

REF: L1041.1 V1



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28<sup>th</sup> June 2018

**RE: CLITHEROE AGP  
PEER REVIEW OF NOISE PLANNING SUBMISSIONS  
(PLANNING REF: 3/2018/0372)**

Dear Mr Macholc,

Following an instruction from Mr Chris Richardson of the Lancaster Foundation, we have undertaken a peer review of the noise related submissions for the above scheme.

The scheme (Planning application Ref: 3/2018/0372) is a proposal to construct a new artificial grass pitch and the refurbishment of an existing multi-sports area.

The application has been supplemented with a noise impact assessment undertaken by Acoustic Consultants Limited, which had modelled the inclusion of tall screen to the Southern side of the new AGP and concluded the proposal was acceptable. I understand that an amended version of the report was submitted which had omitted the screen and which also concluded the proposal was acceptable.

We have been retained to provide an independent review of the submitted information with a view to clarify the conclusions, and to provide our opinion on the acceptability of the scheme from an acoustic design aspect.

Our review is separated into the following sections.

## **1.0 INFORMATION REVIEWED...**

We have considered the information available on the Ribble Valley Planning website related to the scheme, which has included both versions of the noise impact assessment report and the site plans.

We are familiar with the reference material cited in the noise impact assessments, which has therefore also been considered but is not repeated herein for brevity.



## 2.0 SITE LOCATION...

The proposed site of the new AGP is located on playing fields to the Northern side of Edisford Road, Clitheroe and adjacent to an existing multi-sports area.

The proposed site of the new AGP is currently used for recreational activity on grassed sports pitches which we understand are used by Low Moor Football Club. Adjacent to the proposed site is an existing multi-use all area, and the Ribble Valley Tennis Centre which has indoor and outdoor tennis courts.

The nearest neighbouring property is to the South of the site (across Edisford Road) with postcode BB7 3LA. The property is a residential building substantially perpendicular to Edisford Road and has windows on the flank elevations. This property is adjacent to Rose Cottage, BB7 3LA which has permission to be used as a boarding Kennel and Cattery. The consent for the kennels (3/2002/0160P) was granted in 2007 with conditions relating to noise impact which set a precedent as follows,

### *Condition 5*

*Noise emitted by kennelling activities on the site shall not exceed 42 dB(a) expressed as a 15 minute Leq between 2300 and 0700 hours and 54 dB(a) expressed as a 1 hour Leq at any other time, as measured on the boundary of the site abutting residential properties on Fairfield Drive.*

*REASON: In accordance with Policy G1 of the Ribble Valley Districtwide Local Plan in the interest of the amenities of the area*

Rose cottage is bounded to it's Western boundary by additional grassed sports and recreational space and has housing to the East and Southern boundaries.

The nearest neighbouring properties to the North-East of the proposed site are located in St Ann's Square, and overlook the sports fields. These buildings are understood to be two-storey residential properties and to have opening windows on the elevation facing the proposed development. Adjacent to the houses is Low Moor Club which appears to be a public house or working men's club (or similar).

A plan of the site is provided in Appendix A.

## 3.0 DERIVED DESIGN OBJECTIVES...

Both of the reports from Acoustic Consultants Limited provides commentary on the derivation of a suitable basis for assessment of noise impact from the AGP.

In our opinion the most effective means of assessing the noise impact would be to compare the estimated level of sound from the proposal against a survey of the of the existing background sound level used as a reference. Clearly if the site is exposed to existing high sound levels there would be less noise impact than if it were a quieter location.

We are not able to comment on the levels of ambient and background sound experienced on site since we are not familiar with the location. We are of the opinion that the context of the site would have a significant contribution from the existing sports pitches and tennis courts, as well as the road traffic using Edisford Road.

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In the absence of reference survey data, we concur with the approach taken to work to a fixed noise limit which has been derived from available guidance, notably the indoor noise limits from the World Health Organisation and British Standards, and using a generic reduction of external sound through an open window.

The derived design objective of 50 dB(A)  $L_{Aeq,1hour}$  at the façade of the nearest properties is based on the WHO Community Noise Guidelines, having used a value for the reduction through an open window of 15 dB(A).

A key point to make here is that a using a 1 hour assessment period is considerably more onerous than using the 16 hour time base proposed by the WHO. In our opinion the 1 hour assessment period is the correct approach to avoid adverse reaction from neighbours.

The attenuation through an open window is a surprisingly complex situation, which is simplified by the WHO to state a reduction of 15 dB(A) through a partially open window. In our experience the reduction can vary significantly depending on the type of opening and degree of opening. More rigorous research has been undertaken by Napier University since the publication of the Community Noise Guidelines stating a reduction from the façade level of between 12 and 20 dB(A) depending on the frequency content of the incident sound, window type and degree of opening.

Taking the worst case attenuation through an open window, the derived assessment basis might be optimistic by as much as 3 dB, and/or pessimistic by as much as 5 dB. On balance we are of the opinion that the assessment is a fair and reasonable approach in the absence of information on the type of windows used on neighbouring properties.

On balance we agree that the derived basis of assessment is appropriate.

#### **4.0 ASSESSMENT METHOD...**

The assessment has derived and tested a method of assessing sports pitches based on numerous measurements taken at other similar locations and numerical modelling.

In our opinion the assessment has been based on a set of sufficiently detailed measurements of other sites to provide a good estimate for the use of the site at Clitheroe.

We are aware that Acoustic Consultants Limited have been involved with Sport England for the development of new prediction and assessment methodologies for the assessment of sports pitches. The way the assessment has been approached is therefore considered to represent the current state-of-the-art and our approach would have been much the same.

We note the use of a numerical noise modelling package for the assessment of site wide noise levels resulting from the proposed AGP. The methodology has modelled the people using the pitches as an “area source”, which suggests an approximately even spread of sound from the pitches.

The notion that users of the sports pitches could take up any position and move around makes the assessment of people noise particularly challenging. A worst case, such as a very one-sided match could be envisaged whereby the majority of users are concentrated at one of the pitch. Such a scenario would not be typical and on average we concur with the assessment using evenly distributed sources of sound over the full area of the pitch. In our opinion any assessment of people noise should be undertaken using long term averages, on the understanding that noise levels could vary by several decibels from the average under certain circumstances.

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The original assessment has included a 3.5 m high barrier to the Southern side of the proposed pitch. With the barrier the calculated levels at the nearest properties are reported to be 47 dB(A)  $L_{Aeq,1hour}$  which achieves the derived basis of assessment with a margin of 3 dB(A).

The amended assessment has no barriers around the pitch and has reported the estimated sound at Ann's Square to be 47 dB(A)  $L_{Aeq,1hour}$ . The calculations therefore confirm that the screen does not concentrate sound towards the properties in a North-Easterly direction, and which should alleviate the concerns raised by the EHO (Mr Alan Taylor) stated in his consultation response of 21<sup>st</sup> May 2018.

The amended assessment indicates sound levels of 52 dB(A)  $L_{Aeq,1hour}$  at the nearest property to the South across Edisford Road, to the South of the proposed AGP. The benefit of the barrier from the first assessment can therefore be concluded to offer a notional reduction of around 5 dB(A) from the sound generated on the new AGP. The estimated levels without the barrier do not satisfy the derived target values although we note that the excess is limited only to this property and the excess is small at 2 dB(A).

We feel it prudent to reaffirm that the target levels are based upon a threshold which is stated to be the onset of "*moderate annoyance*" for the day time period. Whilst I accept this is not a firm boundary, the exceedance of 2 dB suggests the level of annoyance would remain at the lower end of the scale of "*moderate annoyance*" and not necessarily cause concern, particularly since the context of the site is expected to include a significant amount of recreational sounds.

Within the submitted assessment, the point is also made regarding the location of opening windows on the nearest property to the South being on elevations which do not face the proposed AGP. Further calculations are provided which indicate the facades where there are windows would be exposed to levels of up to 49 dB(A)  $L_{Aeq,1hour}$ , and which therefore achieve the target level. The reduction of circa 3 dB for a façade that is perpendicular to a source correlates with our experience of how sound levels change around buildings. The derived basis of assessment fundamentally relies on the attenuation through an open window and in our opinion the targets should only be applied to facades which have opening windows.

The planning consent for the kennels and cattery at Rose Cottage sets a limit of 54 dB(A)  $L_{Aeq,1hour}$  between 07:00 and 23:00 at the boundary of properties on Fairfield Drive. The boundary of properties on Fairfield Drive are further from the edge of Edisford Road, and further from the sports pitches. In our opinion the boundary with Fairfield Drive is likely to be exposed to less ambient noise from the main local sources than the facades of the properties nearest the AGP. On the basis that the local planning authority has previously considered it acceptable to work to a limit of 54 dB(A)  $L_{Aeq,1hour}$  at, what is arguably a quieter location, we are of the opinion that this limit could also be applied to the facades of the properties in the assessment once corrected for the façade reflection. If so, this would provide further weight to the argument that the noise impact would be acceptable in the absence of the barrier to the AGP.

## 5.0 CONCLUSIONS...

In our opinion the assessment undertaken by Acoustic Consultants Limited is a rigorous and thorough piece of work which uses a methodology that can be considered the current state-of-the-art.

The derived thresholds for assessment of noise impact are considered to be appropriate and reasonable, however we would have normally expected the application for such a facility to also be accompanied by a survey of the pre-development ambient and background sound levels at neighbouring properties.

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The assessment of noise impact has been provided with and without a barrier to the Southern end of the proposed AGP. The outcomes of the assessment with and without the barrier appear to be realistic and provide believable results. Whilst the barrier provides additional attenuation of sound from the AGP to the nearest properties and would be a desirable feature if only considering acoustic performance, the amended assessment confirms the barrier is not required to achieve a suitable noise impact at the facades of the nearest properties where there are windows.

We have become aware of the planning consent for the kennels and cattery located at Rose Cottage on the opposite side of Edisford Road to the proposed AGP. The noise limits derived for the kennels and cattery are less onerous than the limits derived for the use of the AGP and which set a precedent for local planning policy. Adoption of the preceding noise limits would be in the interests of the proposal and would imply the noise impact of the AGP to be lower than concluded by the assessments.

With the information available we are of the opinion that the barrier is not required to the AGP.

I hope this covers all required points at this stage, but please advise if you require anything further.

Yours sincerely,  
For Red Twin Limited



Ian Matthews CEng MEng MIOA AMIMechE  
Director





*APPENDIX A – SITE PLANS...*



FIGURE 1: AERIAL VIEW OF PROPOSED SITE (NOT TO SCALE)

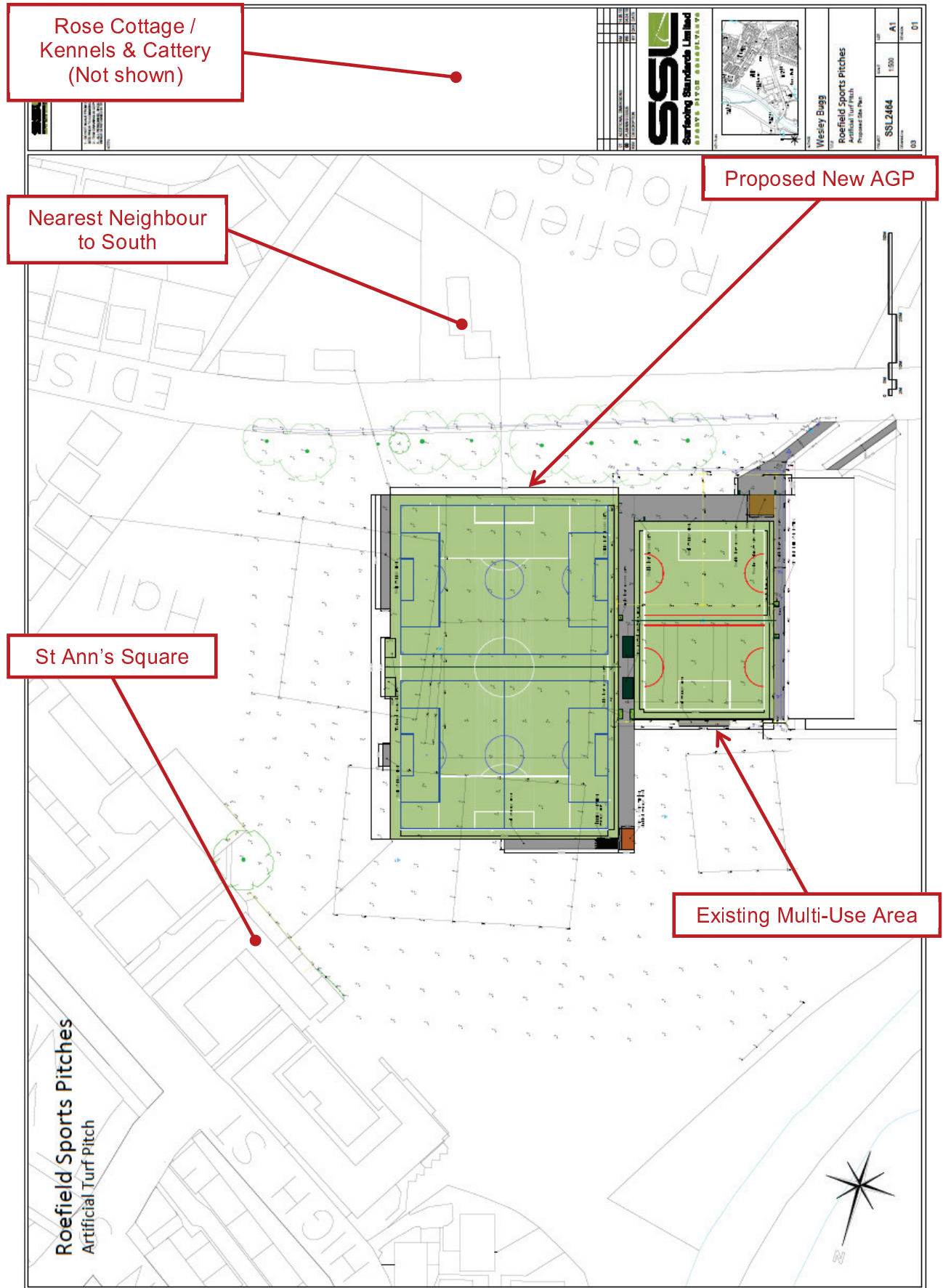


FIGURE 2: PROPOSED SITE PLAN (NOT TO SCALE)