

# CUFFE AND TAYLOR 2020 YORK FESTIVAL

YORK SPORTS CLUB

NOISE MANAGEMENT PLAN  
VC-103176-NMP-0002  
R05

18 FEBRUARY 2020



VANGUARDIA  
| | | | | | | | | |

## DOCUMENT CONTROL

<b>DOCUMENT TITLE</b>	NOISE MANAGEMENT PLAN	<b>REVISION</b>	R05
<b>DOCUMENT NUMBER</b>	VC-103176-NMP-0002-05	<b>ISSUE DATE</b>	18 FEBRUARY 2020
<b>PROJECT NUMBER</b>	103176	<b>AUTHOR</b>	ED
<b>STATUS</b>	ISSUE	<b>CHECKED</b>	DB
<b>ISSUED TO</b>	CUFFE AND TAYLOR	<b>PASSED</b>	ED

## REVISION HISTORY

REVISION	NOTES	DATE ISSUED
R05	Final version after minor iterations	18 FEB 2020

*This report was prepared on behalf of the Client ("Issued to") and takes into account any particular requirements and instructions from the Client. Its use is governed by the Contract between the Client and Vanguardia LTD. Where reproduced, the document shall be reproduced in full. Any other use shall be subject to the prior written permission of Vanguardia LTD. Unless indicated otherwise, all material in this document is the property of Vanguardia LTD.*



## VANGUARDIA LIMITED

## HEAD OFFICE

21 Station Road West, Oxted  
Surrey RH8 9EE

Tel +44 (0) 1883 718690

office@vanguardia.co.uk  
vanguardia.co.uk

---

## C O N T E N T S

CONTENTS	3
1. INTRODUCTION	4
2. NOISE BREAKOUT PREDICTIONS	6
3. ENTERTAINMENT NOISE CRITERIA	11
4. NOISE MANAGEMENT SCHEME	14
5. SUMMARY	17
APPENDIX A	18
APPENDIX B	19

---

## 1. INTRODUCTION

- 1.1. Vanguardia Ltd has been appointed by Cuffe and Taylor to prepare a report in support of an application for a premises licence for the York Festival 2020 to take place at York Sports Club on the following dates with the following artists:
- Friday, 19<sup>th</sup> June 2020, Madness
  - Saturday, 20<sup>th</sup> June 2020, Westlife
  - Sunday, 21<sup>st</sup> June 2020, Lionel Richie
- 1.2. This document demonstrates the results of the event noise levels predicted at representative noise sensitive locations.
- 1.3. This document also presents the noise management scheme that will be undertaken by Vanguardia.
- 1.4. The technical terms used in this document are set out in Appendix A.
- 1.5. The noise management scheme described in this report fundamentally follows the procedures that have been successfully adopted at outdoor concerts and festivals over the past 25 years throughout the UK.

### CONSULTANT'S EXPERIENCE

- 1.6. Vanguardia Ltd is an independent acoustic consultancy specialising in the field of sound, noise and acoustics related to entertainment venues. The team of consultants has many years' experience dealing with some of the largest and most innovative sound and acoustic projects in the UK, including Wembley Stadium, the O2, The London Stadium, Wembley Arena and Hyde Park.
- 1.7. The consultants have successfully provided sound management advice, including noise control, at over 1000 concerts during the past 30 years. These concerts have ranged from relatively small-scale events at green field sites to major events staged at national stadia providing entertainment for tens of thousands of people.
- 1.8. The company director also sat on the UK Noise Council Working Party which prepared the Code of Practice on Environmental Noise Control at Concerts (1995). They have also managed Government research projects related to sound and noise aspects of the entertainment business.

- 1.9. As well as the provision of sound and acoustic design/management for entertainment venues, the company deals with the whole range of acoustic, noise and vibration issues and our staff have presented expert testimony at planning and licensing hearings, magistrates and high courts, Judicial Reviews and House of Commons and House of Lords Select Committees.

---

## 2. NOISE BREAKOUT PREDICTIONS

### COMPUTER MODELLING

- 2.1. Predictions were made using a two-phased system which employs two types of acoustic 3D modelling software.
- 2.2. In the first phase, the sound system design (provided by the PA suppliers) was modelled in EASE 4.4. This software was used specifically for accurate modelling of the directivity of the proposed sound system.
- 2.3. A 3D model of the following items was produced:
  - the event site and its surrounding area,
  - the sound system directivity and positioning obtained from EASE.
- 2.4. Sound system design details:
  - 2No. L-Acoustics line-arrays consisting of 14No. K1 boxes at 11.5m height
  - 1No. L-Acoustics line-array consisting of 12No. K2 boxes at 11m height.  
(All sound system boxes have been modelled as K1 due to similar directivity)
  - 1No. L-Acoustics line-array consisting of 4No. K2 boxes at 3.5m height.  
(All sound system boxes have been modelled as K1 due to similar directivity)
  - 8No. Cardioid Sub-woofer array consisting of 24No. KS28 (3x8No.) at 3.4m centres
- 2.5. A steel shield was modelled surrounding the festival site boundaries.
- 2.6. In phase two, the above model was imported into IMMI 2017, a 3D noise propagation modelling software package, in which noise breakout predictions were carried out in accordance with the methodology specified in ISO 9613 parts 1 and 2.
- 2.7. It should be noted that the IMMI 2017 assumes worst case (downwind) propagation from the source to each of the receivers and does not account for foliage, local noise sources, weather variations and any road barriers.
- 2.8. The stage orientation and sound system design were carried out by the organisers in coordination with Vanguardia at every step. Careful attention was given to designing a solution that will minimise the noise impact to the surrounding area.



## PREDICTIONS

**Figure 1** Plan view of York Festival stage and agreed noise sensitive receiver locations (Image taken from Google)



2.12. IMMI noise breakout predictions are presented in Table 1 below:

**Table 1** IMMI noise breakout predictions for York Sports Club

Receiver Location	Predicted Music Noise Level (MNL) (dB LAeq,15 min)
FOH @40m	95
Clifton Park Avenue	70
28/30 Shipton Road	66
25/27 Shipton Road	73
Galtres Grove	61
Flavian Grove	54
Ouse Lea	60
Lincoln Street	52
Ouse Acres	61



- 2.13. It should be noted that 25/27 Shipton Road have been agreed with CYC as noise sensitive receiver points for noise breakout predictions. However, 25/27 Shipton Road is not recommended as a noise monitoring location during the event due to site restrictions. This receiver point is at the rear end of the York Sports Club carpark and this area would likely be too crowded to get an accurate measurement during the event. This location would also not be representative of the nearest noise sensitive area.
- 2.14. It should be emphasised that there is a strong argument to suggest that by specifying the nearest noise sensitive premises (i.e. 25/27 Shipton Road) in a licence condition that there is a departure from the licensing objective relating to the Prevention of Public Nuisance. By protecting the nearest premises from what may be a 'nuisance', the condition is disproportionate and fails the test of reasonableness. The monitoring position chosen by the local authority (if one was found to be necessary) should be one that is representative of the area and should not be the nearest unless the criterion is set at a higher level.
- 2.15. Proposed Noise Monitoring Locations during the event are shown in Figure 2 and listed in Table 2 below (as requested by the local authority):

**Figure 2** Proposed Noise Monitoring Locations (Image taken from Google)



**Table 2** Table of proposed noise monitoring locations

Ref	Noise Monitoring Location
MP1	Clifton Park Avenue
MP2	28/30 Shipton Road
MP3	Ouse Lea
MP4	Lincoln Street
MP5	Ouse Acres

### 3. ENTERTAINMENT NOISE CRITERIA

#### NOISE COUNCIL CODE OF PRACTICE

- 3.1. The established guidance for noise from outdoor music events is currently contained in the Noise Council’s Code of Practice on Environmental Noise Control at Concerts (1995). This document is currently under review.
- 3.2. The recommended noise limits contained within the Code of Practice for events held between the hours of 09:00 and 23:00 hours are summarised in Table 3 below:

**Table 3** 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 15 dB(A) over a 15-minute period

- 3.3. York Festival 2020 is planned to be three days finishing at 22:30 each day. Therefore, taking the guidance from Table 3 above, the suggested criterion is that the Music Noise Level (MNL) would be 65dB LAeq,15min measured at the facade of the nearest residential property. However, there are a number of other factors that should be taken into account.
- 3.4. Although based on best practice at that time, research (Proc IOA Vol. 28. Pt.7 2006; Griffiths and Staunton) suggests that Table 3 would benefit from further refinements, in particular noise levels, number of concerts and category. This paper concludes that further consideration should be given to the following:

*The Code’s noise limit of 65LAeq15min for the venue category of ‘Other Urban and Rural venues’ should be reviewed for areas such as parks and other congregational spaces (City Squares etc) where limits of 75LAeq have been successfully adopted.*

- 3.5. Since its publication in 1995, there have been a number of recommended modifications to the Code. One of the criticisms of the current Code is that the difference in the LAeq 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.

- 3.6. There is now considerable evidence and experience, based on concerts at urban stadia and other urban venues, to suggest that higher limits than those recommended by the Code may not lead to undue disturbance providing other noise management protocols are implemented. It is now not unusual for urban locations across the country which are not classified as Stadia or Arenas to have a noise level set under the premises licence of up to 75dB(A) for a number of events per year.
- 3.7. Since the publication of the Code of Practice in 1995, the Licensing Act 2003 has introduced a more liberal and de-regulatory approach to the previous licensing system. As part of their new responsibilities, licensing authorities are encouraged to promote cultural activity in their communities.
- 3.8. The Licensing Act 2003 introduced the concept of promoting the licensing objectives and, specifically the “Prevention of Public Nuisance.” In paragraph 2.17 of the s.182 Revised Guidance to Licensing Authorities (updated April 2018), it states as follows:
- “Any conditions appropriate to the prevention of public nuisance should be tailored to the type, nature and characteristics of the specific premises and its licensable activities. Licensing authorities should avoid inappropriate or disproportionate measure that could deter events that are valuable to the local community, such as live music.”*
- 3.9. The Guidance is clear in its advice that it is essential to maintain a balance between the licence holder and the viability of the event and the needs of the community.
- 3.10. In assessing the likely noise impact, it is also relevant that the proposed event site will be located in a mixed-residential urban area within the grounds of a long-established Sports Club providing year-round sporting activities and other events on the fields and in the club premises with associated facilities. Furthermore, if the licence is granted, the Club have agreed not to hold any non-sporting commercial events during the year which will have an obvious benefit on the overall noise impact from this venue.
- 3.11. Similarly, depending on the genre of music, the noise impact can be perceived differently by the general public. The pop and ska music genres (i.e. Westlife, Lionel Richie and Madness) generally do not have dominant low frequency components. Therefore, they are less likely to generate complaints.
- 3.12. Moreover, each venue should have a unique set of conditions due to its location. For York Sports Club, the venue is surrounded by buildings and a main highway on North East side and is open field on the West and South side. Music noise levels from the event will likely be at comparable levels to the highway noise on the North East side. Music noise will also likely be at low levels at the residences on the West and South sides due to distance attenuation.

- 3.13. Additionally, it should be emphasized that; this event is planned to finish at 22:30. This curfew time has a different noise impact to those events which continue until 2300hrs or later.
- 3.14. It should also be highlighted that the noise levels at large scale music events have been measured to vary by up to **10-15 dB** due to the weather conditions (i.e. temperature inversion, wind). This can affect the measured levels during the event.
- 3.15. In the light of all the observations stated above (Para 3.4 to 3.14), the proposed criterion for York Festival 2020 at York Sports Club is a music noise level of 75dB(A) measured over a 15-minute period measured at representative nearby noise sensitive premises.
- 3.16. As stated in The Code of Practice Section 4.3:

*“...Research shows that the music noise level in the audience by the mixer position at pop concerts is typically 100 dB(A), and that levels below 95 dB(A) will be unlikely to provide satisfactory entertainment for the audience.”*

Limits lower than 95dB(A) would mean that the event would not be loud enough to be enjoyed by the audience.

---

## 4. NOISE MANAGEMENT SCHEME

- 4.1. Careful consideration must be given to implementing and exercising a noise management programme during the event (and any sound checks) to effectively manage entertainment noise from the venue.
- 4.2. The sound management programme that should be followed is detailed below:

### SOUND SYSTEM DESIGN

- 4.3. The sound system will be a 'line-array' and the sub configuration will be cardioid. These sound systems are known to provide improved sound coverage and reduce over-spill into neighbouring residential dwellings (under neutral meteorological conditions).
- 4.4. Careful and detailed alignment of the system must be ensured to optimise the coverage throughout the audience areas and balance this against the off-site environmental noise impact.
- 4.5. It can be observed from Section 2 that, both Para 4.3 and 4.4 have been taken into consideration in the design process of the sound system for York Festival 2020.

### PRE-EVENT INFORMATION

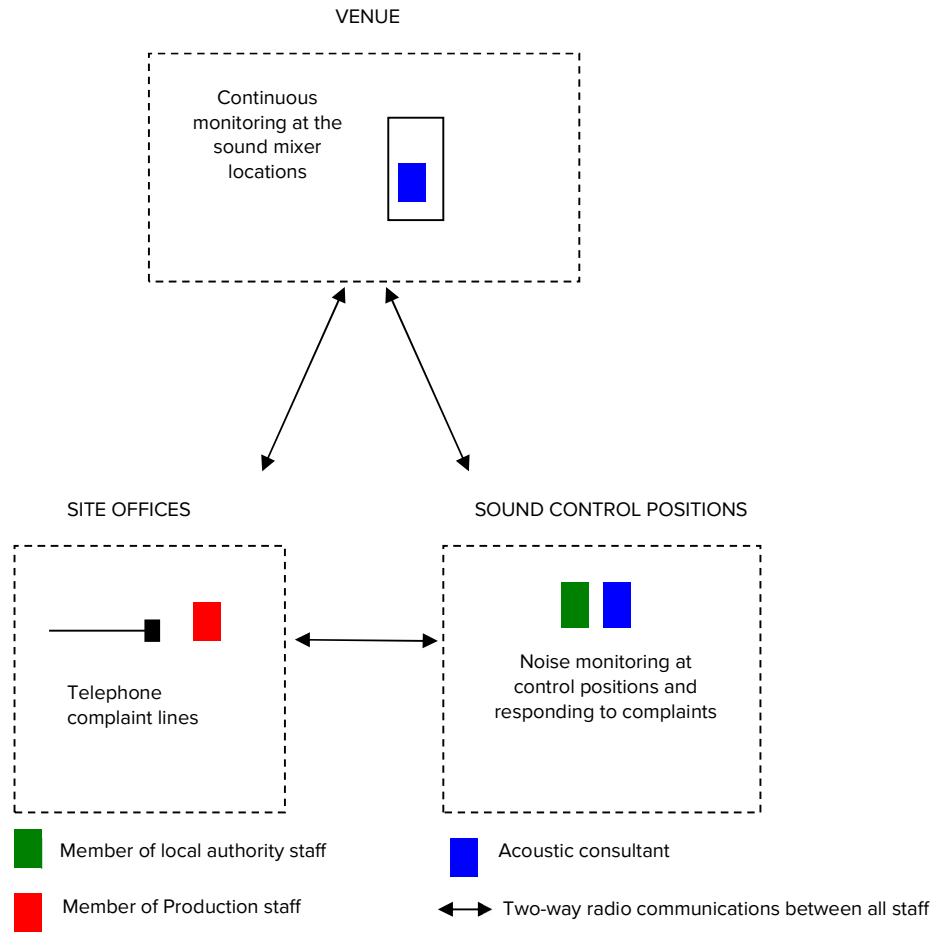
- 4.6. Vanguardia will set up a direct means of communication with all parties. The promoter will provide Vanguardia staff with site radios.
- 4.7. A dedicated radio channel will be provided for Vanguardia consultants.
- 4.8. Information should be circulated to local residents at least 2 weeks prior to the event. Considerable goodwill can be generated by the venue circulating an information letter to their local residents informing them of the details of the event including start and finish times of both the event and any sound-checks. It should also include a dedicated telephone number for noise complaints.
- 4.9. A telephone complaints line should be made available for the duration of the event. Should any noise complaints be received, a consultant will investigate the area of complaint and if noise levels are above those specified in the licence conditions, where possible, immediate action would be taken to reduce the levels at the noise source. A complaints log should be maintained throughout the event, detailing addresses of complaints, times and actions.

- 4.10. The promoter will advise the Environmental Health Department of the likely times of rehearsals and sound-checks, although this is unlikely to be known until very near the production set up. The promoter will also agree timings for production set up. Vanguardia will provide consultants to monitor the internal and external noise levels.

## SOUND MANAGEMENT PROCEDURES

- 4.11. **Sound Propagation Tests:** A sound propagation test will be undertaken prior to the start of the event in order to set appropriate guideline limits at the sound mixer position. The sound system will be configured and operated in a similar manner as intended for the event. The noise source used for the test will be similar in character to the music likely to be produced during the event. Officers from Environmental Health Department will be given prior notification of the test and provided access to the results. The music noise levels at the mixing desk will be correlated with those observed at the pre-agreed monitoring locations to determine the maximum operational noise levels of the show.
- 4.12. **Sound Monitoring within the Venue:** The music sound levels at the mixing desk position will be continuously monitored in terms of 15 minute and 1-minute  $L_{Aeq}$  values. The noise limit will be set in 15-minute intervals, but the 1-minute values provide acoustic consultants with immediate information to check that the noise limit can be met. The sound engineers will be kept informed of the position of the music sound levels and immediate instructions will be issued to them if it appears that the offsite limit may be exceeded at any point. The acoustic consultant at the mixer desk position will be in contact with a colleague at external monitoring positions.
- 4.13. **Sound Monitoring outside of the Venue:** Noise measurements outside of the site will be taken as necessary and in response to any complaints that may be received. Action necessary to avoid the noise limit being exceeded will be transmitted by radio through to the acoustic consultant at the mixer position and immediate instructions issued to the sound engineers to resolve any potential problems.

4.14. **Telephone Complaints Line:** A telephone complaints line number is to be confirmed. A schematic of the control communication protocol is provided below:





## 5 . S U M M A R Y

5.1. As outlined in Section 3, it is recommended that:

The proposed criterion for York Festival 2020 at York Sports Club is a music noise level of 75dB(A) measured over a 15-minute period measured at representative nearby noise sensitive premises.

5.2. In 2003 existing licensing provisions in England and Wales were revised. The Licensing Act 2003 took a more liberal and de-regulatory approach to the previous licensing system. As part of their new responsibilities, local authorities are encouraged to promote cultural activity in their communities.

5.3. The Code of Practice places emphasis on the need to minimise disturbance and annoyance to the local community. The Licensing Act 2003 introduced the concept of the “Promotion of the Prevention of Public Nuisance” which sets the threshold at a different level. This distinction must now be considered when setting licence conditions for a music event.

5.4. Under former licensing regimes, the courts have made clear that it is particularly important that conditions which are difficult for a licence holder to observe should be avoided. Failure to comply with any conditions attached to a licence or certificate is a criminal offence, which on conviction would be punishable by a fine of up to £20,000 or up to six months’ imprisonment or both.

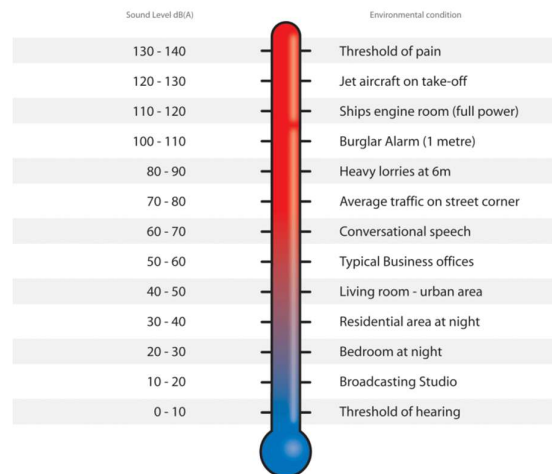
## APPENDIX A

Noise is defined as unwanted sound. The range of audible sound is from 0dB to 140dB, which is taken to be the threshold of pain. The sound pressure detected by the human ear covers an extremely wide range. The decibel (dB) is used to condense this range into a manageable scale by taking the logarithm of the ratio of the sound pressure and a reference sound pressure.

The frequency response of the ear is usually taken to be about 18Hz (number of oscillations per second) to 18,000Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than at the lower and higher frequencies, and because of this, the low and high frequency component of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most used, and which correlates best with the subjective response to noise is the dB(A) weighting. This is an internationally accepted standard for noise measurements.

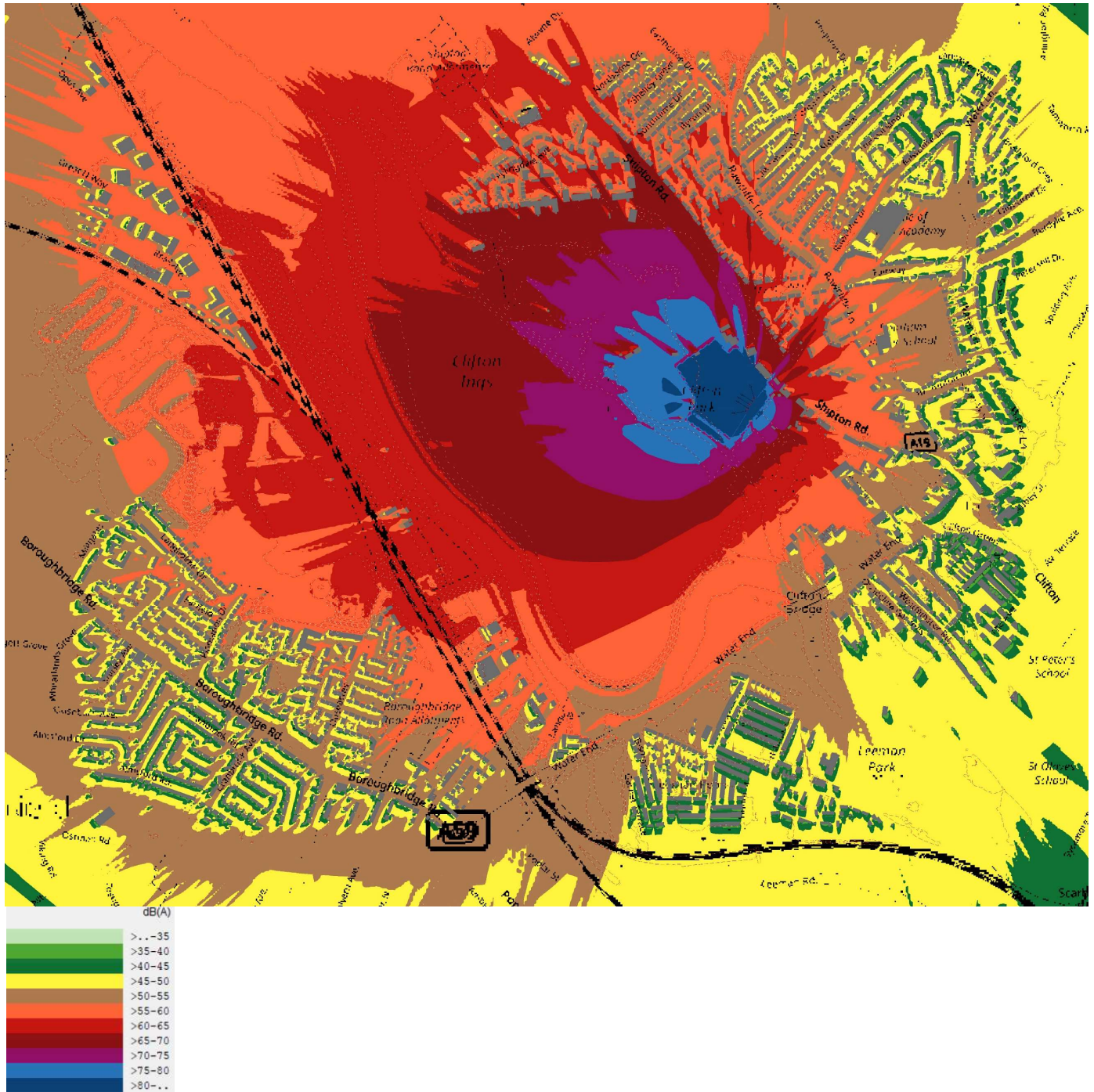
The ear can just distinguish a difference in loudness between two noise sources when there is a 3dB(A) difference between them. Also, when two sound sources of the same noise level are combined the resultant level is 3dB(A) higher than the single source. When two sounds differ by 10dB(A) one is said to be twice as loud as the other.

The subjective response to a noise is dependent not only upon the sound pressure level and its frequency, but also its intermittency. Various indices have been developed to try and correlate annoyances with the noise level and its fluctuations. The parameter used for this measure is Equivalent Continuous Sound Pressure Level ( $L_{Aeq}$ ). The A-weighted sound pressure level of a steady sound that has, over a given period, the same energy as the fluctuating sound under investigation. It is in effect the energy average level over the specified measurement period (T) and is the most widely used indicator for environmental noise. A few examples of noise of various levels are given on the right:



## APPENDIX B

**Figure 3** The noise breakout from York Sports Club to the nearest noise sensitive receiver points at 1.5 m above ground level (at 95dB at FOH at 40m)



Registered in England 05666276



**VANGUARDIA LIMITED**

**LONDON OFFICE**

The Ministry  
79-81 Borough Road  
London SE1 1DN

**MANCHESTER OFFICE**

Jactin House  
24 Hood Street  
Manchester M4 6WX

**HEAD OFFICE**

21 Station Road West, Oxted  
Surrey RH8 9EE

Tel +44 (0) 1883 718690

office@vanguardia.co.uk  
**vanguardia.co.uk**