fixed mechanical or electrical plant, loading/unloading goods, or mobile plant equipment). This has been used to assess the effect of the proposed air source heat pump.
- 5.12 The L_{Aeq} is the a-weighted equivalent continuous sound level. It represents the constant noise level that would produce the same total sound energy as the fluctuating noise level over a given period, in this case, 15 minutes. It is otherwise called the ambient or residual sound level (in the absence of a sound source being assessed). The ambient noise level (L_{Aeq}) assessed over appropriate time periods is a good approximation of the sound level that a person would experience on a day-to-day basis but does not quantify the range of sound pressure levels experienced within that period (eg, the highs and lows).

- 5.13 The graphical time history of the survey provided at the back of the noise impact assessment indicates that the L_{AFmax} (the a-weighted maximum sound level) was measured by Savills, but the associated data has not been processed or discussed. As the maximum noise levels generated by padel court play are presented as part of the assessment itself, a key part of the assessment is therefore missing an understanding of the maximum noise levels during the times at which the courts would be in operation.
- 5.14 There should be an analysis of maximum noise levels experienced at noise sensitive receptors, especially during the late evening and night time periods. There should also be consideration of the regularity of these maximum noise level events, such that a direct comparison with the proposed padel court play can be carried out with respect to anticipated strike rates.
- 5.15 Without this analysis, the impact of the maximum noise levels created by the padel play (and other sources such as the slamming of car doors), cannot be properly assessed. There is a significant risk that the noise impact assessment has omitted key technical information relating to maximum noise levels such that the impact of the proposed development has been underpredicted. It cannot therefore be concluded that the noise impact from maximum noise levels will be acceptable.

Modelling methodology

- 5.16 The description of the noise model created raised several concerns with respect to the source data used and missing narrative in how key aspects of the proposed development have been modelled.
- 5.17 The source input used to represent padel court noise has relied upon the software data for tennis courts. While this is discussed in more depth later in this document, published guidance¹² has clearly demonstrated that there are functional differences between padel and tennis, and that objective measures of sound demonstrate differences in sound character, noise level and strike frequency. It is not acceptable for source levels used to support a noise impact assessment for such a controversial development not to be properly validated by measurements at an equivalent facility or through a thorough desktop review of published data.
- 5.18 The padel courts will be covered with a translucent lightweight fabric canopy with perforated lightweight canvas fabric on the elevations. The modelling methodology does not include discussion of how reverberant sound build-up within the canopy system has been factored into the model, or the sound reduction losses assumed for the canopy material (perforated or not).
- 5.19 In addition, padel courts typically incorporate openings within the glazed screens, midway down each side: it is not clear whether these have been incorporated in the glazed screens described. There is also significant lack of clarity in the proposals

relating to the structure of the wider court enclosure, particularly at low level and between the courts and canopy.

- 5.20 Based on the information provided, it is not considered that the model created is appropriate with respect to the sound source data used, or its validation. The description of the model structure is insufficient to demonstrate that suitable assumptions have been made with respect to how sound will propagate both within and from the structure.

Calculated noise levels

- 5.21 With respect to noise from the padel courts and car park, calculated noise levels are presented for 4 metres above ground level, free field, only. No information to support claims regarding noise levels within gardens have been presented as part of the assessment. It cannot be determined whether the model takes account of building reflections.
- 5.22 We would normally expect to see the visual output of 3D noise mapping, including at 1.5 metres above ground level, to allow noise propagation to be fully understood. The reason why this has been omitted is unclear.
- 5.23 The predicted noise levels are lower than expected when compared to published data relating to padel court play over various distances. For example, for 100 Blackheath Park (labelled Eastern NSR in the report), the predicted sound levels are L_{Aeq} 40 dB and L_{AFmax} 50 dB.
- 5.24 It is estimated from the drawings that this receptor is approximately 17-18 metres from the nearest pair of padel courts in side orientation. The drawings also indicate a possible solid facade at low level at one metre from the courts. This section of facade does not exceed the height of the court enclosures. At the stated distance, additional screening from a solid facade will be minimal.
- 5.25 Reference levels at 15 metres used by two other consultancies^{13,14} for planning applications refer to L_{Aeq} 48 dB for open air propagation with court play within a standard glass enclosure taken from the rear (eg, best case scenario with no side opening), with side levels at L_{Aeq} 55 dB. This is 8-15 dB greater than the predicted noise average levels. At 4 metres above ground level, screening from court play would be reduced, such that these noise levels would be expected to be higher than those referenced.
- 5.26 Published noise data at 20 metres,¹⁵ under these similar conditions shows measured ambient noise levels up to L_{Aeq} 51 dB. This is 11 dB greater than the predicted noise average levels. The L_{AFmax} at 15 metres has been measured between L_{AFmax} 60-72¹⁴ dB (also depending on orientation and degree of opening). This is 10-22 dB greater than the predicted maximum noise levels. At 4 metres above ground level, screening from

court play would be reduced, such that these noise levels would be expected to be higher than those referenced.

- 5.27 Ignoring contributions from reverberant sound build-up within the canopy, a perforated lightweight canvas (alongside any gaps or openings) would not be expected to provide 10 decibels (or greater) of sound reduction.
- 5.28 In our professional opinion, we do not consider that the results of the modelling present an accurate representation of the noise levels that would be generated by padel court play within the proposed structure. We believe that the noise levels generated would be higher than those stated, and as such, it cannot be concluded that the noise impact of the padel courts will be acceptable.

Assessment methodology

- 5.29 The IEMA Guidelines advise that when identifying noise impact and the degree of consequential effect it is also necessary to consider, in qualitative terms, what might be the effect of any differences between the future and existing situation. This should take account of the type of noise source, nature of the change, and other factors such as frequency of occurrence, spectral characteristics, absolute level and influence of the noise indicator used.
- 5.30 When assessing sound characteristics there is a duty to consider whether the indicator used correlates best to describe the change, ie, *'does the change in level as described by the indicator used adequately reflect the change that would be experienced by those exposed to it and could be affected by it?'*
- 5.31 The assessment methodology used by Savills relies upon the following criteria being an appropriate measure of low or negligible impact:
- i) Any predicted increase in noise levels is not greater than 3 dB
 - ii) Absolute noise levels predicted do not exceed L_{Aeq} 50 dB and L_{AFmax} 60 dB.
- 5.32 These are discussed in the following sections.

Assessment of change (i)

- 5.33 The 3 dB threshold for perceptible change is only appropriate where considering like-for-like or similar sound sources to that already experienced within the sound environment. This is acknowledged within the IEMA guideline document from which it has been taken.
- 5.34 Within the context of the current noise environment experienced by residents local to the site, padel court play and breakout from the clubhouse should be considered a new, acoustically different and highly attention capturing, sound source. The argument has been made that as the site was historically used as tennis courts, it can be

considered similar within the context of approved use. Observations from various sources and published industry guidance do not support this position.

- 5.35 An Acoustics White Paper addressing the '*Differences in sound characteristics of padel and tennis*'¹² was published in August 2023 by Clarke Saunders. The White Paper was prepared primarily to address the specific question of whether padel is demonstrably more disturbing than tennis, in recognition that there was a knowledge gap in the industry.
- 5.36 As well as a literature review of information in the public domain (including planning applications and NIAs by other consultancy firms), the White Paper also considered relevant functional differences in the game and included analysis of specific tests to better understand the acoustic differences through the use of objective data.
- 5.37 The findings can be summarised as follows:
- a) Functional differences are that padel tennis typically features more frequent extended rallies, involving a greater proportion of volley exchanges. Containment of the ball within the court reduces the time spent retrieving balls, and the default doubles arrangement will mean a minimum of four players rather than two.
 - b) Impact sound character differs due to the nature of the padel racquet construction. Padel racquets are not strung like tennis rackets, instead comprising a solid EVA rubber core and carbon or fibreglass face, perforated with holes to facilitate easier movement. It is stated that the sound produced on hitting the ball differs audibly from traditional tennis, and a spectral analysis of objective data shows notable differences at both low and high frequency.
 - c) The impact sound level is not identical between the two sports. A direct comparison of the noise generated by playing tennis or padel is not straightforward due to differences in court size and the influence of the glass walls acting as both barriers and reflectors. However, the White Paper concludes that '*Padel tends to give rise to slightly higher levels of sound than tennis.*'
 - d) Strike frequency of the ball is also not the same between the two sports. The differences are more marked at elite competition level, however at an amateur level the hit rate has been assessed as 3.3 seconds for doubles tennis and circa 8 seconds for singles. For padel tennis (doubles by default), the average hit rate stated is 2.0 seconds.
- 5.38 The impulsive noise from the padel striking the ball has been described as '*not dissimilar to that from shooting activities at a distance*'¹⁶. Neighbours of an existing padel court in Winchester (Winchester Racquets and Fitness) have been quoted as saying that the sound is like a '*gunshot*' going off over their fence, and that '*nobody realised how noisy, disruptive and objectionable these courts would be*'¹⁷.
- 5.39 Further coverage notes "*Tennis has never caused this level of opposition. We can live with tennis – it's nothing like padel.*" Another neighbour stated "*Padel is an easier*

[sport] to play, so different people are playing it and they are shouting a lot, occasionally using foul language. The actual sound from the padel racket is incredibly loud ..."^{18,19}.

Assessment of absolute noise levels (ii)

- 5.40 The use of the L_{Aeq} 50 dB as an acceptable threshold appears to be drawn from the WHO Guidelines for Community Noise, which is also referenced in BS 8233. It should be noted however that this value specifically relates to 'steady, continuous noise'. Noise from padel court play cannot be described in this manner. Application of this threshold in the context of padel in our view is not appropriate.
- 5.41 BS 8233 goes on to note that people are 'usually more tolerant of noise without a specific character than, for example, that from neighbours which can trigger complex emotional reactions,' and goes on to note that if a sound contains a feature or is irregular enough to attract attention, lower noise limits might be appropriate.
- 5.42 The L_{Aeq} 50 dB threshold is also referenced by Sport England, with Savills stating in the NIA that the associated noise sources from padel courts can be similar to those from sports played on artificial grass pitches. In our professional opinion this is not the case and we have reached this conclusion based on the following:
- a) The intensity of noise from padel courts experienced by noise sensitive receptors is substantially different to football, rugby and hockey. For example, the source of noise is condensed into a small area, rather than distributed across a full size playing field, and the occurrence of impacts of feet or sticks with balls is typically much less frequent.
 - b) The biggest cause of annoyance cited by neighbours of outdoor padel courts is the crack or gunshot sound from the padel hitting the ball. Sport England do not offer any guidance regarding maximum noise levels.
- 5.43 The use of L_{AFmax} 60 dB as an acceptable threshold for maximum noise levels at the facades of noise sensitive receptors is not justified.
- 5.44 In the report, Savills state that the WHO Guidelines for Community Noise *suggest* that an external L_{AFmax} 60 dB criterion should not be exceeded with respect to night time sleep disturbance. The report later makes a firm claim that below L_{AFmax} 60 dB outside, sleep disturbance effects are not noted.
- 5.45 This is an unjustified claim within the context of the WHO Night Noise²⁰ guidance which documents that an increase in average motility is observed and there are greater incidences of self-reported sleep disturbance when noise levels are greater than $L_{night,outside}$ 42 dB outside residential premises.
- 5.46 There is also sufficient evidence that within bedrooms, the threshold for EEG awakening and changes in duration of various sleep stages, sleep structure and

fragmentation of sleep is as low as L_{AFmax} 35 dB. It should be noted that these values are based on research pertaining to transport noise, such as road, rail and aircraft. It is arguable that the response to a different source, such as padel, will be more sensitive.

- 5.47 Even if we adopt Savills predicted maximum noise level incident on nearest sensitive noise receptors of L_{AFmax} 54 dB (in our opinion higher levels are very likely), with an open window, noise levels within bedrooms are expected to be between L_{AFmax} 39-44 dB (depending on degree of opening). This is notably greater than the WHO value of L_{AFmax} 35 dB. It therefore cannot be stated therefore that the predicted maximum noise levels will not have an effect on sleep quality or that L_{AFmax} 60 dB is an appropriate threshold for determining the acceptable level of adverse impact.
- 5.48 As IEMA states, '*determining the numerical change of a particular noise indicator is only a starting point in describing the consequential effect on a receptor,*' and as such, any assessment which does not fully quantify and qualify both the level and character of a proposed noise cannot be considered a robust prediction of the impact of the proposed padel courts on residential neighbours.

Industry best practice

- 5.49 Noise impact assessments undertaken by many consultancies within the acoustic industry show that there is strong agreement that contextual assessment is required to account for noise characteristics^{12,13,21,22,23}.
- 5.50 All of the NIA reports reviewed by Sandy Brown as part of this peer review also considered the impact of maximum (L_{AFmax}) noise levels. When considering published guidance that states that ball strikes (and therefore maximum noise events) are more regular with padel in comparison with tennis, this must be part of a robust assessment methodology.
- 5.51 One approach¹⁶ is to consider industry guidance relating to clay pigeon shooting, where research by the Building Research Establishment has resulted in threshold criteria (day-time) for L_{AFmax} 55 dB above which annoyance can be observed, and L_{AFmax} 65 dB above which significant annoyance is engendered in a majority of sites.
- 5.52 Assuming that the maximum noise level expected at the worst affected noise sensitive receptor is somewhere between Savills predicted level of L_{AFmax} 54 dB and measured data for outdoor padel courts of L_{AFmax} 60-72 dB, where the description that the noise of the padel striking the ball is not dissimilar to that from gunshot or shooting is accepted, the industry guidance is clear that the level of noise expected is likely to result in annoyance.
- 5.53 Another approach is to apply rating penalties, similar to the process documents in British Standard (BS) 4142 *Methods for rating and assessing industrial and commercial sound*¹⁰. Although BS 4142 states that the assessment of people and recreational activities is beyond the scope of the Standard, the methodologies have still been

deemed a useful tool by some consultancies¹³ in the contextual assessment of padel courts. The Standard uses rating penalties for characteristics more noticeable at the NSR locations such as tonality, impulsivity and intermittency. The penalty used for character corrections in this instance was +6 dB.

- 5.54 Were the same approach to be taken to assess the impact of noise at residential dwellings closest to the proposed padel courts, we estimate that the rated increase in ambient noise level would be 7 to 9 dB. This assumes reliance on Savills baseline survey results and modelling. Given the concerns raised regarding the robustness of both, it is likely that the rated increase would be greater, representing a significant adverse effect at the nearest noise sensitive receptors.

6 Implications of adverse effects

- 6.1 Problems have been identified with a number of aspects relating to Savills noise impact assessment of the proposed Blackheath Park Padel Club. The overall effect is such that the quantitative and qualitative impact of the proposals have been underestimated.
- 6.2 The quantitative impact of the proposals is believed to have been underestimated due to the cumulative effect of:
- a) other noise sources, such as breakout from the clubhouse, having been omitted from the NIA's scope;
 - b) a non-representative baseline monitoring location for receptors set further back from, or screened, from local roads;
 - c) failure to analyse maximum noise levels and their regularity during key night time and late evening periods;
 - d) a lack of clarity regarding the 3D modelling assumptions and incorrect use (along with lack of validation) of source data; and
 - e) limited calculation and modelling output, which shows inconsistencies with published data for padel court play.
- 6.3 The quantitative noise impact assessment presented risk substantially underpredicting effect of new padel courts and associated facilities in the proposed location.
- 6.3 The qualitative impact of the proposals have not been assessed by Savills. This will have underestimated the degree of adverse effect due to:
- a) type of noise source;
 - b) the nature of the change;
 - c) frequency of occurrence;
 - d) spectral characteristics; and

- e) the influence of the indicators used.
- 6.4 There is evidence that, due to the nature of the noise associated with padel court play, the adverse impact on people exposed to this noise in or around their homes is significantly greater than implied by a numerical figure alone.
- 6.5 With reference to National Planning Practice Guidance (NPPG)⁵, significant adverse effects are considered noticeable and disruptive in that the noise causes a material change in behaviour and/or attitude, eg, avoiding certain activities during periods of intrusion, having to keep windows closed, sleep disturbance, and quality of life diminished due to change in acoustic character of the area. Research by the World Health Organisation^{7,20} has established that exposure to excessive noise can result in detrimental effects on people, both physiological and psychological.
- 6.6 Our professional opinion is that the noise impact assessment submitted to support the planning application is insufficient, such that it cannot be concluded that the noise levels at neighbouring residential receptors will be acceptable.
- 6.7 The proposed development risks causing significant adverse impact and significant harm to the residential amenity of neighbouring residential properties, and should be rejected as being contrary to Policy E(a) of the Royal Greenwich Local Plan.

7 Statement of truth

- 7.1 I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions that I have expressed represent my true and complete professional opinions on the matters to which they refer in accordance with my professional obligations.



Valerie Van den Hende

Appendix A

References

-
- ¹ Guidelines for Environmental Noise Impact Assessment, Institute of Environmental Management & Assessment (IEMA), November 2014
 - ² Noise Impact Assessment for the use of an Outdoor Padel Court and Clubhouse, reference 696845_Report01_Rev02, Savills, 13 March 2025
 - ³ National Planning Policy Framework, Ministry of Housing, Communities & Local Government, December 2024
 - ⁴ Noise Policy Statement for England (NPSE), Department for Environment, Food and Rural Affairs, March 2010
 - ⁵ Planning Practice Guide on Noise, December 2024
 - ⁶ Royal Greenwich Local Plan: Core Strategy with Detailed Policies, Policy E(a) Pollution, 30 July 2014
 - ⁷ World Health Organisation (WHO) Guidelines for Community Noise, 1999
 - ⁸ Sports England Design Note: Artificial Grass Pitch (AGP) Acoustics – Planning Implications: New Guidance for 2015 August Revision 001', Sport England, 2015
 - ⁹ British Standard (BS) 8233 Guidance on sound insulation and noise reduction for buildings, The British Standards Institution, 2014
 - ¹⁰ British Standard (BS) 4142 Methods for rating and assessing industrial and commercial sound, The British Standards Institution, 2019
 - ¹¹ International Organization for Standardization (ISO) 9613-2 Acoustics – Attenuation of sound during propagation outdoors, Part 2: Engineering method for the prediction of sound pressure levels outdoors, 2024
 - ¹² Differences in sound characteristics of padel and tennis Acoustic White Paper, Clarke Saunders, August 2023
 - ¹³ West Hants Club Padel Centre; Noise Assessment Report, reference VA3764.211206.NIA, Venta Acoustics, 8 December 2021
 - ¹⁴ West Hants Club Padel Centre, response to JSL Consultants Comments, reference VA3964.240409.L1, Venta Acoustic, 10 April 2024
 - ¹⁵ Solihull Arden Club, planning application reference PL/2019/015566/PPFL
 - ¹⁶ East Dorset lawn tennis & croquet club, Poole; Noise Impact Assessment, reference AS12543.220530.NIA, Clarke Saunders, May 2022
 - ¹⁷ What a racket: noisy padel courts pain neighbours, The Times, 24 December 2024
 - ¹⁸ What a racket: neighbours object to noisy padel playing at Hampshire sports club, 31 January 2025
 - ¹⁹ Padel club to be served noise notice after row with neighbours, The Times, 1 February 2025
 - ²⁰ World Health Organisation (WHO) Night Noise Guidelines for Europe, 2009
 - ²¹ Environmental Noise Assessment of Proposed Tennis Courts, reference 1717065, Sharps Redmore, March 2019
 - ²² Saffrons Sports Club, acoustic assessment, reference 23-0067-0, Sustainable Acoustics, June 2023
 - ²³ David Lloyd Health Club, Bristol Westbury Padel Noise Impact Assessment, reference 1700996.002-RP-NIA-0002, March 2024

Appendix B

Glossary of acoustic terms

General terms

Airborne sound	Sound propagating through the air.
Airborne sound insulation	The ability of building elements or structures to reduce airborne sound transmission.
Frequency	The number of cycles per second. The unit of frequency is the Hertz (Hz). Frequency gives a sound its distinctive tone.
Frequency band	A continuous range of frequencies between stated upper and lower limits
Reverberation	The persistence of sound in a space after a sound source has stopped
Sound pressure level	A logarithmic measure of the effective sound pressure of a sound relative to a reference value, measured in decibels, dB. Sound pressure levels are dependent on the conditions under which they are measured.
Sound power level	A logarithmic measure of the sound power in comparison to specified reference level, measured in decibels, dB. Unlike sound pressure, sound power is not room or distance dependent.
Spectrum	The composition of a particular sound in terms of separate frequency bands.

Acoustic parameters

'A' weighting	Frequency weighting based on the frequency response of the human ear which has been found to correlate well with the subjective response to sound.
Decibel (dB)	A logarithmic unit used for many acoustic values to indicate the level with respect to a reference level
Hz	Hertz (Hz) is the unit of frequency (see also 'Frequency')
$L_{A90,T}$	The A-weighted sound pressure level exceeded 90% of the measurement period (T) over which a noise is measured (ie, the quietest 10% of the period). When not weighted it is denoted $L_{90,T}$. This parameter is generally considered to be representative of a constant noise source, or background noise level.
$L_{Aeq,T}$	Equivalent A-weighted sound pressure level of a steady noise that has the same acoustic energy as a fluctuating noise over the measurement period (T). When not weighted it is denoted $L_{eq,T}$.
$L_{Amax,T}$	The highest A-weighted sound pressure level measured in the period (T) with either fast (L_{AFmax}) or slow (L_{ASmax}) time weightings. When not weighted it is denoted L_{Fmax} or L_{Smax} .