



# VALIANTS FARM

LANCASTER ROAD  
PRESTON

## VENUE NOISE MANAGEMENT PLAN

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### DOCUMENT STATUS

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## 1.0 INTRODUCTION

- 1.1 Acoustic & Engineering Consultants Limited (AEC) has been appointed by EA Wallace to provide a Noise Management Plan to accompany a planning application to permit the provision of live events and functions at the premises at Valiants Farm, Lancaster Road, Preston. It is understood that a premises licence is currently at the application stage.
- 1.2 This report provides details of relevant noise criteria for events at the venue and the sound management scheme that should be put in place to monitor and manage music noise levels at noise sensitive properties. Measures that should be adopted to achieve compliance with the agreed noise conditions are specified in section 3.
- 1.3 This document should be considered as a live document which may develop further as a result of liaison with the event promoter, Wyre Council and local residents.
- 1.4 Acoustic terminology used throughout this report is described in brief in Appendix A.

## 2.0 SITE DESCRIPTION

- 2.1 The site is a former equestrian centre with the existing buildings being retained and converted into purpose-built venues. A number of live music events have been held in the buildings under Temporary Event Notices. The existing building envelopes are currently being upgraded to improve the sound insulation performance. The site includes 60 acres of land, which has also held outdoor events including a series of drive-in cinema events. A location plan showing the extents of the site is provided in the following Figure 1.

Figure 1 – Site Location Plan



- 2.2 The closest occupied noise sensitive properties to the site are understood to be approximately 310m from the site boundary to the north, approximately 200m from the site boundary to the south and 700m to the west.

- 2.3 It is proposed that both the existing buildings and surrounding land are to be used for a variety of events and functions, ranging from music festivals and concerts where amplified music is the primary source of entertainment to sporting / family/ children and local community events and weddings where music may not be the primary source of entertainment. It is proposed that different areas of the site would be used for different events and therefore the potential noise impact may affect different noise sensitive locations depending on the location and orientation of sound sources.
- 2.4 Typical noise levels from different types of events are provided in the following Table 2.1:

**Table 2.1 – Typical entertainment noise levels for different event types**

Event Type	Typical Noise Levels in Audience Area
Large scale music event / concert / festival	98-100 dBLAeq,T
Small scale music event / concert	95-98 dBLAeq,T
Classical music concert	90-95 dBLAeq,T
Cinema events	90-95 dBLAeq,T
Live sport events	85-90 dBLAeq,T
Small scale events with incidental music	80 dBLAeq,T
Markets	90 dBLAeq,T
Sporting participation events	65-70 dBLAeq,T

- 2.5 It is intended that the site be as flexible as possible in terms of stage and sound system locations in order to accommodate different types of event and client requirements.

### 3.0 ENTERTAINMENT NOISE CRITERIA

#### **Noise Council's Code of Practice on Environmental Noise Control at Concerts (1995)**

- 3.1 Established Guidance for noise from outdoor music events is provided in the Noise Council's Code of Practice on Environmental Noise Control at Concerts (1995). The Music Noise Level (MNL) guideline noise limits contained within the Code of Practice for events that are held between 0900 and 2300h are summarised in Table 3.1, below.

**Table 3.1 – Recommended Noise Limits**

Concert days per calendar year, per venue	Venue Category	Guideline
1 to 3	Urban Stadia or Arenas	The MNL should not exceed 75 dB(A) over a 15-minute period
1 to 3	Other Urban and Rural Venues	The MNL should not exceed 65 dB(A) over a 15-minute period
4 to 12	All Venues	The MNL should not exceed the background noise level by more than 15dB(A) over a 15-minute period

- 3.2 For venues used for 4-12 events per calendar year, the Code of Practice recommends that the music noise level should not exceed the background noise level by more than 15dB over a 15-minute period.

- 3.3 For indoor venues used for up to about 30 events per calendar year, a music noise level not exceeding the background noise by more than 5dB(A) over a 15-minute period is recommended for events finishing no later than 2300h.
- 3.4 After 2300h, the Noise Council's Code of Practice suggests that for events continuing or held between the hours 2300 and 0900, the music noise should not be audible within noise sensitive premises with windows open in a typical manner for ventilation. The Code of Practice advises that provided music noise is controlled so that it is barely audible externally, it will generally be inaudible within bedrooms with windows open. In order to provide objective guidance, for events continuing beyond 2300h, a music noise level of 45dB<sub>L<sub>Aeq,15min</sub></sub> has been adopted at many events in the United Kingdom.
- 3.5 At this time, it is not known how many events are likely to take place although not every event will have amplified music as the primary source of entertainment and some events are likely to finish before 2300h.
- 3.6 Since its publication in 1995, there have been a number of recommended modifications to the Code as a result of changes in the live entertainment industry, the increasing demand for outdoor events over the past 25 years and the change to the licensing regime with the implementation of the Licensing Act 2003.
- 3.7 It is recognised that although it still provides useful guidance, the existing Code of Practice may not be applicable to every event type and genre, particularly where music may not be the primary source of entertainment or be continuous over the duration of the event. In addition, although the guidance recognises the noise impact on the local community in the step down in permitted noise levels as the number of event days increase, it does not provide categories to account for the duration of an event. For example, a three day festival lasting for twelve hours each day should not be considered in the same way as an event lasting for two hours per day but over more days.
- 3.8 One of the criticisms of the Code is that the difference in the L<sub>Aeq</sub> criterion between urban stadia or arenas and other venues is too large and that a limit of 75 dB(A) is recommended for stadia and arenas whilst a limit of 65 dB(A) is recommended for other urban and rural venues. The research that forms the basis of the guidance was carried out in the late 1980's and early 1990's when outdoor music events were far less common and held mainly in urban arenas and stadiums, with very few in rural areas. It is accepted that changes in the live music industry may not be reflected in the guidance.
- 3.9 The Code of Practice is designed to provide guidance for noise at outdoor concerts and balance the potential disturbance in the local community against the enjoyable experience of the audience. Numerous venues and events in the United Kingdom have operated and continue to operate successfully outside of the guidance in terms of the venue category and number of event days.
- 3.10 Research carried out into attitudes to environmental noise from concerts for Defra (Contract no. NANR 292) by Edinburgh Napier University suggested that it may be the level of music and not the type of venue that is significant. The report concluded that this may be linked to the perception of how loud the music must be within a stadium by residents compared to an unenclosed park and that the louder music is believed to be at an event, the more disturbing it is perceived by the resident.
- 3.11 The research also concluded that a significant percentage of the population will form an opinion of the music's subjective annoyance irrespective of the actual level of the music.

### **Defra Noise from Pubs and Clubs (Phase II)**

- 3.12 Research carried out for Defra (Contract no. NANR 163) concluded that the absolute L<sub>Aeq</sub> was the most appropriate descriptor for assessing noise from music after 2300h and that an acceptable

level for infrequent events is 34dB<sub>L<sub>Aeq,T</sub></sub> measured inside a habitable property with windows closed. This figure is referenced within the Noise Act.

## 4.0 NOISE MANAGEMENT PLAN

- 4.1 Careful consideration will be given to implementing and maintaining a noise management programme prior to and during an event to manage amplified noise from the venue. This overarching noise management plan forms the basis of the noise management protocol and will be agreed with the Local Authority.
- 4.2 Each proposed event will be assessed on a case-by-case basis and subject to the agreement of noise levels with Wyre Council. The noise limits for each event would be dependent on the event type, number of days and start and finish times.
- 4.3 For events where music is the primary source of entertainment, an event specific noise management plan will be provided by the event organiser and as a minimum will include dates, start and finish times, event site plan, predicted noise levels and the protocol for monitoring and managing noise levels from the event.
- 4.4 Careful consideration will be given to finding the most appropriate site layout for each event that would minimise the noise impact at offsite locations. The proposed site plans will be reviewed and agreed with Wyre Council's Environmental Health Department. As more events take place, this information will be used to make informed decisions about stage locations and orientations for future events.
- 4.5 For events where music is not the primary source of entertainment, the Local Authority will be informed of the details and an event noise management plan will be provided where appropriate.
- 4.6 The contents of the event specific noise management plan will be agreed with the Local Authority and supplement the overarching venue noise management plan.
- 4.7 The event organiser will appoint and provide an acoustic consultant approved by the venue management to monitor and manage noise levels. Noise levels will be monitored from the mixing desk locations of each stage and at agreed offsite monitoring locations, depending on the location of the event. The appointed acoustic consultant will respond to any noise complaints that may be received during an event.
- 4.8 Following each event, a post-concert report will be provided to the Local Authority giving details of the noise monitoring undertaken, details of any noise complaints received and any action taken to meet the agreed noise limits.
- 4.9 The venue will provide a designated person who will liaise with the appointed acoustic consultant in relation to all matters involving noise from an event.

### Plant Noise

- 4.10 All plant noise associated with an event (generators, chillers etc) will be located as far away from noise sensitive properties as possible. Where required, appropriate mitigation measures will be considered.

### Sound Systems

- 4.11 Sound systems must be carefully designed and aligned to optimise sound coverage throughout the audience areas and balance this against the offsite environmental noise impact. Where possible, sound systems should be 'line-arrays' which provide improved sound coverage and reduced overspill to intended coverage areas. It is recommended that sound systems are hung as

low as possible in order to minimise the distance between the sound sources and audience areas. Loudspeakers should have as narrow horizontal dispersion as possible and be directed inwards to reduce overspill from the intended coverage area. In addition, multi-band compression and graphic equalizer units should be included as part of any sound system in order to control and limit the output from the sound systems.

- 4.12 In addition, delay speakers should be used for larger scale events in order to distribute the sound evenly and provide coverage to smaller areas. This type of configuration effectively means that the sound system does not need to operate at as high levels to provide even coverage to the intended audience area at the back of the arena
- 4.13 Sub-bass loudspeakers should be set up and configured to provide a cardioid dispersion pattern for low frequency noise to provide phase cancellation at the back and sides of the sound systems.
- 4.14 The appointed sound system suppliers should be informed of the requirements of the noise management plan and their contract of hire should specify that the overall control of music noise levels will be set and controlled by the venue, event promoter or the appointed noise management consultant.

#### **Notification of Events**

- 4.15 The venue operator will advise the Local Authority of all proposed event dates including start and finish times of each event day and any soundchecks.
- 4.16 An appropriate form of communication such as a letter or newspaper advertisement will be circulated to local residents at least 2 weeks prior to each event, informing them of the details of the event and including start and finish times of both the event and any sound-checks. The advertisement should also include a dedicated telephone number for noise complaints.
- 4.17 A telephone noise complaints line should be made available for the duration of each event which will be manned either by a member of venue staff or the event promoter / organiser. Should a noise complaint be received, it will be investigated by the appointed acoustic consultant and if noise levels are above those agreed for that event, immediate action would be taken to reduce the noise at source. A complaints log should be maintained throughout the event, detailing the time of complaint, address and any actions taken.
- 4.18 The noise management communication protocol will be maintained and regularly reviewed to ensure effective and responsive communication channels are established and maintained between all relevant parties throughout the event.

#### **Telephone Complaints Line**

- 4.19 A telephone noise complaints number will be confirmed prior to each event.

#### **Ongoing Liaison**

- 4.20 It is recommended that regular meetings take place with Environmental Health Department of Wyre Council to review previous events and agree noise limits for upcoming events.

## APPENDIX A - Acoustic Terminology in Brief

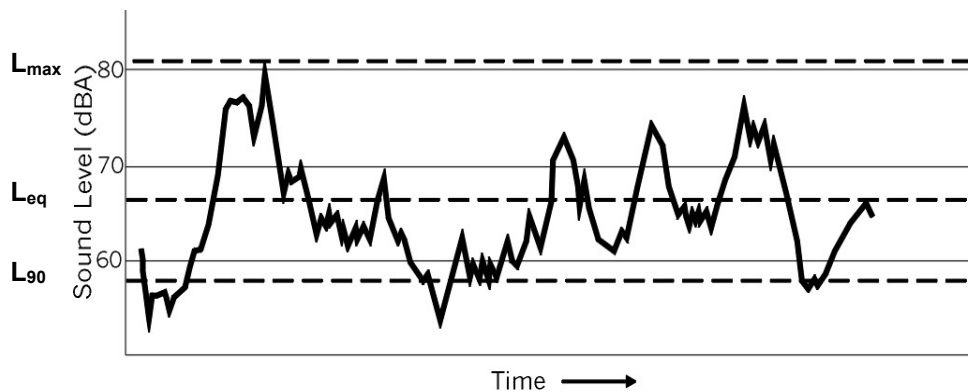
Sound is produced by mechanical vibration of a surface, which sets up rapid pressure fluctuations in the surrounding air. The rate at which the pressure fluctuations occur determines the pitch or *frequency* of the sound. The frequency is expressed in Hertz (*Hz*), that is, cycles per second. The human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

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

### Noise Units

In order to assess environmental noise, measurements are carried out by sampling over specific periods of time, such as fifteen minutes or one hour, the statistically determined results being used to quantify various aspects of the noise.

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



**Example of Sound Level Varying With Time**

- $L_{Aeq,T}$**  The equivalent continuous (A-weighted) sound level. May be thought of as the "average" sound level over a given time, *T*. It is used for assessing noise from various sources: industrial and commercial premises, construction sites, railways and other intermittent noises and can be considered as the "ambient" noise level.
- $L_{A90}$**  The (A-weighted) sound level exceeded for 90% of a measurement period. It is the value used to describe the "background" noise.
- $L_{Amax}$**  The maximum (A-weighted) sound level during a measurement period.
- Free-field Level** This refers to the sound level measured outside, away from reflecting surfaces.
- $L_{AE}$**  The A-weighted sound exposure level is the equivalent noise level of an event as if the event was of one-second duration and allows the overall average,  $L_{Aeq}$ , level to be determined over different time periods for a number of events.  $L_{AE}$  is a mathematical unit which cannot easily be described in terms of perception.