[redacted]

主旨: Fw: s16規劃申請 A/YL-KTN/1281 - 回應部門意見

附件: 回應部門意見_20261025.pdf; 附件2：Revised Planning Statement_20261025.pdf; 附件1：Noise Impact Assessment for a Proposed Padel Court Scheme.pdf

From: Chong Hermose [redacted]
Sent: Sunday, October 25, 2026 11:39 AM
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Subject: s16 規劃申請 A/YL-KTN/1281 - 回應部門意見

城規會/規劃處：

大家好。

有關規劃許可：A/YL-KTN/1281 的申請，現附上回應部門意見，請查收。

謝謝。

Ms Chong
[redacted]

Planning Application No. A/YL-KTN/1281

	Departmental Comments	Responses
	Comments from Environmental Protection Department	
1	Page 11 of the revised planning statement states that the average noise measured at the Court is 66–70 dB(A), whereas citation (1) in RtC item 5 indicates 65–70 dB(A). Moreover, the web link provided for citation (1) does not correspond to "國外專業板式網球建造商的環境噪音評估報告". Please clarify which document constitutes the environmental noise impact report.	申請人備悉環境保護署的意見。 對於修訂後 Planning Statement 第 11 頁中的文書錯誤，深表歉意並已進行更改，將「平均噪音」的字眼修改為「擊球峰值噪音」，請看附件 2。 參考附件 1 的報告內容，申請人澄清整場運動的「平均噪音」只有 54 至 65 分貝左右；而擊球峰值噪音：平均約為 65 至 70 分貝；這些數據都是「未經緩解的最高突發噪音峰值」。擬議發展將會進行及落實之前提及的噪音舒緩緩解措施，請看下面的補充說明。 **附件 1：《Noise Impact Assessment for a Proposed Padel Court Scheme》** **附件 2：Revised Planning Statement_20261025** 報告內含完整的擊球突發噪音源實測數據及聲學傳播模擬，以作上述噪意數值之依據。

	Departmental Comments	Responses
	Comments from Environmental Protection Department	
2	Citation (2) in RtC item 5 is a feature article that interviews an acoustics professional. The interviewee quotes the Dutch Tennis Association, stating that noise from padel courts in the Netherlands should not exceed 40–50 dB over the duration of a match and 60–70 dB as a maximum from individual ball strikes. This is a noise standard, rather than a contextual noise measurement.	申請人備悉貴署的意見。 現時有關板式網球的「擊球瞬間的峰值/突發最大噪音」及整個運動的「平均噪音」，可參考附件 1 的報告內容。
3	RtC item 5 mentions "德國第 18 號 BImSchV 運動噪音條例". It should be noted that the noise limits under this regulation vary according to location and time; accordingly, this reference does not support a conclusion of "單次擊球最大噪音值（60-70 dB）", nor does the German ordinance (or any similar regulation) adopt a blanket "maximum noise level per ball strike" of the kind cited.	申請人知悉並接受貴署對德國第 18 號 BImSchW 運動噪音條例的澄清及解讀，申請人先前對該條例的表述與解讀不夠精準。 為了將擬議球場的噪音對周邊環境的影響減至最低，本項目已實施嚴格的緩解措施，包括： （1）整個擬議發展項目（包括球場、商店及食肆）的營運時間將統一限制為星期一至星期日及公眾假期上午 8 時至下午 8 時。 （2）擬議發展將加設隔音屏障或高密度聲學圍網（可提供約 10 dB(A) 的有效減噪效果），以確保本項目的整體運作噪音完全符合香港本地的法定可接受噪音水平（ANLs）。
4	Please advise the actual height of the proposed boundary wall.	申請地點範圍的圍板高度為約 3.5 米高。

補充說明

根據香港《環境規劃標準與準則》（HKPSG），鄉郊或低密度住宅區的日間法定「可接受噪音水平」通常是 50 至 55 分貝（dB(A) ） 。

根據之前提供的物料測試報告，擬議發展由於緊鄰大型屋苑 Park Yoho（最近距離僅約 22.5 至 40 米），為了符合及滿足環境保護署的標準及準則，擬議發展的球場將會采用下列緩解方案，並在落實相關緩解措施後，預測傳播至周邊居民（Park Yoho）的預測噪音值（推算結果）：

1. 整場運動的連續平均噪音值：
    - 舒緩後預測值： 約 38 至 45 dB(A)
    - *符合指標：* 完全符合 香港環保署針對該分區日間 50–55 dB(A) 的法定可接受標準。
2. 擊球瞬間的最大突發峰值噪音：
    - 舒緩後預測值： 約 43 至 50 dB(A)
    - *符合指標：* 該數值已成功壓低至周邊環境原有的日間背景噪音（背景突發常態約 51 dB(A)）以下，意味著擊球聲傳到住宅外牆時，已等同於正常的社區環境背景音，不會引起居民的干擾或行為改變（屬於無顯著不良影響水平）。

<u>下列緩解方案</u>

1. 第一層：球場四邊密封式帳蓬（PVC 隔音布料）
    - *規格與實證：* 採用表面密度高達 6.98kg/㎡ 的專業隔音帆布（如 SGS 實驗室 ASTM C423 實測，具備高達 0.65 的降噪係數 NRC，在關鍵的擊球中高頻段吸音率高達 72% 至 85%）。
    - *成效：* 配合英國 *ES Acoustics* 報告的 Sound PLAN 模擬經驗，這種 full-height 全密封帳蓬能直接阻絕聲音直線穿透，帶來 10 至 12 dB(A) 的整體直達聲衰減。
    -
2. 第二層：球場專用夾膠隔音玻璃牆（13.52mm）
    - *規格：* 採用 6mm+1.52mm + 6mm 的特製夾膠安全玻璃。
    - *成效：* 佔板式網球約 60% 的主要噪音源來自「球撞擊圍牆的反彈聲」。夾膠內襯能有效消除玻璃共振，單此一項即可阻隔 10 分貝(A) 以上 的高頻撞擊聲。

3. 第三層：外圍 3.5 米高邊界圍牆 + 立體纖維吸隔音板
    - *規格：* 圍牆內側全面加裝密度 300 kg/m^3、厚度 9mm 的高分子隔音底板與聚酯纖維複合板。
    - *成效：* 實驗室證實具備 22.5 分貝的阻絕能力，在室外能作為第二道防線，進一步將溢出帳蓬外的殘餘繞射聲波降低至少 5 至 6 dB(A)。

4. 第四層：球場地毯及營運時間限制
    - *成效：* 場地全面鋪設高密度吸音地毯，吸收落球地面撞擊聲；更重要的是，營運時間統一限制在上午 8 時至下午 8 時（完全避開了晚上 11 點到清晨 7 點 EPD 最嚴格的夜間敏感時段法規）。

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Noise Impact Assessment for a Proposed Padel Court Scheme

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ES Acoustics is part of Environmental Sensors (Registered in England Company No. 12699902)

Project Address	[redacted]
Report Title	Noise Impact Assessment for a Proposed Padel Court Scheme
Prepared For	Padel Wld Ltd
Report Reference Number	[redacted]
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Initial Issue	25th March 2025	Noise Impact Assessment for the proposed scheme at Croydon Rugby Club comprised of 4 no. padel tennis courts
Rev A	2nd April 2025	Report updated with a variation to the proposed mitigation strategy

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1 INTRODUCTION

ES Acoustics Ltd have been commissioned by Padel Wld Ltd to prepare a noise impact assessment in support of a planning application for a development comprised of 4 no. padel tennis courts at Croydon Rugby Club, 159 Brigstock Road, Thorton Heath, CR7 7JP.

The structure of this report is as follows:

- A review of site context and details of the proposal, including the location of the proposed padel tennis courts and the locations of the identified closest noise-sensitive receptors relative to the courts;
- Details of the environmental noise surveys undertaken on site to determine existing ambient noise levels representative of the noise-sensitive receptors;
- A review of national planning policy, local planning policy and acoustic guidance relevant to the proposal to ensure that a robust noise criterion is established;
- The noise impact assessment for padel tennis courts, including:
    - Source sound levels of the padel tennis activity as measured at an operational padel tennis facility;
    - Details of the noise modelling exercise to establish noise propagation from the application site to the surrounding area and receptors;
    - The results of the noise impact assessment and discussion of results and assessment of impacts with no mitigation applied;
    - Proposed mitigation measures;
    - The results of the noise impact assessment and discussion of results and assessment of impacts with the mitigation measures applied.
- Report and assessment conclusions and summary.

2 SITE CONTEXT AND BACKGROUND INFORMATION

2.1 Site Description

The application site is located to the rear of 159 Brigstock Road, Thornton Heath within the jurisdiction of the London Borough of Croydon.

The wider Rugby Club site boundary is shown in red in Figure 1 below. The area of the proposed padel courts is highlighted in blue, with the closest noise-sensitive receptors (NSRs) relative to the proposed padel courts highlighted in green.



Figure 1 Satellite image showing the wider site boundary, the proposed padel tennis court area and the closest noise-sensitive receptors (Image Reference: Google Earth)

The existing acoustic environment is comprised of low level road traffic noise from the surrounding roads and noise associated with the Rugby Club and playing fields during training and matches.

2.2 Proposal

The scheme is comprised 4 no. padel tennis courts which are proposed within a fabric pavilion.

Padel tennis is an innovative racquet sport which is played on an enclosed court approximately a third the size of a tennis court. Padel racquets are solid but perforated and made of ethylene-vinyl acetate which is covered in plastic or carbon depending on the build quality, and the balls used are similar to tennis balls, but with a lower pressure. Both the racquet and ball factors result in the velocity of the ball being lower than in tennis, and the ball being served underhand.

The standard dimensions of a padel court are 10 meters wide by 20 meters long, enclosed by glass walls and fencing. The playing area is divided into two halves by a net, and a seven-meter line separates the service area from the rest of the court. An example of a typical court is shown in Figure 2.



Figure 2 Typical padel court (Image Reference: Portico Sport)

While the ends of the court are enclosed by glass, the ball is not typically hit directly off the enclosure walls but generally rebounds from it at the end of its trajectory. A crucial point of clarification is that playing off of the walls is integral to the game of squash, whereas it is not with padel tennis. However, the rules of padel tennis do not exclude a player from striking the ball directly into the glass wall on their side of the court to project the ball over to the other side of the court, although this was observed to not be typical within normal play and would be considered as an infrequent event.

Other general observations of the padel tennis sport noted that the character of noise is not dissimilar to tennis. However, the key differences are that padel tennis is a more intense game with a shorter court resulting in more frequent ball contact, in addition to the noise source of the ball deflecting off the enclosure walls.

Average noise levels (L_{Aeq}) are marginally louder in padel tennis compared to regular tennis due to more frequent ball contact, generally more vocal participants, and reflected sound due to the glass walls.

The proposed operating hours of the facility would be from 07:00 – 22:00 Monday to Sunday.

A proposed site plan is shown in Figure 3.

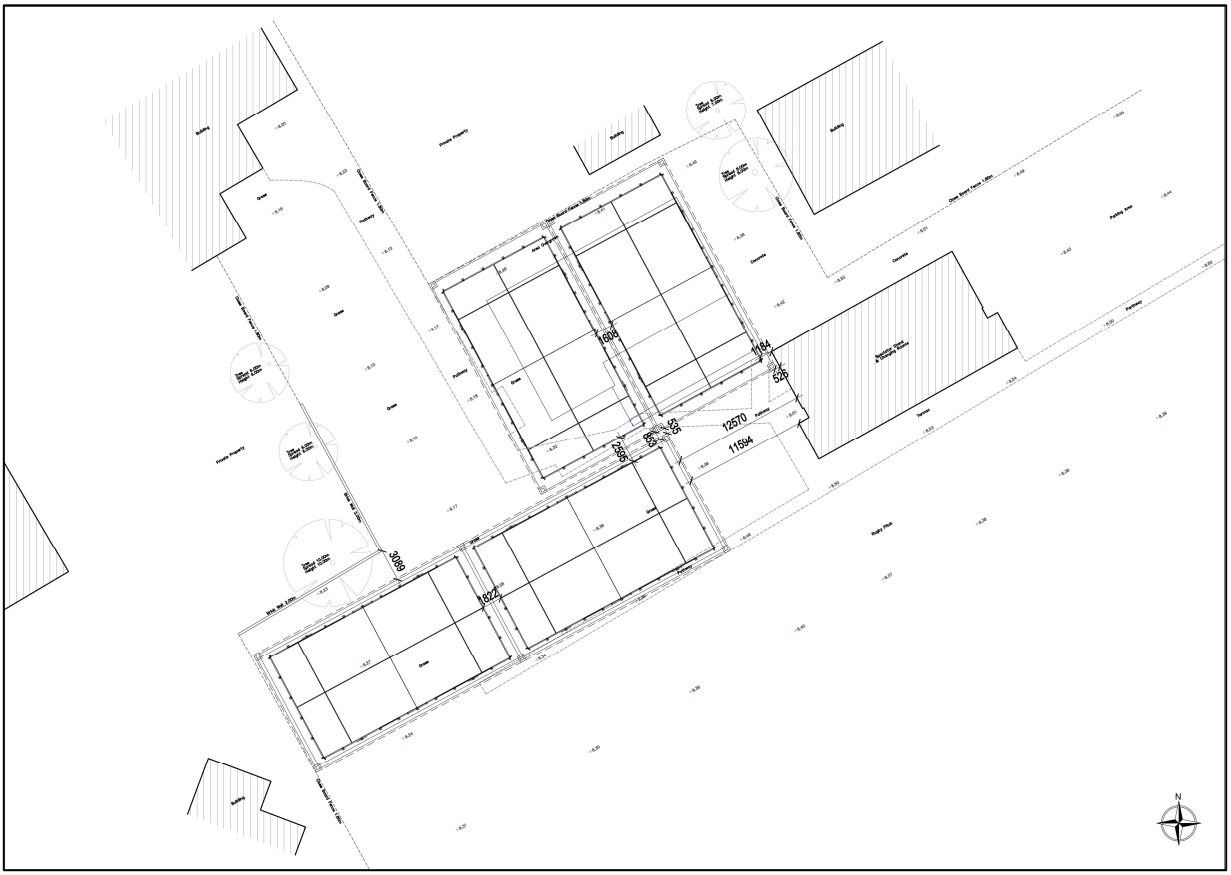


Figure 3 Proposed site plan

As noted previously, the 4 no. courts would be enclosed within a fabric pavilion, details of which are shown in Figure 4.

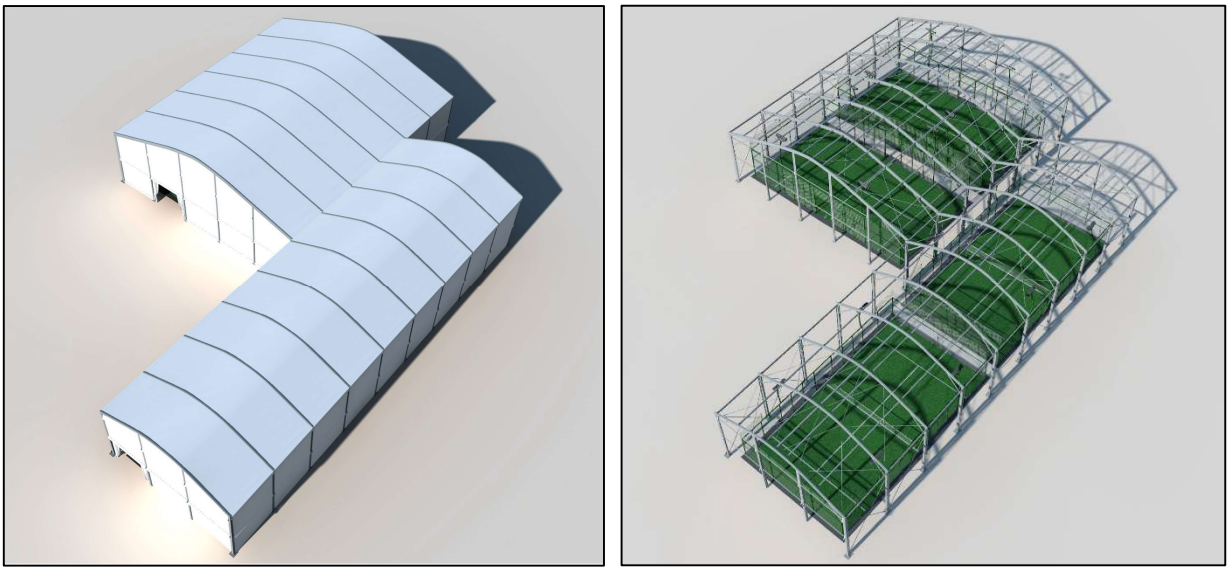


Figure 4 Proposed fabric pavilion (Image Reference: Aracarpas)

As no sound insulation performance data has been provided by the pavilion supplier, it is assumed that the structure would be acoustically transparent to ensure a worst-case scenario is considered. In practice, the structure would likely provide some mild acoustic benefit, particularly at the higher frequencies.

3 ENVIRONMENTAL NOISE SURVEY

3.1 Methodology

An environmental noise survey was undertaken on-site at a location considered representative of the closest noise-sensitive receptors to the site, as shown in Figure 5.



Figure 5 Noise survey measurement position (Image Reference: Google Earth)

The measurement procedure complied with ISO 1996-2:2017 '*Acoustics - Description, measurement and assessment of environmental noise - Part 2: Determination of environmental noise levels'*, with automated monitoring undertaken using 5-minute integration between 11:35 on Tuesday 18th March 2025 and 11:15 on Thursday 20th March 2025.

The key acoustic descriptors measured for this assessment are as follows:

- $L_{Aeq,T}$ *(the continuous equivalent A-weighted noise level over a given time period, T); and*
- $L_{A90,T}$ *(the noise level exceeded for 90% of the measurement period T, referred to as the 'background' noise level).*

3.2 Equipment

Table 1 presents the equipment used for the environmental noise survey. The equipment calibration was verified before and after use and no abnormalities were observed.

Equipment	Make and Model	Serial Number
Sound Level Meter	Svantek 977 Class 1 Sound Level Meter	34191
Microphone Capsule	MTG MK 255	77747
Microphone Preamplifier	Svantek SV 12L	32446
Calibrator	Svantek SV33 Class 1 Sound Calibrator	125829

Table 1 Environmental noise survey equipment

3.3 Results

A noise time history of the measurement data is presented in Appendix B with a summary of the measurement results presented as daytime (07:00-23:00) and night-time (23:00-07:00) levels in Table 2.

Period	Ambient Sound Level $L_{Aeq,\ T}$ (dB)
Daytime 07:00-23:00	49
Night-time 23:00-07:00	48

Table 2 Measured noise levels

Elevated noise levels were observed during night-time hours, as highlighted in red on the environmental noise time history. The source of the elevated noise is unknown, but it is not weather-related as confirmed in Section 3.4.

3.4 Weather Conditions

Weather conditions during the automated monitoring were generally dry with light winds and therefore suitable for the measurement of environmental noise.

Continuous measurements of temperature and wind speed were undertaken with an anemometer installed alongside the noise measurement equipment on site. No winds above 5 m/s were recorded.

Data on precipitation has been sourced from a local weather station[1], with no rainfall reported.

A summary of the weather data is reported in Table 3.

Date/s	Period	Temperature ° C	Avg Wind Speed m/s
18/03/2025	Daytime 12:00-23:00	8.8	1.1
18-19/03/2025	Night-time 23:00-07:00	0.3	0.3
19/03/2025	Daytime 07:00-23:00	13.7	0.9
19-20/03/2025	Night-time 23:00-07:00	7.5	0.1
20/03/2025	Daytime 07:00-23:00	15.3	0.7

Table 3 Weather data

Wind speed has been plotted alongside the environmental noise time history graphs in Appendix B.

[1] Weather Station: Kenley Airfield UK. ID: 03781099999. Distance: 7km. Latitude: 51.3, Longitude: -0.083.

4 PLANNING POLICY, GOOD PRACTICE GUIDANCE & PROPOSED CRITERIA

4.1 Planning Context

4.1.1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) covers issues relating to noise and planning in England.

The paragraphs relating to noise state:

187. Planning policies and decisions should contribute to and enhance the natural and local environment by; […]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans

198. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; […]

200. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

4.1.2 Noise Policy Statement for England (NPSE)

The Noise Policy Statement for England (NPSE) was developed by DEFRA and published in March 2010. The long-term vision of the Government noise policy is to '*Promote good health and good quality of life through the effective management of noise within the context of Government policy on sustainable development*.'

The NPSE vision noted above is supported by the following aims:

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development.

- *Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life*

The NPSE outlines observed effect levels relating to the above, as follows:

- *No observed effect level (NOEL): this is the level of noise exposure below which no effect at all on health or quality of life can be detected;*
- *Lowest observed adverse effect level (LOAEL): this is the level of noise exposure above which adverse effects on health and quality of life can be detected;*
- *Significant observed adverse effect level (SOAEL): This is the level of noise exposure above which significant adverse effects on health and quality of life occur;*

Noise effect levels are not set at absolute noise level targets, but instead vary depending on the context and character of the noise and site-specific factors which may impact on the severity of the effect. The NPSE states:

'It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.'

4.1.3 National Planning Practice Guidance (NPPG)

The NPPG provides practical guidance on how the NPPF should be applied as well as and guidance on the factors influencing whether noise may be a concern at the planning stage and how adverse effects can be mitigated. The table below summarises the effect levels presented within the NPSE, as follows:

Response	Examples of Outcomes	Increasing Effect Level	Action
Not present	No Effect	No Observed Effect	No specific measures required
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific Measures required
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate & reduce to a minimum

Response	Examples of Outcomes	Increasing Effect Level	Action
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. 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 Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Table 4 Noise exposure hierachy

4.1.4 Local Planning Policy

The Newham Local Plan 2018 includes a number of planning policies related to noise, which are as follows:

4.2 Relevant Noise Guidance – British Standards

4.2.1 BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings'

Table 5 of BS 8233:2014 (reproduced below) provides guidance on recommended internal ambient noise levels in residential spaces based on World Health Organisation (WHO) research:

Room	Daytime (07:00-23:00)	Night-time (23:00-07:00)
Living Room	≤ 35 dB $L_{Aeq,16hr}$	N/A
Dining Room	≤ 40 dB $L_{Aeq,16hr}$	N/A
Bedroom	≤ 35 dB $L_{Aeq,16hr}$	≤ 30 dB $L_{Aeq,8hr}$

Table 5 BS 8233:2014 Indoor ambient noise levels for dwellings

Whilst it is accepted that the levels presented above are for steady external noise sources without a specific character, the guidance provides useful context as to what acceptable internal noise levels are in an ideal situation.

4.3 Relevant Noise Guidance – Sports and Recreation Activity

As there is no specific guidance aimed explicitly on the assessment of noise from padel courts, reference is therefore made to other good practice guidance, as well as guidance on other outdoor sports facilities whose operation can generate noise with similar subjective characteristics.

4.3.1 World Health Organisation 'Guidelines for Community Noise'

The World Health Organisation (WHO) 'Guidelines for Community Noise' published in 1999 gives the following description of community noise:

> *"Community noise (also called environmental noise, residential noise or domestic noise) is defined as noise emitted from all sources except noise at the industrial workplace. Main sources of community noise include road, rail and air traffic, industries, construction and public work, and the neighbourhood. Typical neighbourhood noise comes from premises and installations related*

to the catering trade (restaurant, cafeterias, discotheques, etc.); from live or recorded music; sport events including motor sports; playgrounds; car parks; and domestic animals such as barking dogs."

For noise levels internally and externally to dwellings it states:

"To enable casual conversation indoors during daytime, the sound level of interfering noise should not exceed 35 dB L_{Aeq}. The maximum sound pressure level should be measured with the sound pressure meter set at "fast". Based on a 15 dB sound reduction of a partially open window, the noise level outside a residential property during the daytime about 1 metre from façades of living spaces should not exceed 50 dB L_{Aeq}."

For outdoor living areas, it states:

"To protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55 dB L_{Aeq} on balconies, terraces and in outdoor living areas. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound level should not exceed 50 dB L_{Aeq}. Where it is practical and feasible, the lower outdoor sound level should be considered the maximum desirable sound level for new development."

4.3.2 Sports England

The Artificial Grass Pitch (AGP) Acoustics – Planning Implications (Sport England 2015) document brings together relevant noise guidelines and UK planning policies for the assessment of noise from Artificial Grass Pitches.

The guidance identifies the noise implications of the associated sound sources and recommends mitigation measures to limit adverse impacts upon noise sensitive receptors.

Although not explicitly applicable to padel courts, the associated noise sources can be similar to the types of sport played on AGPs (shouting and impact of balls against court-side barriers).

The following suggested criteria are summarised from the document:

- *The noise level outside a residential property during the daytime at about 1 metre from facades of living spaces should not exceed 50 dB L_{Aeq}.*
- *Noise levels in gardens or outdoor living areas should not exceed 50 dB $L_{Aeq,1hour}$.*
- *In some circumstances, an alternative assessment methodology may be appropriate such as where there are changes to an existing natural turf or AGP pitch, or where existing noise levels in the area are high. A 'slight' impact is considered for an increase less than 3 decibels. This generally conforms with the withdrawn Planning Policy Guidance Document 24 (now outdated and redacted) statement that a change of 3 dB(A) is the minimum perceptible under normal conditions.*

4.3.3 Comparative Noise Assessment

The guidance presented in Sections 4.2.1, 4.3.1 and 4.3.2 discusses absolute levels in a dwelling or external amenity area, which does not consider existing noise levels on or around the site.

For certain assessments, it may be more suitable to consider a comparative assessment, which considers not only the noise generated from the activity in question but also the existing noise climate in which that noise is generated. This is particularly relevant in cases where existing noise levels already exceed the WHO guideline values.

In terms of noise level changes, the Glossary of the now withdrawn Planning Policy Guidance 24 (PPG24) states:

"Measurements in dB (A) broadly agree with people's assessment of loudness. A change of 3 dB (A) is the minimum perceptible under normal conditions, and a change of 10 dB (A) corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB (A); normal conversation about 60 dB (A) at 1 metre; heavy road traffic about 80 dB (A) at 10 metres; the level near a pneumatic drill about 100 dB (A)."

The Institute of Acoustics (IOA) and Institute of Environmental Management and Assessment (IEMA) Working Party Consultation Draft 2002 categorises the significance of a change in noise level, as follows:

Noise Change dB	Category
0	No Impact
0 – 2.9	Slight Impact
3.0 – 5.9	Moderate Impact
6.0 – 9.9	Substantial Impact
10.0 or greater	Severe Impact

Table 6 IOA/IEMA significance of change in noise levels

As noted in the table above, a slight impact is considered for an increase of less than 3 decibels, which is commensurate with the PPG24 statement that a change of 3 dB(A) is the minimum perceptible under normal conditions.

As demonstrated by the environmental noise survey results measured on-site, existing noise levels are already below the WHO guideline values. Therefore, a comparative assessment would likely overestimate the probability of adverse impact, and an absolute criterion based on Sports England and WHO guidance would be more suitable for this assessment i.e. the noise level outside a residential property during the daytime at 1 metre from facades of living spaces should not exceed 50 dB L_{Aeq}.

5 NOISE IMPACT ASSESSMENT

5.1 Padel Tennis Source Sound Levels

ESA have previously undertaken a number of assessments for padel tennis sites. As part of this process, measurements have been undertaken at an operational padel tennis site to establish accurate source noise levels.

5.1.1 Methodology

A site visit was undertaken to Parkside Padel Club in Southall, 1 Seva Drive, Southall, UB1 1GH at 20:00 on Tuesday 30th July. Upon arrival at 20:00, all 3 no. outdoor courts were occupied by 4 players each. Site photos are included in Appendix C.

As all courts were in operation during the site visit, Court 1 was first selected for measurement due to it being at the edge of the court grouping. This ensured that the noise captured was minimised from Courts 2 and 3, and the noise levels measured could be broadly attributed to 1 no. court only.

The first set of measurements were undertaken at a position approximately 2m from the centre line of Court 1 between the hours of 20:10 and 20:20, until the players session finished.

Court 3 was selected for the second set of measurements. As with Court 1, Court 3 is at the other end of the court grouping, meaning that noise captured was minimised from Court 2 (Court 1 was not in use at this time), and the noise levels measured could be broadly attributed to 1 no. court only.

The second set of measurements were undertaken at a position approximately 2m from the centre line of Court 3 between the hours of 20:27 and 20:47.

All measurements were undertaken using a 1 second logger.

Weather conditions during the noise measurements were dry with light winds and suitable for the measurement of environmental noise.

5.1.2 Equipment

Table 7 presents the equipment used for the environmental noise survey. The equipment calibration was verified before and after use and no abnormalities were observed.

Equipment	Make and Model	Serial Number
Sound Level Meter	Svantek 971A Class 1 Sound Level Meter	131622
Microphone Capsule	Svantek ACO Pacific Type 7152	82858
Microphone Preamplifier	Svantek SV 18A	130607
Calibrator	Svantek SV33 Class 1 Sound Calibrator	125829

Table 7 Manual measurement noise survey equipment

5.1.3 Results

Time history graphs of both measurement sets are shown in Appendix D. A summary of the measurements is detailed in Table 8.

Measurement Description	Average $L_{Aeq, T}$
Court 1 from 20:10 to 20:20	65.3 dB $L_{Aeq, 10\ min}$
Court 2 from 20:27 to 20:47	65.6 dB $L_{Aeq, 20\ min}$

Table 8 Source noise levels of padel tennis activity

The variation in noise levels throughout the padel tennis activity is evident within the noise time histories. This is simply the inherent nature of the sport, with noise levels being directly associated with the force with which the ball is struck, competitive vocalisations between the players, and occasional ball strikes against the glass and cage elements of the court.

L_{Aeq} levels are comparable at each measurement position, despite the measurement time period being different. We would expect a full 1-hour session to generate similar levels.

5.2 Noise Modelling Exercise with No Mitigation

To demonstrate the expected noise emissions from the proposed padel tennis courts, a noise modelling exercise has been undertaken using SoundPLAN 8.2.

SoundPLAN 8.2 calculates sound propagation and barrier screening effects based on Parts 1 and 2 of ISO 9613 '*Acoustics - Attenuation of sound during propagation outdoors'.*

As the 4 no. courts would be situated within a building structure, the 'industrial building' module of SoundPLAN has been utilised. This effectively allows noise sources to be input within a building structure, calculates a reverberant sound pressure level as a result of the room volume and absorption characteristics of the space, and then calculates a sound power level at the external face of each façade.

4 no. area sources have been input into the model at a height of 1 metre above ground level. The sound power level of each area source was individually calibrated to ensure that the on-site measured sound level of the padel activity (detailed in Table 8) was achieved at 2 metres from the centre line of each court. This resulted in a sound power level of 94.7 dB for each area source.

The glazed screens at either end of the padel court were also considered, which would be treated as a reflective element within the model, with a sound reduction of R_w 35 dB.

As noted previously, the fabric sides of the pavilion would be assumed to provide no sound reduction to ensure a worst-case scenario is considered.

A screenshot showing the inside of the fabric pavilion within the SoundPLAN model is presented in Figure 6, which shows the area sources in red and the glazed ends of the padel courts in green.

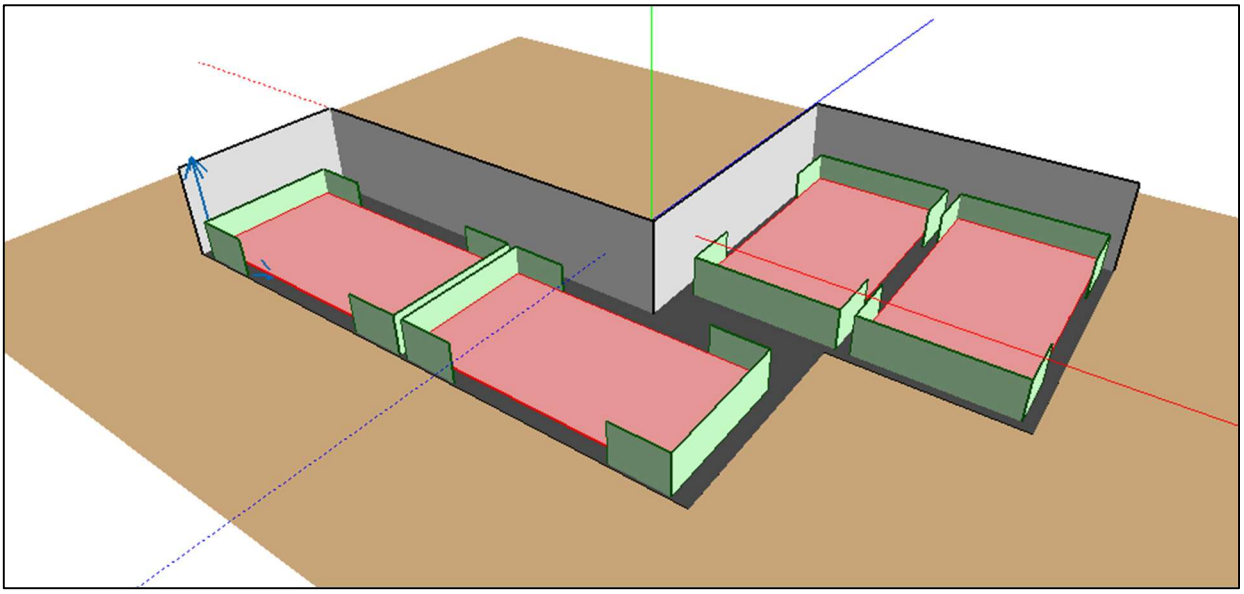


Figure 6 Inside the 'industrial building' module within SoundPLAN

A summary of the noise model output is shown in Figure 7, with a full map presented in Appendix E.

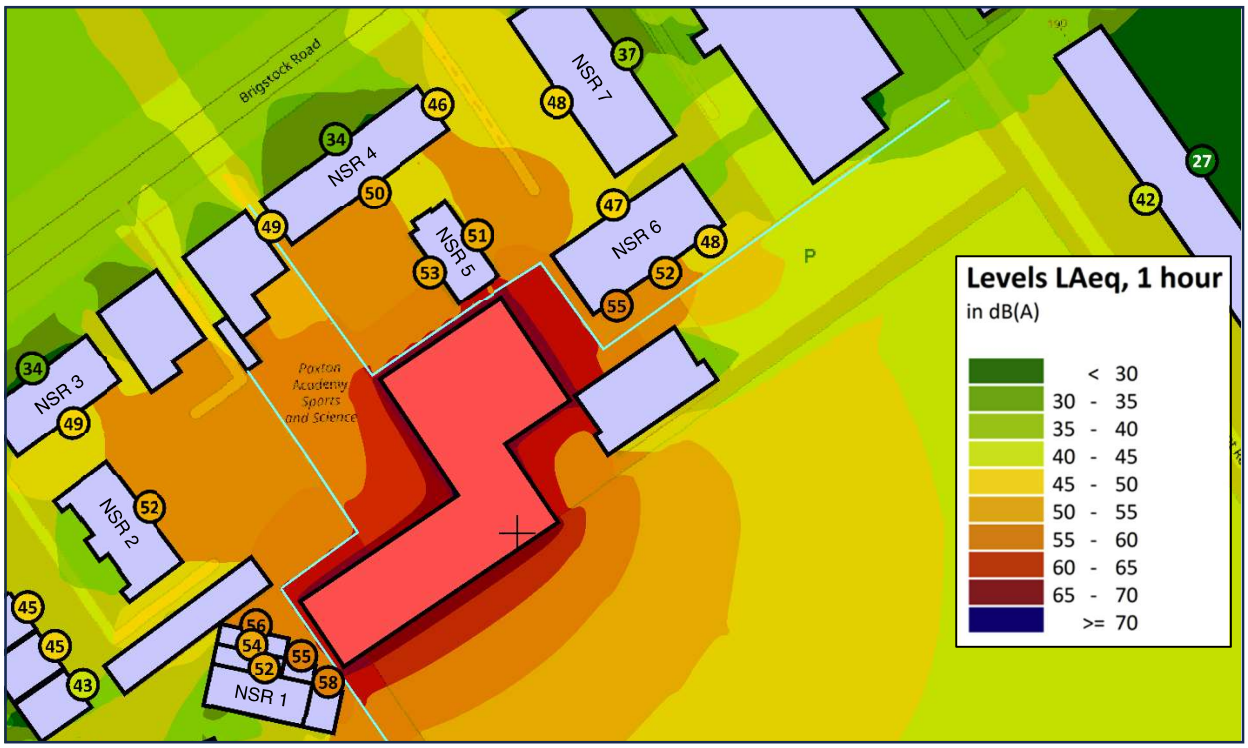


Figure 7 Noise map of all courts fully occupied – average $L_{Aeq,\ 1\ hour}$ noise levels (no mitigation)

5.3 Noise Assessment Results with No Mitigation

The worst-case absolute noise levels generated by the proposed padel tennis courts are compared against the established criterion in Table 9.

Receptor	Criterion	Worst-Case Noise Level Predicted at Closest Receptor	+ / - vs Criterion
NSR 1	≤ 50 dB $L_{Aeq,\ 1\ hour}$	58 dB $L_{Aeq,\ 1\ hour}$	+8
NSR 2	≤ 50 dB $L_{Aeq,\ 1\ hour}$	52 dB $L_{Aeq,\ 1\ hour}$	+2

Receptor	Criterion	Worst-Case Noise Level Predicted at Closest Receptor	+ / - vs Criterion
NSR 3	≤ 50 dB $L_{Aeq, 1\ hour}$	49 dB $L_{Aeq, 1\ hour}$	-1
NSR 4	≤ 50 dB $L_{Aeq, 1\ hour}$	50 dB $L_{Aeq, 1\ hour}$	0
NSR 5	≤ 50 dB $L_{Aeq, 1\ hour}$	53 dB $L_{Aeq, 1\ hour}$	+3
NSR 6	≤ 50 dB $L_{Aeq, 1\ hour}$	55 dB $L_{Aeq, 1\ hour}$	+5
NSR 7	≤ 50 dB $L_{Aeq, 1\ hour}$	48 dB $L_{Aeq, 1\ hour}$	-2

Table 9 Worst-case unmitigated absolute noise levels from padel tennis courts at closest receptors

5.4 Discussion of Results and Assessment of Impacts with No Mitigation Applied

Absolute noise levels of the proposed padel tennis activity are generally above the absolute noise level criterion of 50 dB(A) recommended in WHO and Sports England guidelines.

NSR 1, 2, 5 and 6 are exposed to noise levels 2-8 dB above the criterion, and therefore, additional mitigation would be required.

5.5 Proposed Mitigation Measures

To reduce noise emissions to the surrounding receptors, we would recommend that the fabric structure of the pavilion be enhanced in specific areas with an 'acoustic curtain'.

It is understood from the supplier of the pavilion that this product is effectively sewn into the fabric of the structure and acts as a 'mass barrier' to provide an elevated level of sound insulation. The material is shown in Figure 8.

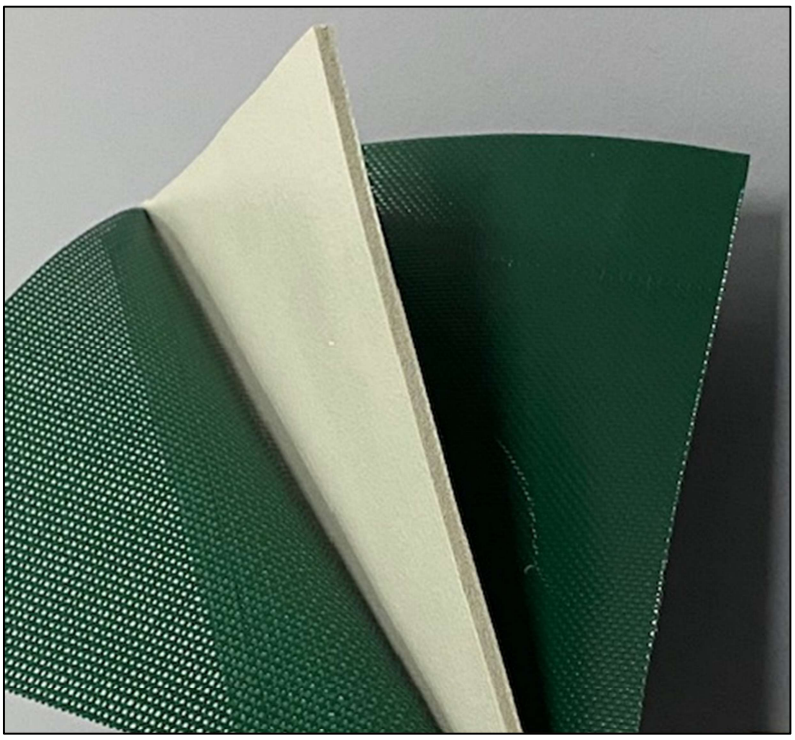


Figure 8 Acoustic curtain 'mass barrier'

A laboratory test datasheet for the product is presented in Appendix F, which shows that the product provides a sound reduction of R_w 16 dB.

In order to ensure that the criterion is met at all surrounding receptors, the acoustic curtain should be implemented in the zones marked in red in Figure 9.

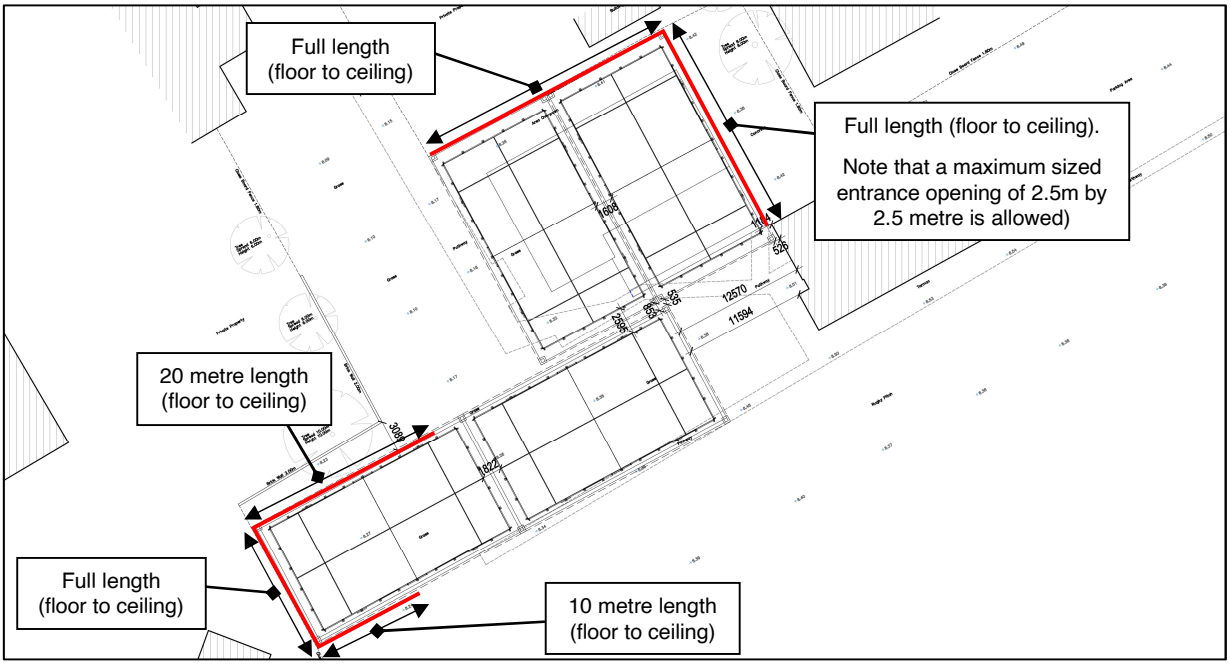


Figure 9 Proposed acoustic curtain installation placement

As noted in the figure above, the acoustic curtain should run from floor to ceiling (full height) in all the areas denoted.

5.6 Noise Modelling Exercise with Proposed Mitigation Measures

A repeat noise modelling exercise has been undertaken to verify the effectiveness of the proposed mitigation measures. A summary of the noise model output is shown in Figure 10, with the full map presented in Appendix G.

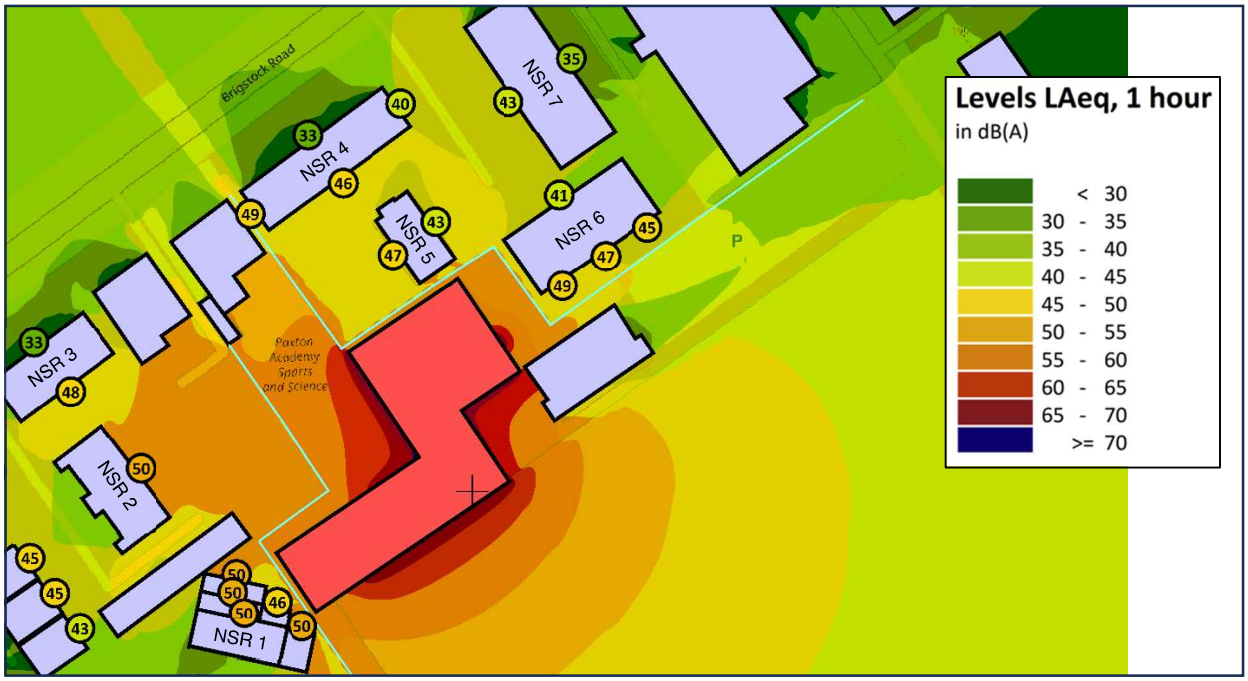


Figure 10 Noise map of all courts fully occupied with mitigation applied – average $L_{Aeq,\ 1\ hour}$ noise levels

5.7 Mitigated Noise Assessment Results

The worst-case absolute noise levels generated by the proposed padel tennis courts with the mitigation measures applied are compared against the established criterion in Table 10.

Receptor	Criterion	Worst-Case Noise Level Predicted at Closest Receptor	+ / - vs Criterion
NSR 1	≤ 50 dB $L_{Aeq, 1\ hour}$	50 dB $L_{Aeq, 1\ hour}$	0
NSR 2	≤ 50 dB $L_{Aeq, 1\ hour}$	50 dB $L_{Aeq, 1\ hour}$	0
NSR 3	≤ 50 dB $L_{Aeq, 1\ hour}$	48 dB $L_{Aeq, 1\ hour}$	-2
NSR 4	≤ 50 dB $L_{Aeq, 1\ hour}$	46 dB $L_{Aeq, 1\ hour}$	-4
NSR 5	≤ 50 dB $L_{Aeq, 1\ hour}$	47 dB $L_{Aeq, 1\ hour}$	-3
NSR 6	≤ 50 dB $L_{Aeq, 1\ hour}$	49 dB $L_{Aeq, 1\ hour}$	-1
NSR 7	≤ 50 dB $L_{Aeq, 1\ hour}$	43 dB $L_{Aeq, 1\ hour}$	-7

Table 10 Worst-case mitigated absolute noise levels from padel tennis courts at closest receptors

5.8 Discussion of Results and Assessment of Impacts with Mitigation Applied

Absolute noise levels of the proposed padel tennis activity are at or below the absolute noise level criterion of 50 dB(A) recommended in WHO and Sports England guidelines for all receptors, demonstrating the effectiveness of the proposed mitigation measures.

The worst-case resultant noise level of 50 dB(A) would be considered to fall within the No Observed Adverse Effect Level (NOAEL) categorisation as per National Planning Policy Guidance. This would correspond to the noise being heard, but not significant enough to cause any change in behaviour, attitude or other physiological response. While the noise could be considered to slightly affect the acoustic character of the area, it would not be significant enough to cause a change in the quality of life.

6 CONCLUSION AND SUMMARY

ES Acoustics Ltd have been commissioned by Padel Wld Ltd to prepare a noise impact assessment in support of an application for planning permission for the erection of a padel sports centre at the Croydon Rugby Club, 159 Brigstock Road, Thorton Heath, CR7 7JP.

The scheme is comprised of 4 no. padel tennis courts enclosed within a fabric pavilion.

A noise modelling exercise of the padel tennis activity has been produced using SoundPLAN 8.2 to establish noise propagation from the site to the surrounding area and noise-sensitive receptors.

Absolute noise levels of the proposed padel tennis activity as proposed have been calculated to be generally above the absolute noise level criterion of 50 dB(A) recommended in WHO and Sports England guidelines. NSR 1, 2, 5 and 6 are exposed to noise levels 2-8 dB above the criterion, and therefore, additional mitigation would be required, which is detailed within Section 5.5.

Providing the mitigation measures are installed, absolute noise levels of the proposed padel tennis activity are reduced to ensure that the criterion of 50 dB(A) is met at all receptors.

The worst-case resultant noise level of 50 dB(A) would be considered to fall within the No Observed Adverse Effect Level (NOAEL) categorisation as per National Planning Policy Guidance. This would correspond to the noise being heard, but not significant enough to cause any change in behaviour, attitude or other physiological response. While the noise could be considered to slightly affect the acoustic character of the area, it would not be significant enough to cause a change in the quality of life.

APPENDIX A

GLOSSARY OF ACOUSTIC TERMINOLOGY

Decibel scale - dB

The decibel (dB) is a relative unit of measurement used in acoustics. The dB is a logarithmic ratio between a measured level and a reference level of 0 dB (i.e the threshold of human hearing). Simply put, the decibel compresses the wide range of sounds we hear into more manageable numbers.

Addition of noise from several sources

Sound produced by multiple sound sources are added logarithmically e.g. power ratio of 2 = 3dB, power ratio of 10 = 10dB. Therefore, two equally intense sound sources operating simultaneously produce a sound level which is 3dB higher than a single source e.g. 60dB + 60dB = 63dB.

Subjective impression of noise

Human response to sound is highly individualized and often based on psychological factors such as emotion and expectation. Sensitivity to sound typically depends on the loudness, pitch, duration of the occurrence, and time of occurrence (e.g. a sound source could cause annoyance during the night where it would not during the day). The following table is a guide to explain increases or decreases in sound levels for many scenarios.

Change in sound level	Change in perceived loudness
1 dB	Imperceptible
3 dB	Just barely perceptible
6 dB	Clearly noticeable
10 dB	About twice as loud

'A' Weighted Frequency Filter - dB(A)

The human ear is not equally sensitive in all frequencies. The A-weighting filter was devised to take this into account when undertaking noise measurements and allows a sound level meter to replicate the human ears response to sound.

$L_{Aeq, T}$

Sound can fluctuate widely over a given period. L_{Aeq} is the A-weighted equivalent continuous sound level, with T denoting the time period over which the fluctuating sound levels were averaged e.g. $L_{Aeq,16h}$ is the equivalent continuous noise level over an 16 hour period.

L_{A90}

A-weighted sound level exceeded for 90% of the measurement period, calculated via statistical analysis. The L_{A90} descriptor is typically used to establish background sound levels for noise impact assessments

L_{A10}

A-weighted sound level exceeded for 10% of the measurement period, calculated via statistical analysis.

L_{AFmax}

A-weighted sound level maximum sound pressure level that has been measured over a given time period

APPENDIX A

GLOSSARY OF ACOUSTIC TERMINOLOGY

Octave Bands

The audio or frequency spectrum of the human ear is in the range of 20Hz to 20 kHz. The spectrum tells how the energy of the sound signal is distributed in frequency. Octave bands divides the audio spectrum into 10 equal parts. The International Standards Organisation defines the centre frequency of these bands as 31.5Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1kHz, 2kHz, 4kHz, 8kHz and 16kHz.

Noise Rating (NR) Curves

A method of rating noise using a set of curves relating octave band sound pressure levels. Typically used for building services systems within offices

Airborne sound

Sound radiated from a source into the surrounding air e.g. musical instruments, tv/radio, machinery/equipment. Airborne sound insulation refers to the reduction or attenuation of airborne sound, usually via a solid partition between a source and receiver.

Impact sound

Sound resulting from the impact between colliding objects, e.g. footfall impact upon a floor. Impact sound insulation refers to the resistance of a floor to the transmission of impact sound, typically via the installation of a ‘resilient layer’

Flanking sound

The transmission of airborne sound between two adjacent rooms by paths other than via the separating partition between the rooms, e.g. the abutment point of a wall and floor.

Structure-borne noise

Noise caused by the vibration of elements of a structure. This can result in reradiated noise, whereby the vibrating element transmits airborne sound into a space e.g. vibration caused by mechanical plant installed within a plant room which is not adequately isolated from the structure, or construction/demolition work in an adjacent building.

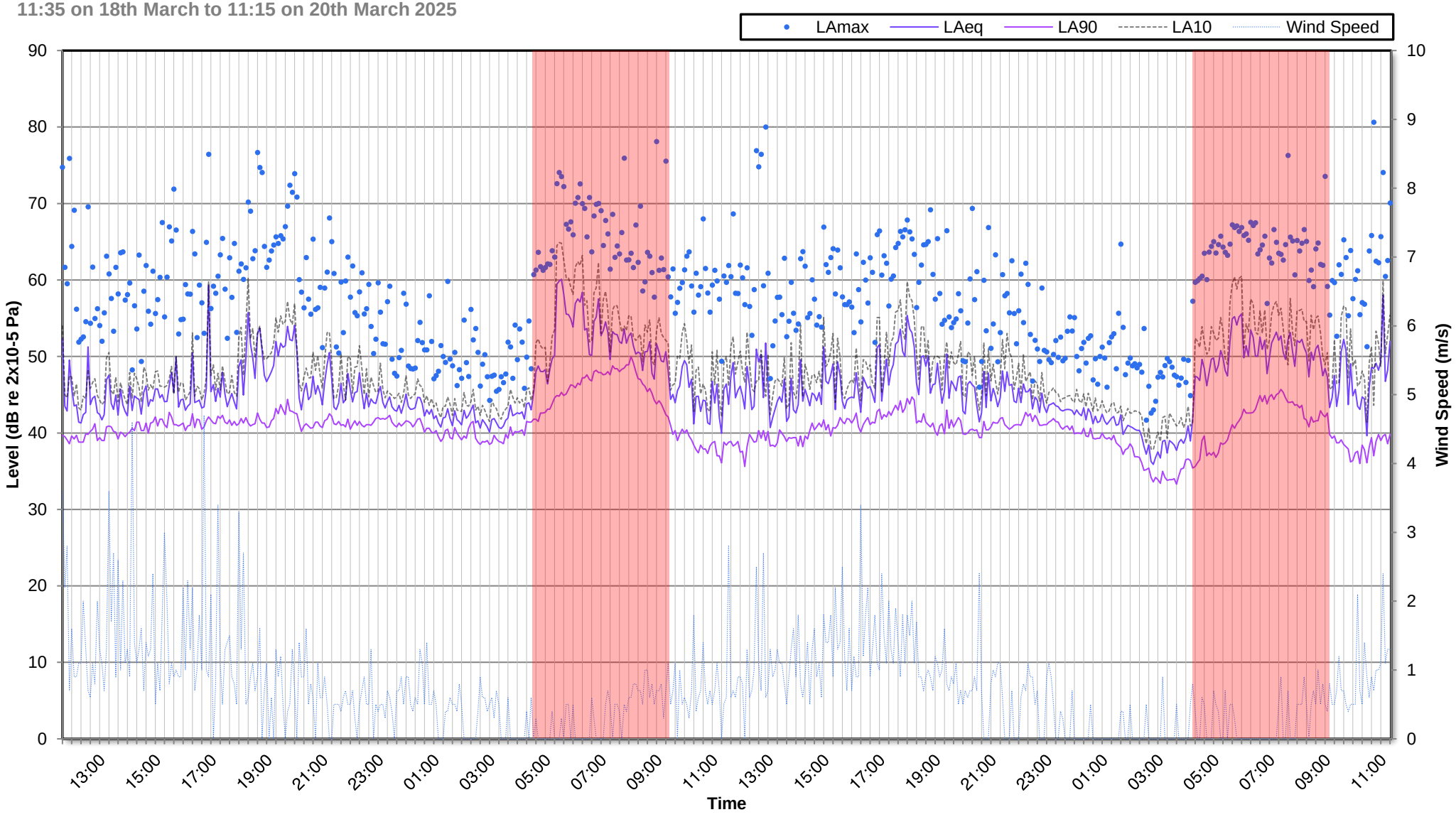
Reverberant sound

Sound in an enclosed space (usually a room), which results from repeated reflections at the boundaries. Reverberation time is the time taken for a steady sound level in an enclosed space to decay by 60dB, measured from the moment the sound source is switched off. A example of a typically reverberant space would be a classic church. Absorptive materials can be used to reduce reflections and reverberation times.

APPENDIX B

ENVIRONMENTAL NOISE TIME HISTORY GRAPH

21079.ENIA-RPT.01
11:35 on 18th March to 11:15 on 20th March 2025



APPENDIX C

SOURCE NOISE MEASUREMENT INFORMATION

Court 1



APPENDIX C

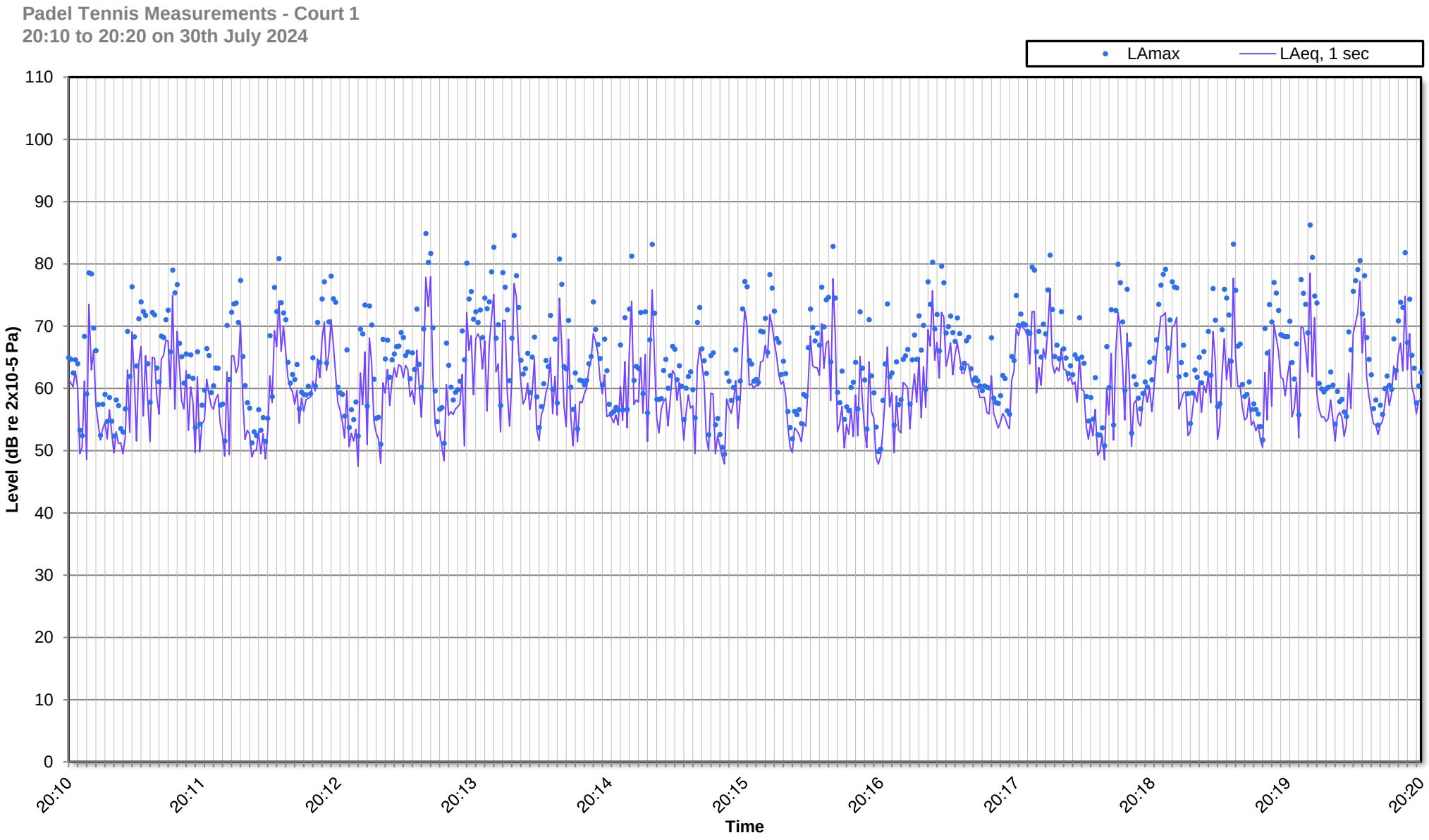
SOURCE NOISE MEASUREMENT INFORMATION

Court 3



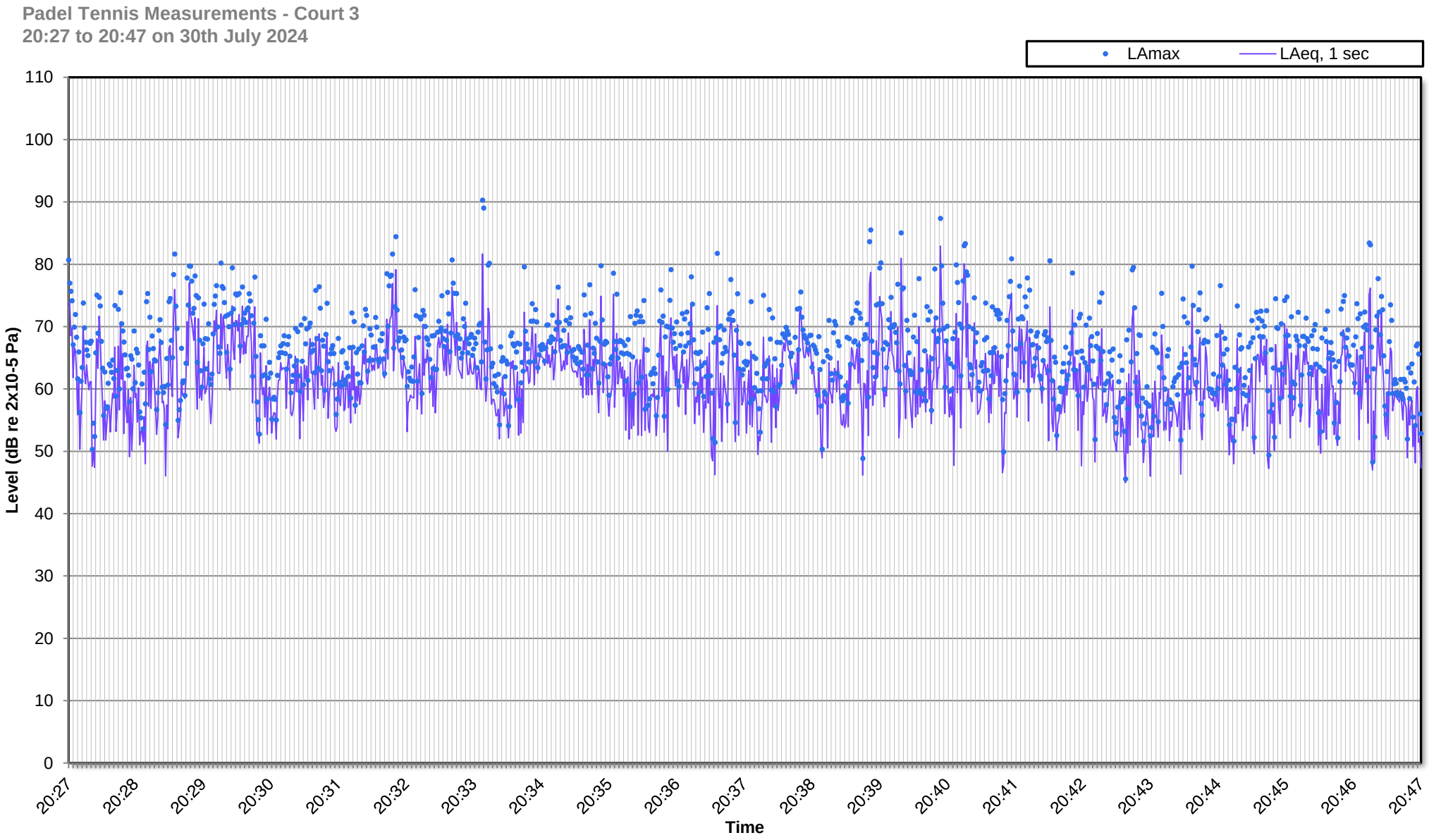
APPENDIX D

SOURCE NOISE MEASUREMENT TIME HISTORY GRAPHS



APPENDIX D

SOURCE NOISE MEASUREMENT TIME HISTORY GRAPHS



APPENDIX E

NOISE MODEL RESULTS WITH NO MITIGATION APPLIED



Customer: Padel Wld Ltd
Project:
Project-No. 21079

Map 1

All Courts Fully Occupied with No Additional Mitigation Applied
Average noise levels (LAeq) over 1 hour
Grid Map Calculation at 1.5 m above ground
Facade Map Calculatioin at 1 m from facade

Project engineers: Daniel Green MIOA
Created: 01/04/2025
Processed with SoundPLAN 8.2

Levels LAeq, 1 hour
in dB(A)

<	30
30 -	35
35 -	40
40 -	45
45 -	50
50 -	55
55 -	60
60 -	65
65 -	70
>=	70

Legend

- Padel Courts inside Pavilion
- Building
- Facade point
- Existing Fencing / Wall

N

Length scale 1:742
0 5 10 20 30 40 m

Noise Modelling & Map Prepared By: es acoustics

APPENDIX F

ACOUSTIC CURTAIN LABORATORY TEST DATASHEET

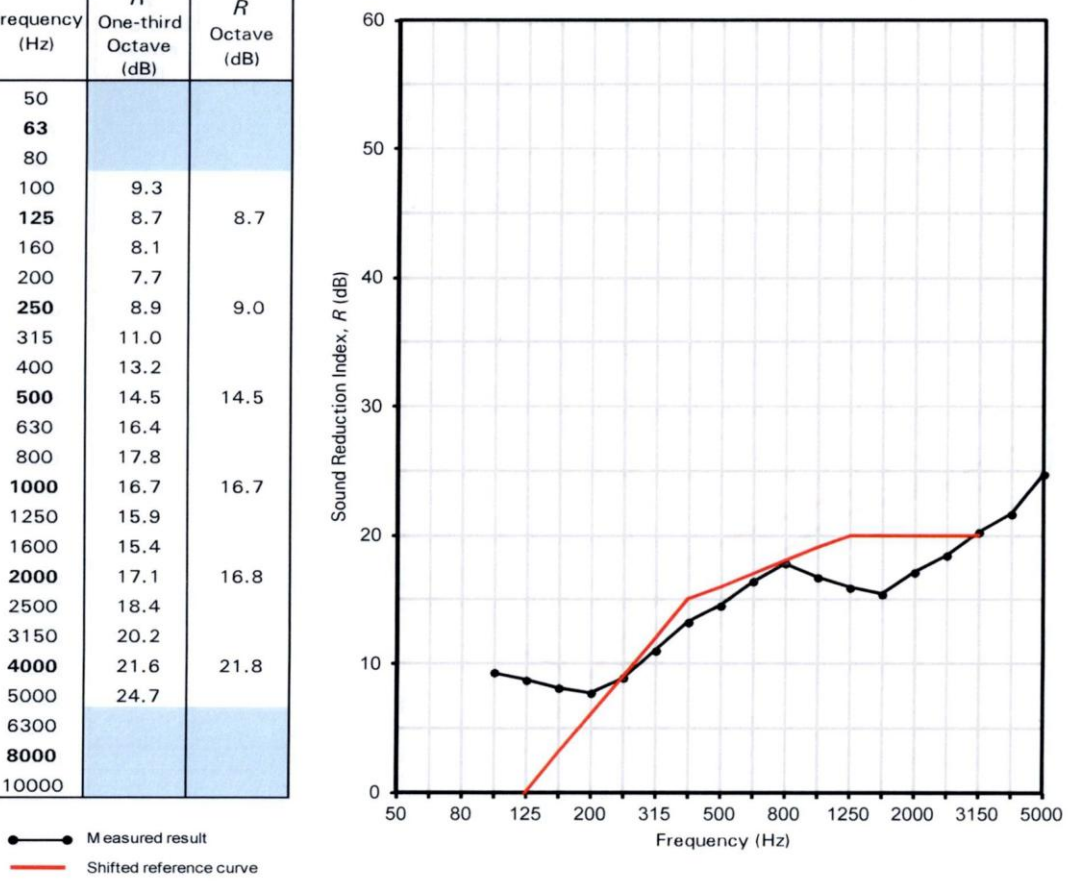
AIRO Report No. L/3464 Dated: 8 March 2019

Sound Reduction Index (*R*) according to BS EN ISO 10140-2:2010

Test No. L/3464/1 Date of Test: 13 February 2019
Client: AA Covers Kent Ltd
Specimen: Barrier Panel No. 1
Installed by: AIRO
Specimen area: 1.77 m² Mass per unit area: 2.2 kg/m²

Chamber Conditions	Volume	Air Temperature	Relative Humidity	Air Pressure
Source Chamber	94 m³	8°C	85%	1015 hPa
Receiving Chamber	221 m³	8°C	85%	1015 hPa

Frequency (Hz)	*R* One-third Octave (dB)	*R* Octave (dB)
50		
63		
80		
100	9.3	
125	8.7	8.7
160	8.1	
200	7.7	
250	8.9	9.0
315	11.0	
400	13.2	
500	14.5	14.5
630	16.4	
800	17.8	
1000	16.7	16.7
1250	15.9	
1600	15.4	
2000	17.1	16.8
2500	18.4	
3150	20.2	
4000	21.6	21.8
5000	24.7	
6300		
8000		
10000		



Rating according to BS EN ISO 717-1:2013

$R_w\ (C;C_{tr})$ = **16 (0;-2) dB**

$C_{50\text{-}3150}$ = 0 dB $C_{50\text{-}5000}$ = 1 dB $C_{100\text{-}5000}$ = 1 dB
$C_{tr,50\text{-}3150}$ = -2 dB $C_{tr,50\text{-}5000}$ = -2 dB $C_{tr,100\text{-}5000}$ = -2 dB

Evaluation based on laboratory measurement results obtained by an engineering method

Approved by:

D L Watts

Eur Ing D L Watts BEng CEng FIOA
Principal Consultant

Report Author:

M Sawyer

M Sawyer MIOA
Laboratory Manager

APPENDIX G

NOISE MODEL RESULTS WITH MITIGATION APPLIED



Customer: Padel Wld Ltd
Project:
Project-No. 21079

Map 2

All Courts Fully Occupied with Additional Mitigation Applied (Acoustic Curtain)
Average noise levels (LAeq) over 1 hour
Grid Map Calculation at 1.5 m above ground
Facade Map Calculatioin at 1 m from facade

Project engineers: Daniel Green MIOA
Created: 01/04/2025
Processed with SoundPLAN 8.2

Levels LAeq, 1 hour
in dB(A)

<	30
30 -	35
35 -	40
40 -	45
45 -	50
50 -	55
55 -	60
60 -	65
65 -	70
>=	70

Legend

- Padel Courts inside Pavilion
- Building
- Facade point
- Existing Fencing / Wall

N

Length scale 1:742
0 5 10 20 30 40 m

Noise Modelling & Map Prepared By: es acoustics

根據《城市規劃條例》(第 131 章)

第 16 條遞交的許可申請

新界元朗錦田丈量約份第 107 約地段第 1560 號(部份)

及毗連政府土地

擬議臨時康體文娛場所(板式網球)

連附屬食肆及商店及服務行業(為期 3 年)

申請報告書及擬議發展的計劃細節

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7. 板式網球場的營運情況----------P.12
8. 板式網球的呎吋及參考照片----------P.13
9. 有關交通舒緩措施----------P.14-16
10. 附件 1：Padel Tennis Introduction
11. 附件 2：隔音物料及 Line of sight plan
12. 附件 3：排水建議書

擬議發展細節

1. 申請人現根據《城市規劃條例》(第 131 章)第 16 條，提交有關新界元朗錦田丈量約份第 107 約地段第 1560 號(部份)及毗連政府土地的規劃申請，擬在上述地段申請為期三年的臨時康體文娛場所(板式網球)連附屬食肆及商店及服務行業。
2. 申請地點位於元朗錦田水尾路附近，在《錦田北分區計劃大綱核准圖編號 S/YL-KTN/11》上劃為「綜合發展區」及「綜合發展區 (1) 」用途。
3. 申請地盤面積為約 8,200 平方米，包括 100 平方米政府土地，上蓋總面積為 4,678 平方米，露天地方面積為 3,522 平方米，上蓋覆蓋率為 57%。
4. 申請地點將設有 6 個構築物和 18 個板式網球球場，用途及面積請參考 List of Structures。
5. 申請地點不涉及上落貨車位或私家車位。
6. 申請地點的職員約 5-6 人。
7. 如擬議的 18 個球場同時開放，同一時間進行標準雙打球類活動，實際最高訪客量為 72 人【72 人已包括：板式網球場使用者、附屬商店及餐飲設施，以及多功能室（Function Room）的使用者】。
8. 訪客可從錦上路站乘坐新界區專線小巴路線 620 號，在峻巒交通總匯下車，然後步行 10 分鐘，即可到達申請地點。
9. 擬議發展的臨時食肆、商店及服務行業，主要包括：出售運動用品及服裝、球拍、咖啡室及便利店等，主要為板式網球的訪客提供方便和服務。
10. 申請地點內的食肆主要出售一些小食及飲品，例如精品咖啡及茶飲、烘焙糕點（蛋糕及三文治等）、冷盤及輕食（沙律及水果杯）。
11. 擬議發展（包括球場和商店及食肆）的營運時間為星期一至星期日及公眾假期上午 8 時至下午 8 時。

12. 擬議的 Function Room 是用作 Gym 用途，給訪客做健身及熱身運動。
13. 擬議的商店主要出售板式網球及球拍，以及一些運動服裝及用品等。如規劃獲批，申請人會按照指引向食環處申請食肆的牌照。
14. 擬議的板式網球場尺寸為 20 米 × 10 米，為了減少對周邊環境的影響，申請人需在球場加上帳蓬作緩解措施，確保球類活動在密封的帳蓬內進行，所以每個球場都會加上帳蓬。加上帳篷後，每個球場連帳蓬的實際呎吋為 21 米× 11 米。
15. 申請人確認在規劃許可批准期間，除了在封閉的網球場內進行的板網球活動，以及在附屬多功能室 (Function Room) 內進行的健身與熱身運動外，絕不會在申請場地內進行任何其他種類的體育活動。
16. 擬議的附屬食肆將會提供約 10-12 個座位，以供板式網球場的訪客享用輕食或飲品之用。
17. 規劃申請：A/YL-KTN/1130 的申請人是申請地點的前租客，他已把申請地點轉租給本申請人，因此前租客不會繼續之前的貨倉申請。

申請原因

1. 申請地點涉及「綜合發展區」及「綜合發展區 (1) 」地帶，擬議申請的康體文娛場所 (板式網球)、以及食肆及商店及服務行業，屬「綜合發展區」及「綜合發展區 (1) 」地帶的「第二欄用途」，與規劃意向相符，和周邊環境及用途協調。
2. 板式網球是結合了網球與乒乓球的一種新興體育運動 (請看附件 1)，因其球拍結構類似於乒乓球拍，所以叫做板式網球。這項運動在國外以休閒為主，但隨着它越來越被大眾所喜愛，將來極有可能發展成為職業運動。當下中國已有部分城市已經開始引進並推廣這一集休閒、健身、競技於一體的新興運動，申請人希望可藉此推廣這個新興的體育文化。
3. 擬議發展只是臨時三年的性質，不會影響土地的長遠發展。
4. 申請用途不會影響天然環境，不會砍伐樹木，不會對周邊地區及環境帶來重大負面影響。
5. 申請用途屬臨時性質，不會有任何損害周邊環境設施，不會安裝霓虹燈光招牌；夜間不會有音響播放及商業推銷活動，也不會產生光害滋擾，不會有過大的噪音聲浪問題，不會影響附近環境及民居。
6. 申請人會採取環境保護署發出的《處理臨時用途及露天貯存用地的環境問題作業指引》所列載的緩解環境影響措施，以盡量舒緩擬議發展對環境造成的滋擾。
7. 申請地點的工作人員約 5-6 人，不會有人在留宿，他們只在營業時間內上班。
8.

根據以上各點，申請人誠意懇求城市規劃委員會寬大批准新界元朗錦田丈量約份第 107 約地段第 1560 號（部份）及毗連政府土地作為期不超過三年的擬議臨時康體文娛場所（板式網球）連附屬食肆及商店及服務行業。

鄰近民居而採取的環境舒緩措施

由於申請地點鄰近居民，為了減少擬議申請對附近居民（特別是屋苑 Park Yoho）的影響，申請人會採取以下措施：

1. 申請範圍的邊界距離 Park Yoho 第 25A 座約 22.5 米，而擬議球場距離 Park Yoho 第 25B 座的最近的距離約 40 米，申請範圍的西面（最接近旁邊屋苑的位置）是一個密封的構築物（洗手間及更衣室），盡量減少對周邊居民的影響。
2. 擬議申請的營業時間為早上 8 時至晚上 8 時，並會嚴格執行只在營業時間內進行球場活動，營業時間以外的時間不會有任何開放。
3. 申請人不會使用公共廣播系統、吹哨子、使用手提揚聲器或任何形式的擴音系統。
4. 申請地點範圍四邊已設有圍板，高度不超過 3.5 米，並會上加上立體纖維吸隔音板；其密度為 300 kg/m³；厚度為 9mm（詳請規格看附件 2），吸隔音板以聚酯纖維材質結合高分子隔音底板，有效吸收聲音能量，避免空間產生回音及雜音問題，還能阻絕聲音穿透，經實驗證實可降低 20～25 分貝的音量，同時達到「吸音」與「隔音」的效果，減少對周邊居民的影響。
5. 訪客只會在密封的帳蓬球場內進行球場活動，盡量減少影響周邊居民。
6. 擬議的球場會用隔音玻璃間牆，並加上帳蓬（包括頂部及四邊），而且會使用隔音物料，作為緩衝作用，能大大減少打球時帶來的影響。
7. 擬議申請的球場，都採用隔音玻璃（球場專用的夾膠玻璃總厚度一般為 13.52mm）：在兩片玻璃間夾入專用隔音膜，能有效吸收打球時的聲音、減少共振，減聲量：大約 10 分貝(A)或以上。
8. 球場的頂部及四邊都設置帳蓬，那些帳蓬會特別訂制使用 PVC 隔音布料，

其表面密度約為 6.98 kg/m²（請看附件 2 的詳細資料及證書），將球場裡空間中的打球聲音能量吸收，減少聲音反射，降低噪音，減少對周邊居民的影響。

9. 球場的地毯也會用高密度的吸音地毯（請看附件 2），能吸收打球時的聲音，減少對周邊居民的影響。
10. 擬議申請沒有機械設備，主要是密封的構築物及球場，構築物是使用臨時貨櫃搭建，裡面的間牆都使用隔音物料搭建，冷氣也使用靜音的分體冷氣機，沒有其他電子及機械設施。
11. 由於球場帳蓬總高度為 11 米，球場的帳蓬把球場四周都已遮擋，低層的居民沒法直視球場的。
12. 關於公眾對帳篷顏色過於鮮豔的關注，為減低視覺影響並與周邊的環境相融，申請人願意調整並會採納較溫和的色調（例如大地色及淺灰色）作為帳篷的顏色。
13. 申請人承諾在所有相關的環境緩解措施完全落實之前，本場地絕對不會開展任何板式網球（Padel Tennis）活動。這將確保球場營運期間不會對周邊居民造成任何噪音干擾。
14. 若然規劃申請批出，申請人承諾將會與周邊屋苑居民、管理處及相關人士保持緊密溝通與聯絡。在項目推行及營運期間，申請人會主動聽取各意見，並採取有效措施以盡量減少他們對是項擬議用途的疑慮，確保項目與周邊社區和諧共處。
15. 市場上沒有板式網球專用的靜音球或靜音球拍。因為板式網球的外觀材質就是由橡膠和毛氈製成，就像縮小版的網球，屬於「無壓球」或「低壓球」，這讓球在撞擊球拍或玻璃牆時，不會彈跳得太大及造成很大的噪音。
16. 而板式網球拍是實心碳纖維或複合材料面板，上面佈滿小孔，長度較短。
17. 申請人為了不影響 PARK YOHO 的居民，只好採用密封帳蓬的球場內，

這設計當然並非最完美，但為了 PARK YOHO 的居民，申請人願意作出協調和讓步。申請人會在球場內做好通風系統，防止熱氣積聚，將產生的熱量迅速傳導並帶走，避免打球的人中暑。



板式網球拍



板式網球

有關球場隔音玻璃資料

LAUREL GLASS
Leading solutions for Glass!



Padel Courts Glass

Padel court glass is generally made from either 10mm or 12mm tempered glass or 13.52mm (6+1.52+6) tempered laminated glass. It features polished edges and countersunk holes for straightforward installation. The typical sizes of the glass panels are 3000 x 2000 mm, 2995 x 1995 mm, and 1995 x 1995 mm.

Product Introduction

High-Performance Tempered & Laminated Glass For Tennis & Padel Courts

Padel glass for tennis courts is made from tempered glass and tempered laminated glass. Laurel tempered glass, also known as toughened glass, is produced by heating annealed glass to approximately 650°C, at which point it begins to soften. A strong compression is created when the external surfaces are rapidly cooled. The heating and cooling processes are carefully controlled, and the parameters used in this process significantly influence the quality of the tempered glass. Fully tempered glass is 4 to 5 times stronger than annealed glass of the same thickness. Glass can be heat-strengthened, heat-soaked, polished at the edges, drilled, treated, and printed using silkscreen or digital methods. Typically, the edges of padel glass should be flat-polished for optimal safety and aesthetics.

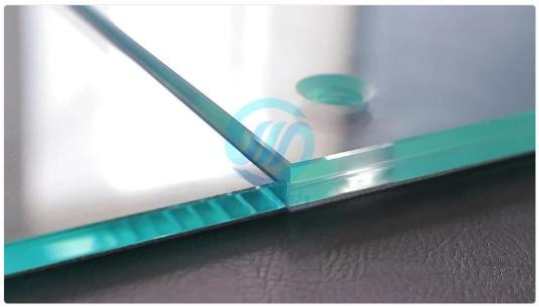
We specialize in manufacturing high-quality tempered glass and tempered laminated glass for tennis courts, padel courts, squash courts, and sports fencing. Our glass meets the highest safety and durability standards, making it ideal for professional and recreational sports facilities.

Products Specifications

Product Name	Tempered & Laminated Glass for Padel/Tennis Courts
Thickness	10mm, 12mm, 11.14mm, 13.52mm
Standard Sizes	3000x2000mm; 2995x2995mm; 1995x1995mm; 2995x1995mm; 2985x1995mm
Glass Type	153*203
Edge Finish	Flat Polished
Hole Options	Countersunk Holes
MOQ	5m²
Delivery Time	Within 15-20 days

Products Features

✓ **Superior Strength** – Fully tempered glass is 4-5 times stronger than standard annealed glass.
✓ **Customizable Designs** – Available in 10mm, 12mm, 11.14mm, and 13.52mm laminated glass for optimal performance.
✓ **Precision Countersunk Holes & Polished Edges** – Our high-quality drilled holes and polished edges ensure seamless installation and a professional finish.
✓ **Safety & Durability** – Laminated glass provides impact resistance, reducing the risk of injury.
✓ **Custom Sizes & Shapes** – We produce tailor-made panels to fit any court design.



Superior Strength

Customizable Designs

Precision Production

Safety & Durability

有關燈光舒緩的措施

申請人的球場會嚴格按照環保處的「戶外燈光裝置業界良好作業指引」執行，減少戶外燈光造成的能源浪費與光滋擾，措施包括：

1. 照明設計

申請人會選用具備適當光度(嚴格根據環境和用途選擇最低所需的照明水平，避免過度照亮)、防眩光設計(加設遮光罩或非對稱配光燈具，防止眩光直接射入民居或道路)及精確投射範圍的燈具，避免光線直射民居及溢出至鄰近範圍。

2. 安裝與配置

申請人確保安裝的燈具都是精準投射(調整投射角度(通常向下傾斜)，確保不會漫射至半空)，位置會確保燈具遠離窗戶，並將光束方向調校至遠離鄰近建築。

申請人會為燈設獨立的按制開關，不同的戶外燈光區域將會設有獨立的開關或調光控制，以便依據實際需求關閉不必要的照明。

3. 運作時間

為了減少影響居民，球場的運作時間已調整至早上 8:00 至晚上 8:00，和其他地相比已提早很多。申請人會配合政府的戶外燈光守則，在晚上 8 點後就關閉裝飾性、宣傳性或廣告性的戶外燈光，以維護社區安寧。

4. 維護及保養

申請人會定期清潔燈具及更換老化零件，以保持照明效率並防止光線因污垢散射。

有關污水及雨水排放的措施

有關洗手間的污水排放

1. 申請人已按照指引制造兩個合適容量的化糞池，並已標示在 Layout Plan 上面。
2. 申請人會安排吸糞公司隔天來吸糞，確保不會有任何污水流出，影響周邊的環境。

有關食肆的污水排放

申請人會按照指引設置合適容量的隔油設施：在食肆附近安裝符合標準的隔油池（Grease Trap），定期清理油脂，防止油脂排入排污系統造成阻塞或污染。

申請人會定期找人來對化糞池和隔油池進行檢查，並作出定期的常規維護和保養工作，確保所有排污設備及衛生設施運作正常，防範污水溢流或滲漏。

有關雨水的排放

申請人已遞交排水建議書（請看附件 3），申請人會按照渠務處指引建設排水渠，確保不會對周邊環境造成影響。

有關板式網球與匹克球噪音性質之比較

1. 申請人理解公眾對於板式網球涉及牆壁反彈、球拍擊球產生連續撞擊聲的擔憂。為此，申請人將會採用吸音玻璃與復合牆體（球場周邊的彈球玻璃將選用具備減震防噪夾層的特製安全玻璃，減少擊球反彈時的共振與高頻噪音）；而板式網球及球拍所帶來的噪音相比起匹克球的確少很多。
2. 板式網球的噪音沒有匹克球的大及滋擾，申請人是按照板式網球的國際標準搭建球場，四邊都圍上密封並隔音的中空玻璃，為了舒緩及減少打球對周邊居民的影響，申請人已球場加設四邊密封的帳蓬。
3. 匹克球（Pickleball）與板式網球（Padel Tennis）在運動器材與球場材質的差異，導致了截然不同的噪音問題。匹克球因使用硬質球拍與空心塑料球，會產生高頻且尖銳的敲擊聲，被公認為噪音較大的運動；而板式網球使用軟質球拍與加壓網球，聲響較低沉且音量較小。

1. 音量頻率與音質

- **匹克球（Pickleball）：** 擊球時會發出高頻、尖銳的「啪啪」（Pop）或「咔咔」聲。這種高頻聲音在空氣中傳播時，容易穿透窗戶，對人耳來說更具刺激性與穿透力，經常引起社區的投訴。
- **板式網球（Padel）：** 擊球聲較為低沉，類似於一般的網球擊球聲，音量較為柔和。

2. 聲響成因

- **匹克球：** 使用堅硬的碳纖維或玻璃纖維實心球拍，擊打有孔的硬質塑料球時會產生劇烈的震動與撞擊聲。
- **板式網球：** 使用表面有孔洞的複合材質球拍，配合內壓較低的網球，且板式網球場通常被玻璃牆和金屬網包圍，在一定程度上有助於吸收及緩衝部分擊球聲響。

3. 傳播距離與擾民程度

- **匹克球：** 即使在室外球場，獨特的高頻噪音仍可傳播很遠。由於其頻率容易引起人體煩躁，常導致住宅區或屋苑高層住戶感到滋擾，甚至成為新聞焦點。
- **板式網球：** 雖然在擊球時也會產生噪音，但因為聲音頻率較低，對周遭環境的干擾通常較輕微。

平均噪音：約為 54 至 65 分貝

擊球峰值噪音：平均約為 65 至 70 分貝。

噪音來源：球拍為實心碳纖維或玻璃纖維板，球為橡膠材質。

除了球拍擊球聲，聲音的很大一部分 (約佔 60%) 來自球撞擊球場周圍的玻璃牆與金屬圍欄。

因此申請人早並已提出，會使用隔音玻璃、吸音地氈及隔音帆布作為搭建球場的物料。

Park Yoho 的室外網球場



申請地點附近的屋苑 Park Yoho 也有個室外網球場，
而且不是密封，距離比申請地點更近。

Remarks:

上述資料綜合了全球多個運動科學、聲學研究以及國內外主流媒體的公開數據所整理出的核心結論。

1. 匹克球噪音的聲學研究與數據

• 數據來源： 匹克球的「高頻 (約 1000–1200 赫茲)」、「70 至 85 分貝」以及「硬碰硬」的物理特性，最早是由美國專門研究匹克球噪音減緩的聲學專家 Bob Unetich (美國 Pickleball Sound Mitigation LLC 創辦人) 所發布的實驗數據。

• 媒體專題： 《華爾街日報》(The Wall Street Journal) 曾邀請數學與聲學專家透過波形圖分析匹克球的噪音，證實其高頻泛音是導致周邊居民大腦難以忽略、感到極度煩躁的主因。

2. 板式網球 (Padel) 的環境評估報告

• 數據來源： 關於板式網球的低沉「砰砰」聲、人造草皮細沙地面的吸音效果，以及強化玻璃圍牆對聲音擴散的阻隔作用，主要來自歐洲 (如西班牙、荷蘭等板式網球盛行國家) 的社區環境影響評估報告。例如荷蘭的運動場地噪音評估指南 與地方體育總會發布的建設指南。

板式網球場的營運情況

1. 板式網球場是涉及收費的。

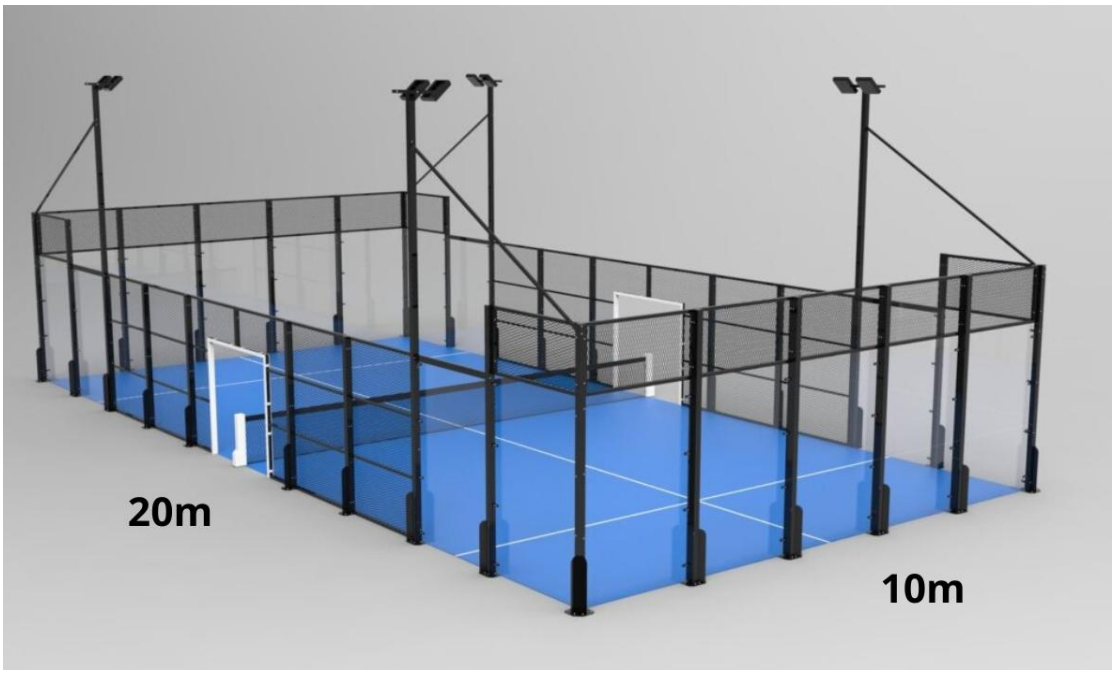
2. 申請人為板式網球場的營運者，他們會設立網站給想來打球的人在網上系統進行預約，每個球場預約人數為 2-4 人。

3. 訪客之後可到構築物 1 更換衣服，之後就可到預約的球場打球。

4. 擬議申請不設任何比賽活動。

板式網球的呎吋及參考照片

球場呎吋平面圖

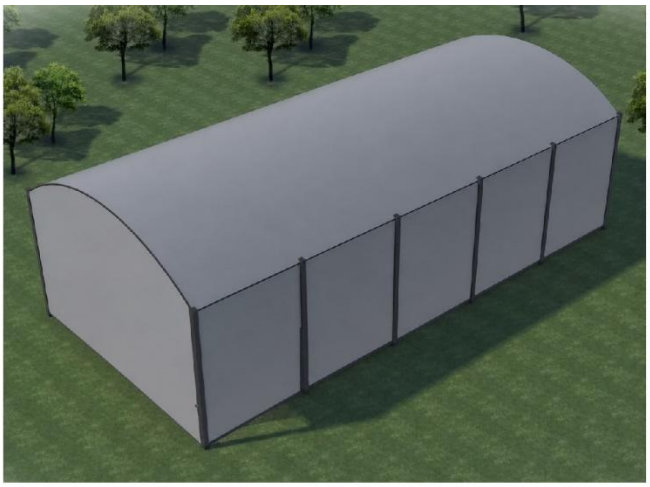


板式網球場尺寸為 20 米× 10 米，加上帳篷後，
每個球場連帳蓬的實際呎吋為 21 米× 11 米。

球場連帳蓬的效果圖

（較溫和的色調 例如大地色及灰色等）

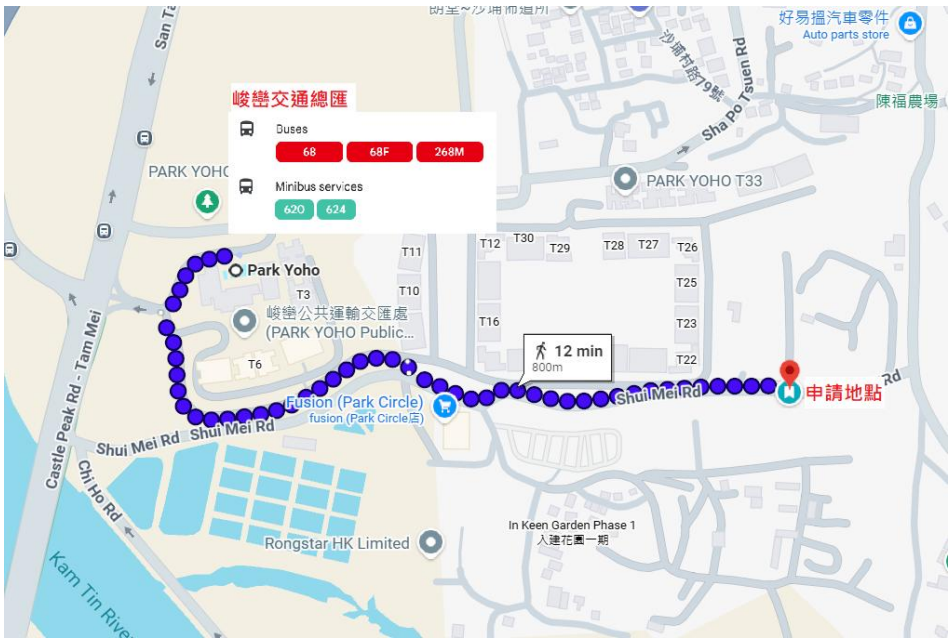




（以上效果圖及顏色只供參考，實際以廠家提供的帳蓬顏色為準）

有關交通舒緩措施

1. 考慮到水尾村的單行路已超出負荷以及和各公眾的意見，為了減少擬議發展對道路和公眾的交通影響，**擬議網球場不設任何停車位**。
2. **申請地點只接受訪客乘坐公共交通工具前來**，申請地點附近交通方便。附近的峻巒交通總匯，包括路線：九巴 68 號、68F 號、268M 號；以及專綫小巴 620 及 624 號。下車後，步行約 12 分鐘即能到達申請地點（請看下圖）。



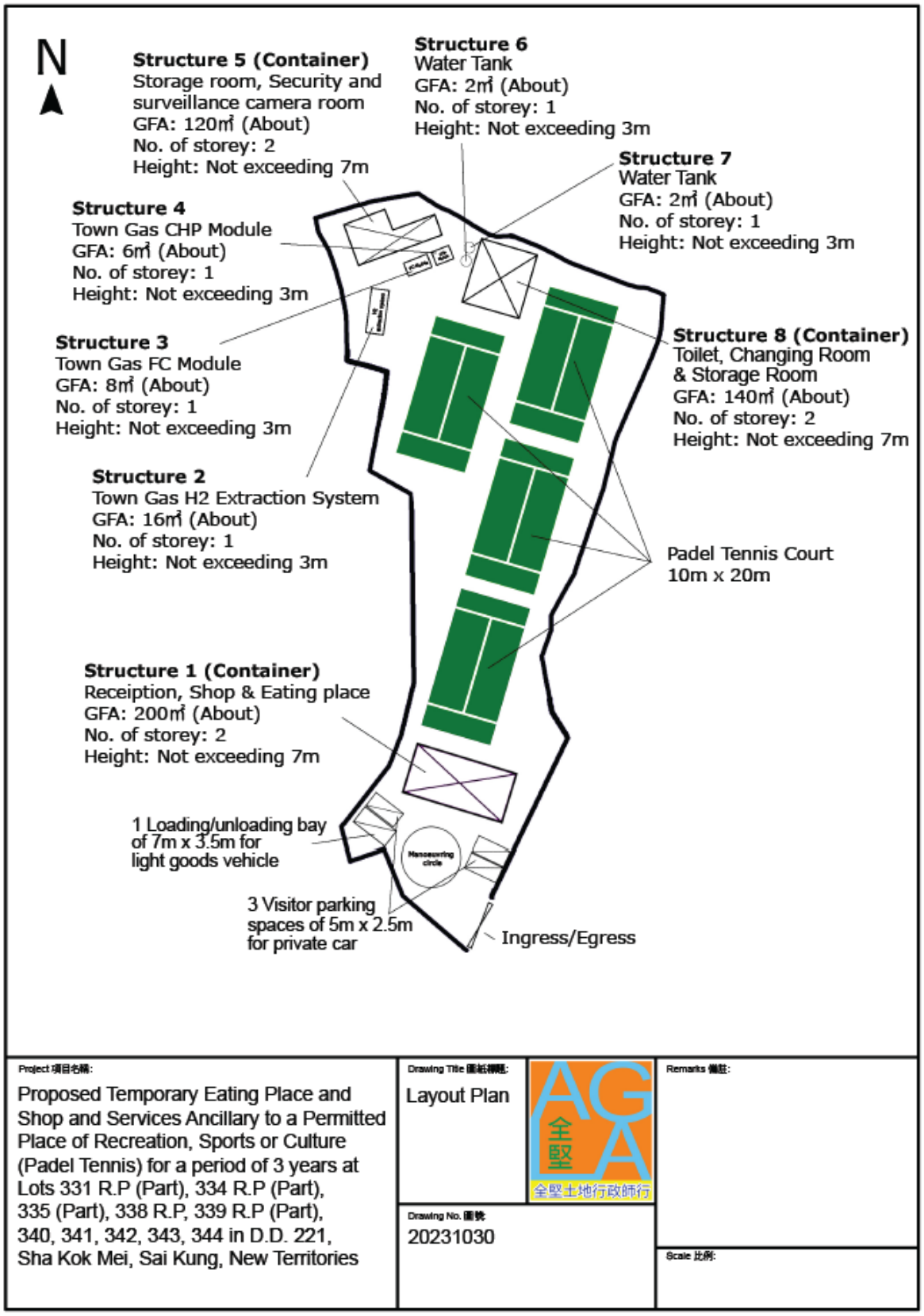
上圖顯示從申請地點步行到峻巒交通總匯的路徑圖。

步行距離約 800 米，步行時間約 12 分鐘。

3. 板式網球（Padel Tennis）在香港屬於新興運動項目，暫時的確未有規劃申請批出。但申請人參考同樣營運板式網球的西貢 Padel+的 Layout Plan，之前規劃申請編號為：A/SK-PK/284，但因該申請地點為康樂用地，經規劃處和城規會商議後，擬議發展屬經常準許用途，最後不需獲得規劃許可。

4. 申請人假設訪客將步行至現場是基於板式網球之運動特性與申請地點的地理與大眾運輸轉乘優勢，具備充分的合理性與可行性。參考西貢的 Padel+網球場項目，從西貢公共運輸交匯處步行到西貢 Padel+ 約 900 米（12 分鐘步行距離），和本申請的步行距離非常接近，具參考價值，他們的訪客大多都是乘坐公共交通工具前往。本申請設有 18 個球場，同一時段的最高人數為 72 人，申請地點鄰近峻巒交通總匯（約 12 分鐘步行距離），提供完善的公共交通服務，包括專營巴士（九巴 68、68F、268M）及專線小巴（620、624），班次頻密，能有效連接港鐵站及周邊區域。
5. 訪客在「峻巒交通總匯」下車後，可沿著水尾路現有和安全的行人路直達申請地點。整個步行路徑距離約 800 米，步行時間約為 12 分鐘，完全在合理的步行可達範圍之內，而且來做運動的訪客都熱愛運動，步行 12 分鐘對他們來說相對輕鬆，完全符合政府鼓勵綠色出行的政策，因此實證步行假設完全成立，並且十分合理。
6. 萬一訪客真的要駕車前往申請地點，申請地點附近也有公眾停車場以滿足駕車人士需要，包括規劃申請編號：A/YL-KTN/1093 的公眾停車場（設有 32 個私家車車位），距離申請地點 200 米內，步行時間為 3-4 分鐘；另一個規劃申請編號：A/YL-KTN/985 的公眾停車場（設有 5 個私家車車位），距離申請地點約 450 米，步行時間為 6-7 分鐘；還有一個規劃申請編號：A/YL-KTN/1001 的公眾停車場（設有 16 個私家車車位），距離申請地點約 400 米，步行時間為 4-5 分鐘。
7. 綜合上述理據，本項目參考同類目的球場，以及地點周邊的交通網絡，申請人會在網站或預約系統中表明，只接受訪客乘坐公共交通工具前往（只需 12 分鐘步行路徑，屬合理步行距離），就算駕駛人士也可善用申請地點周邊的 3 個公眾停車場，因此擬議發展所產生的汽車流量為水尾村帶來極為輕微的影響。

西貢 Padel+最終的 Layout Plan



Project 項目名稱:

Proposed Temporary Eating Place and Shop and Services Ancillary to a Permitted Place of Recreation, Sports or Culture (Padel Tennis) for a period of 3 years at Lots 331 R.P (Part), 334 R.P (Part), 335 (Part), 338 R.P, 339 R.P (Part), 340, 341, 342, 343, 344 in D.D. 221, Sha Kok Mei, Sai Kung, New Territories

Drawing Title 圖紙標題:

Layout Plan

AGA 全堅 全堅土地行政師行

Drawing No. 圖號

20231030

Remarks 備註:

Scale 比例: