



## Diynamic Festival 2018

### Noise Management Plan

**MJMK Ltd**

Revision 0

28 July 2018

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## 1 Introduction

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### 1.1 Appointment

1.1.1 F1 Acoustics Company Limited (F1AC) has been appointed by MJMK Limited (MJMK) to provide sound control management for the Dynamic Festival 2018, to be held on Saturday 8<sup>th</sup> September 2018 at Morden Park, Morden Hall Road, London, SM4 5JD.

1.1.2 This Noise Management Plan (NMP) contains details of the noise management strategies that will be executed by F1AC on behalf of MJMK, and to ensure that the sections of the premises licence relating to noise are addressed and implemented at all times during the event.

### 1.2 About F1 Acoustics Company Ltd

1.2.1 F1AC are specialists in event and festival sound control and have provided services for festivals including Glastonbury, Boomtown, Leeds, Latitude, Kendall Calling and Festival No. 6 plus numerous other single stage and multi-stage events across the UK. We have a combined experience of over 18 years providing high quality sound control services and all of our Consultants are Members of the Institute of Acoustics. As well as entertainment sound control the company deals with a large range of acoustics and noise issues and our staff have presented expert testimony at planning and licencing hearings as well as being accustomed to liaising with Local Authority Officers regarding noise issues.

1.2.2 F1AC will use integrating sound level meters capable of measuring in third-octave bands and conforming to the Class 1 specification contained in BS EN 61672-1:2013 for all off-site measurements, with all sound level meters used for on-site monitoring, if required by conditions within the Premises Licence, conforming to the Class 2 specification or better. These sound level meters will be within a two year period of calibration traceable to national standards. All sound level meters will be checked for calibration with an equivalent or more accurate Class of acoustic calibrator, which is within a two year period of calibration traceable to national standards, before and after each monitoring session.

- 1.2.3 F1AC has used National Guidelines, The Code of Practice on Environmental Noise Control at Concerts (The Noise Council, 1995) and our expert experience in this sector to tailor this Noise Management Plan for the type of event, number of customers, number of stages and location to ensure an achievable protocol for sound control is established.

## **2 Licence, Standards and Guidance**

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### **2.1 Licence**

2.1.1 The premises licence applied for to Merton Council (MC) is proposed to contain the following conditions relating to noise:

*“25. A qualified and suitably experienced Noise Management Consultancy will be appointed to produce a Noise Management Plan (NMP) and provide representatives on site during the live hours of the event.*

*26. Local residents will receive prior notification of the event including details of the event timings. The distribution for the notification letter will be agreed with the Local Authority. This is to include local businesses that may be affected by the attendees to the event during ingress and egress.*

*27. A noise “hot line” number will also be included to allow residents to contact an event representative should they need to make a complaint during the event.”*

### **2.2 Code of Practice on Environmental Noise Control at Concerts**

2.2.1 The Code of Practice on Environmental Noise Control at Concerts contains the following relevant guidance regarding the off-site noise limits at the nearest noise sensitive receptors (NSRs):

*“3.1 The Music Noise Levels (MNL) when assessed at the prediction stage or measured during sound checks or concerts should not exceed the guidelines shown in Table 1 at 1 metre from the façade of any noise sensitive premises for events held between the hours of 09.00 and 23.00.*

**Table 1**

<b>Concert days per calendar year, per venue</b>	<b>Venue category</b>	<b>Guideline</b>
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

*Notes to Table 1*

1. The value used should be the arithmetic average of the hourly LA90 measured over the last four hours of the proposed music event or over the entire period of the proposed music event if scheduled to last for less than four hours.
2. There are many other issues which affect the acceptability of proposed concerts. This code is designed to address the environmental noise issue alone.
3. In locations where individuals may be affected by more than one venue, the impact of all the events should be considered.
4. For those venues where more than three events per calendar year are expected, the frequency and scheduling of the events will affect the level of disturbance. In particular, additional discharges can arise if events occur on more than three consecutive days without a reduction in the permitted MNL.
5. For indoor venues used for up to about 30 events per calendar year an MNL not exceeding the background noise by more than 5 dB(A) over a fifteen minute period is recommended for events finishing no later than 23.00 hours.
6. Account should be taken of the noise impact of other events at a venue. It may be appropriate to reduce the permitted noise from a concert if the other events are noisy.
7. For venues where just one event has been held on one day in any one year, it has been found possible to adopt a higher limit value without causing an unacceptable level of disturbance.

*3.2 For events continuing or held between the hours 23.00 and 09.00 the music noise should not be audible within noise-sensitive premises with windows open in a typical manner for ventilation.*

*Notes on Guidelines 3.2*

*1. The use of inaudibility as a guideline is not universally accepted as an appropriate method of control. References 6 & 7 (Appendix 1) set out the various issues. This guideline is proposed as there is insufficient evidence available to give more precise guidance.*

*2. Control can be exercised in this situation by limiting the music noise so that it is just audible outside the noise sensitive premises. When that is achieved it can be assumed that the music noise is not audible inside the noise sensitive premises.*

*3.3 The nature of music events means that these guidelines are best used in the setting of limits prior to the event (see 4.0).*

*3.4 Assessment of noise in terms of dB(A) is very convenient but it can underestimate the intrusiveness of low frequency noise. Furthermore, low frequency noise can be very noticeable indoors. Thus, even if the dB(A) guideline is being met, unreasonable disturbance may be occurring because of the low frequency noise. With certain types of events, therefore, it may be necessary to set an additional criterion in terms of low frequency noise, or apply additional control conditions.*

*Notes to Guideline 3.4*

*1. It has been found that it is the frequency imbalance which causes disturbance. Consequently there is less of a problem from the low frequency content of the music noise near to an open air venue than further away.*

*2. Although no precise guidance is available the following may be found helpful (Ref.8): A level up to 70 dB in either of the 63 Hz or 125 Hz octave frequency band is satisfactory; a level of 80 dB or more in either of those octave frequency bands causes significant disturbance.*

*3.5 Complaints may occur simply because people some distance from the event can hear it and that, consequently, they feel the music must be loud even though*

*the guidelines are being met. In fact topographical and climatic conditions can be such that the MNL is lower at locations nearer to the venue.”*

2.2.2 A glossary of acoustic terms is provided in Appendix A to assist the reader.



### **3 Site, Environs and Details of the Event**

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#### **3.1 Site Location**

3.1.1 The festival site is located in Morden Park, a 50-hectare public park in the London Borough of Merton situated to the southwest of Morden town centre.

3.1.2 The site is surrounded by residential properties on Lower Morden Lane, Hillcross Avenue and the A24 (Epsom Road / London Road). A plan showing the festival site location and surrounding area is included as Figure 1.

#### **3.2 Diynamic Festival 2018**

3.2.1 The event will be held on Saturday 8<sup>th</sup> September from 11:00 until 22:00. If required, sound propagation tests will occur on Saturday 8<sup>th</sup> September before the event between 09:00 and 11:00. A plan showing the site layout including the location and orientation of the stages is included as Figure 2.

3.2.2 There will be two stages, one outdoor stage and one tented stage. Both stages will operate from 11:00 until 22:00.

3.2.3 A plan showing the site layout including the location of the main stages is included as Figure 2.

3.2.4 All of the sound systems will have appropriate controls for limiting, adjusting and fine-tuning individual third octave frequency bands.

### 3.3 Music Noise Level Criteria

3.3.1 The music noise level criteria are based on the guidance provided by the Noise Council's Code of Practice on Environmental Noise Control at Concerts.

3.3.2 The music noise level criteria for Diynamic Festival 2018 are therefore:

- Music noise levels from the event will be managed so that they do not exceed 75 dB  $L_{Aeq,15min}$  at the nearest noise sensitive properties.
- Low frequency noise levels will be managed so that music noise levels in the 63 Hz and 125 Hz octave bands do not exceed 70 dB  $L_{Zeq,15min}$  at noise sensitive properties at a distance of 2 km and greater from the event site.

## **4 Sound Control Procedure**

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### **4.1 Personnel**

4.1.1 To ensure the noise limits are not exceeded, all the steps of the sound control procedure outlined below will be adopted.

4.1.2 A team consisting of one Lead Consultant and two Consultants will be working at the event.

4.1.3 Details for the Lead Consultant will be provided to the local authority prior to the event. The Lead Consultant will be contactable at any time during the licence period on the site communication radio and/or by mobile phone.

4.1.4 The sound control team will liaise with the team of audio engineers based at the stages and operators of any approved smaller sound systems around the site. The audio engineers will work under the instruction of the sound control team and put in to place any required alterations to the sound systems overall or frequency based output to achieve compliance with the licence conditions. The festival management will be kept updated with regard to the off-site noise levels throughout the event.

### **4.2 Sound Control Program**

#### **Pre-event Information**

4.2.1 At least two weeks before the event MJMK will contact local residents of noise sensitive premises in writing to inform them of the start and finish times of the event, propagation tests, rehearsal/sound check times and the community hotline telephone number where complaints can be registered or information requested during the event.

#### **Noise Curfew**

4.2.2 Noise from the operation of sound systems will occur between 09:00 and 22:00 on the day of the event. Sound checks may take place on the Friday before the event and will be kept to a minimum between the hours of 10:00 and 19:00.

## **Sound Propagation Tests and Sound System Set-up Checks**

- 4.2.3 If required, sound propagation tests will be carried out on the morning of Saturday 8<sup>th</sup> September 2018 between 09:00 and 11:00. Some low sound level sound checks and line checking using white or pink noise and low level music may occur the day before the event not before 10:00 and no later than 19:00.
- 4.2.4 The sound propagation tests consist of playing music, similar to the programmed artists, through the sound systems and measuring the music noise levels at fixed monitoring points to be used throughout the event in the front of house (FOH) area, ideally at the mixing position where located FOH, for each of the stages. Concurrent off-site measurements at the nearest NSRs will also be taken for each stage to allow identification of any potential problems from individual stages at individual NSRs. These tests take account of all physical factors (e.g. distance, ground absorption, air absorption and meteorological conditions) such that the on-site operating levels can be adjusted and set to achieve compliance with the off-site licence conditions before the start of the event.

## **Sound Monitoring and Control**

- 4.2.5 MJMK are to inform all relevant parties that F1AC are undertaking the sound control role as part of the license requirement and that this role has been appointed and approved by MJMK. F1AC will have ultimate operational control over all the sound levels throughout the event. Therefore, all other parties, including artists, production managers, stage managers, sound engineers and event managers will be instructed not to increase any sound levels unless specifically agreed by the Lead Consultant responsible for sound control.
- 4.2.6 On-site music sound levels will be monitored at the front of house mixing desk positions using Noise Network: LIVE. Music sound levels are measured in 15-minute and 1-minute  $L_{Aeq}$  and  $L_{Ceq}$  values.
- 4.2.7 Off-site noise levels will be measured using Class 1 specification integrating sound level meters capable of measuring third-octave bands. Octave band measurements will be regularly taken at monitoring positions representative of the nearest noise sensitive receptors. The monitoring locations will be agreed with MC prior to the event.

4.2.8 If any music levels are measured to be above the limits provided in Section 3.3, the sound engineer at the stage identified (or all stages if an individual stage cannot be easily identified) will be instructed to reduce the music noise level, until a measurement showing compliance with the conditions can be taken. In addition to the control of the overall sound level, frequency adjustments can also be made to reduce the sound at certain low frequencies, often characterised outside the event as a ‘bass beat’.

4.2.9 Throughout the event, F1AC will liaise closely with MC Officers responsible for noise. If F1AC is made aware of music noise levels approaching the set limits, sound levels at each stage where it is considered necessary will be reduced. Results of the off-site noise monitoring and any related actions will be collated and kept available by F1AC for inspection by MC at any time during the event.

#### **Low Frequency Sound Control**

4.2.10 Paragraph 3.4 from the Noise Council guidance provided in Section 1 states low frequency noise should also be considered separately to minimise the disturbance at NSRs. Notes on Paragraph 3.4 indicate that the onset of significant disturbance is between 70 dB and 80 dB (unweighted). Note 1 of Paragraph 3.4 states that it is the frequency imbalance that causes the disturbance and consequently there is less of a problem from the low frequency content of the music noise near to an open air venue than further away.

4.2.11 The frequency imbalance occurs because the distance attenuation of sound is frequency dependent, with lower (bass) frequencies attenuating at a slower rate than higher frequencies. The distance at which this frequency imbalance becomes noticeable is generally between 1 – 2 km.

4.2.12 At NSRs closer to the site than the onset of the frequency imbalance the  $L_{Aeq}$  MNL limit specified in the Premises Licence will take in to account the low frequency component of the music noise. At these NSRs the music noise will contain the full frequency range without significant imbalance, subsequently controlling the A-weighted limit will also control the low frequency component of the MNL.

#### **Community Hotline and Response to Complaints**

4.2.13 A dedicated community hotline, the telephone number of which will be published as aforementioned in Paragraph 3.2.1, will be staffed throughout the duration of

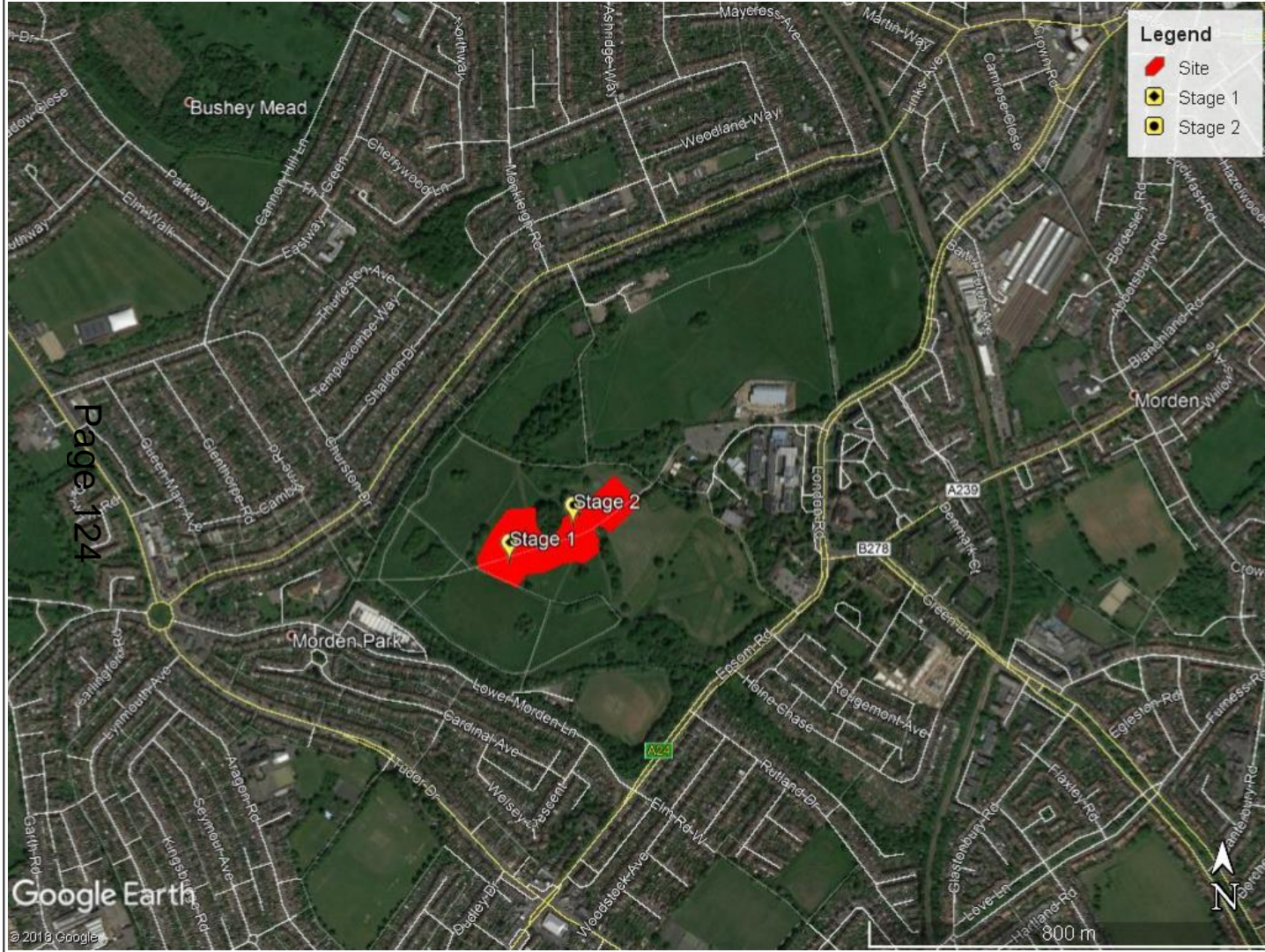
Dynamic Festival 2018, in the event that any complaints are received regarding, amongst other matters, noise. All complaints will be logged and those relating to noise will immediately be relayed to the Lead Consultant with details, where provided, of the complainant's name, address and postcode, telephone number and a description of the disturbance. A noise complaint log template is provided in Appendix B.

- 4.2.14 Should any complaints of noise be received, at any time during the event or sound propagation tests, a Consultant from the sound control team will visit the complainants address and take a measurement. If music noise levels are measured to be above the limit immediate action will be taken on-site to reduce the level from the event. This will be achieved by two-way radio or mobile phone communication with all persons involved with the sound control procedures, thus a quick response to the problem can be actioned. However, from experience, it has been found that this pro-active sound control procedure will prevent the limits from being exceeded in the first place. Results of complaint investigation monitoring and any related actions will be collated and kept available by F1AC for inspection by the three Local Authorities at any time during the event.

### **Post-event Report**

A post-event report will be available two weeks after the event including a summary of the off-site noise levels measured throughout the event; actions taken as a result of the measurements; complaints received; complaint investigation measurements; and any actions taken as a result of complaint investigation.





**Legend**

- Site
- Stage 1
- Stage 2

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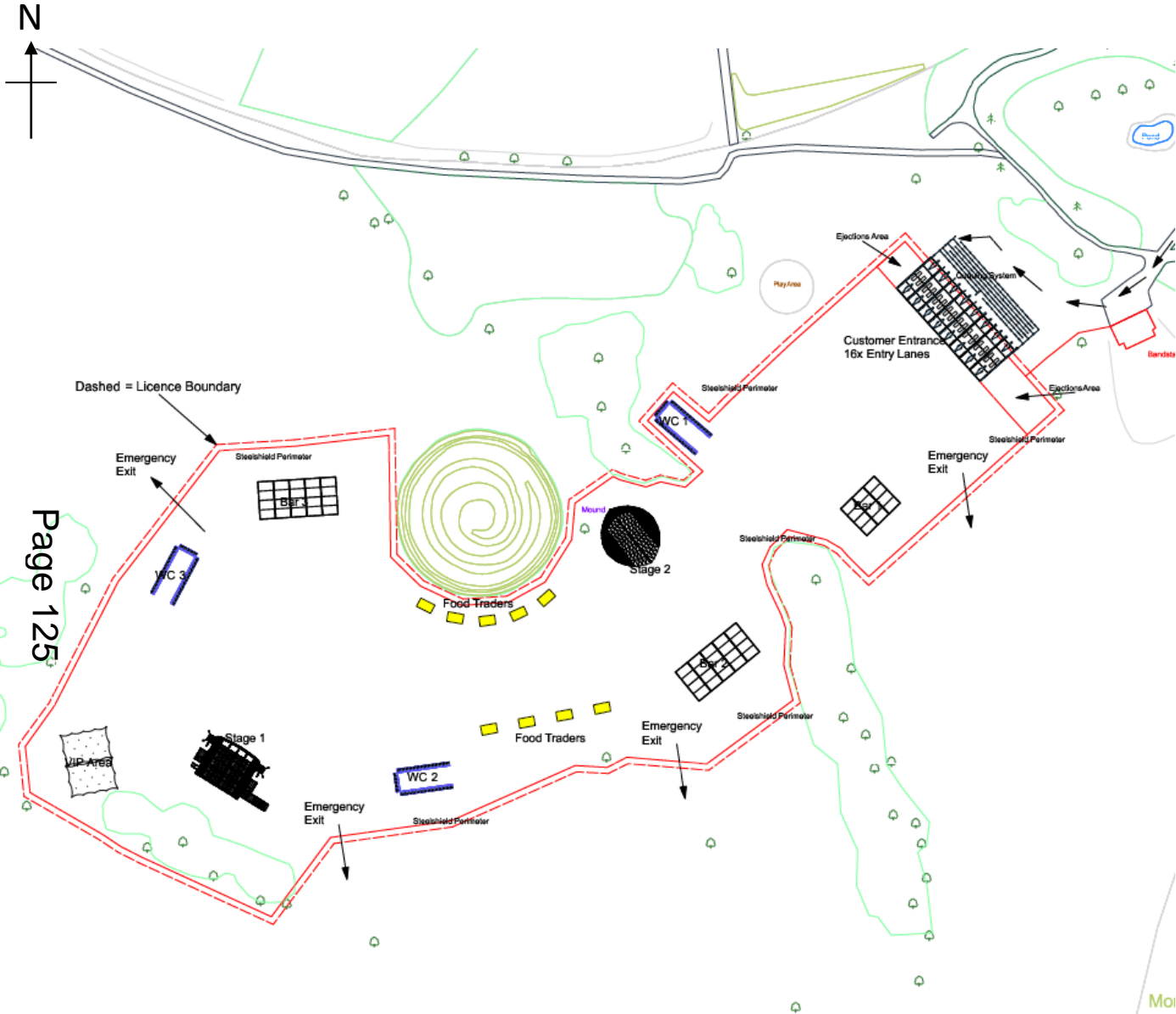
Google Earth  
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REV	DATE	D	R	DESCRIPTION
0	28/07/2018	RB	RM	Issue

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PROJECT:	Diynamic Festival 2018 – Noise Management Plan
CLIENT:	MJMK Limited
TITLE:	Site Location and Surrounding Area
DATE:	28/07/2018
REVISION:	0
SCALE:	Not to Scale
DRAWING NO:	1354/NMP/1/0
FIGURE NO:	1
DRAWN BY:	Rupert Burton
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PROJECT:	Dynamic Festival 2018 – Noise Management Plan
CLIENT:	MJMK Limited
TITLE:	Site Plan
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REVISION:	0
SCALE:	Not to Scale
DRAWING NO:	1354/NMP/2/0
FIGURE NO:	2
DRAWN BY:	Rupert Burton
REVIEWED BY:	Robert Miller

**Appendices**

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## Glossary of Acoustic Terms

Noise is defined as unwanted sound. The range of audible sound is from 0 dB to 140 dB. The frequency response of the ear is usually taken to be about 18 Hz (number of oscillations per second) to 18,000 Hz. 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 human subjective response to noise is the 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 3 dB difference between them. Also when two sound sources of the same noise level are combined the resultant level is 3 dB higher than the single source. When two sounds differ by 10 dB 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 indices and parameters used in this report are defined below:

- **Background Noise Level** – The prevailing sound level at a location, measured in terms of the  $L_{A90,T}$ , on an equivalent day and at an equivalent time when no concert or sound checks are taking place.
- **dB(A)** – The A-weighted sound pressure level whereby various frequency components of sound are weighted (equalized) to reflect the way the human ear responds to different frequencies.
- **$L_{Aeq}$**  – The equivalent continuous sound pressure level which at a given location over a given period of time contains the same A-weighted sound pressure level of a steady sound that has the same energy as the fluctuating sound under investigation.
- **$L_{AN,T}$**  – The A-weighted sound level exceeded for N% of the measurement period (T).
- **Music Noise Level (MNL)** – The  $L_{Aeq}$  of the music noise measured at a particular location.
- **Noise Consultant** – A person given responsibility by the organiser of the event for monitoring noise levels in accordance with the prevailing conditions, and who has the ability and authority to make decisions and implement changes in noise level during the event.

### Event Complaint Log

Complaint Number	Received by: Telephone / E-mail / Social Media	Date and Time Complaint Received	Complainant Information (if willingly given): A postcode is the minimum information required to investigate a noise complaint.				Description of complaint
			Name	Address (inc. Postcode)	Telephone Number	E-mail	

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