ACOUSTICS & NOISE CONTROL

NOISE MANAGEMENT PLAN

PRODUCED ON BEHALF OF SWALCLIFFE PARK EQUESTRIAN

SUBMITTED TO:

Cherwell District Council

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Dynamic experiences, Idibri design

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1. INTRODUCTION

1.1 Idibri has prepared this Noise Management Plan (NMP) on behalf of Swalcliffe Park Equestrian (SPE) which is applicable to events for more than fifty competing horses.

1.2 This NMP provides a method for the control of noise from events in accordance with conditions associated with approval of application 14/01762/F and any subsequent amended application which may be consented by Cherwell District Council.

1.3 This NMP addresses the control of noise from:

- Public address systems
- Power generation equipment
- Construction and dismantling activities
- Traffic movements
- Animal sounds

2. NOISE LIMIT

2.1 An application under s.73 of the Planning Acts has been made to Cherwell District Council seeking a variation of condition no. 5 to application 14/01762/F for Swalcliffe Park Equestrian.

2.2 The variation of condition application also seeks to update the Noise Management Plan in order to be consistent with the revised noise limits.

2.3 The requested change to the condition is to include a limit of 55 dB $L_{Aeq,15min}$ for the control of amplified sound from public address systems and noise from temporary equipment at the location of nearby dwellings which are shown in Appendix A.

2.4 This updated NMP provides a practicable and demonstrable method by which to control noise to the specified level based on calculation and near-field measurement.

2.5 In addition, noise monitoring at the boundary of the site may be undertaken provided that the specific noise (public address or plant) is at least 10 dB above the existing ambient level (dB $L_{Aeq,T}$) otherwise measurements would be unreliable.

2.6 It is considered that the assessment criterion is applicable only to sound from public address systems and stationary plant such as generators – see Section 3 and Section 9.

2.7 For other sources such as animals, vehicles on site or sound from setup and take-down of events, this NMP outlines practicable measures by which SPE will limit noise impact at nearby dwellings.

3. PUBLIC ADDRESS SYSTEMS

Introduction

3.1 Noise from public address systems will be controlled by:

- Setting levels for PA systems appropriately.
- Locating and orientating speakers away from noise sensitive receptors
- Using a greater number of low powered speakers to provide sound coverage
- Where necessary, providing screening by hay bales or similar to achieve additional reduction in noise levels.

Method for Control

3.2 SPE will use the information in Appendix B to help determine suitable locations for loudspeakers based on level and distance from dwellings beyond the site boundary.

3.3 The information in Appendix B will be used in combination with subjective assessment and the reasonable judgment of events organizers to establish the best practicable setup for public address systems in terms of noise control.

3.4 SPE will implement a methodology for commissioning public address systems similar to the following:

- Set out loudspeaker locations based on requirements for the effective and safe running of an event.
- Determine the distances from each loudspeaker to its nearest dwelling.
- Refer to the graph in Appendix B to determine the maximum measured sound pressure level at a distance of 1 m from the loudspeaker in the direction of the nearest dwelling.
- Use handheld sound measuring equipment such as the iTest Mic (by Studio 6 Digital: http://www.studiosixdigital.com/audio-hardware/itestmic/) with an Apple device to confirm the level of the loudspeaker when operating.
- Adjust the level of the loudspeaker accordingly.

3.5 It is not practicable for loudspeaker locations to be predetermined by SPE for all events in the calendar and the methodology described here will allow an appropriate balance between noise control and flexibility of use to be maintained.

3.6 Where loudspeakers are located in close proximity to dwellings then SPE will use screening to achieve appropriate level limit at dwellings. This will be achieved using hay bales or temporary fences.

Equipment

3.7 Horn loudspeakers are used for public address at events. A typical loudspeaker type is the Atlas CJ-46. The directivity response for the Atlas CJ-46 is shown in Appendix E which will be used to help set appropriate near field levels and orientation during commissioning prior to events.

On-Site Engineer

3.8 SPE team and/or an audio engineer will be present on site prior to and during events to set-up, commission and control the PA systems.

3.9 SPE and/or the on-site engineer will maintain a direct line of communication with the person assigned to handle complaints during events. This will allow a timely response to any justified complaints regarding noise from public address systems.

4. PLANT

Introduction

4.1 Power at events is typically provided by portable, local generators.

4.2 Noise from generators will be controlled by:

- Selection/specification of low noise generators, where possible.
- Appropriate location of generators away from nearby noise sensitive dwellings.
- Where necessary, the use of hay bales or similar to provide additional attenuation by screening.

4.3 In addition, information in Appendix B can be applied to establish acceptable distances between portable generators (and similar equipment) and dwellings at the site boundary.

4.4 Noise from portable generators will meet the specified noise level limit at nearby noise sensitive dwellings.

Method for Control

4.5 SPE will use the information in Appendix B to help determine the suitability of locations for plant in terms of noise.

4.6 This will be achieved in a similar way to that described in Section 3 above also using the information provided in Appendix B.

Power for Public Address Systems

4.7 Public address systems at events are typically powered using Honda type EU20i generators and the manufacturer's specification for this unit is shown in Appendix E.

4.8 A representative noise level for this type of unit is 54 dB L_{pA} at a distance of 1 m. As a guide, the minimum required distance between a generator of this type and the site boundary is less than10 m.

4.9 SPE will take into consideration the required minimum distance where a number of generators are located close together.

4.10 SPE will review requirements for minimum distances between generators and the site boundary where alternative units are used. This type of assessment can be based on measured or manufacturer's noise level data for a particular generator.

Independent Retailers

4.11 Independent retailers will be present at events. Some retailers require power and will bring generators.

4.12 Assessment has shown that a distance of 50 m between retail typical generators and the site boundary can be sufficient to achieve the specified noise level limit at nearby noise sensitive receptors.

4.13 Noise from portable generators is not considered significant. This is based on assessment and observations from events. However, where noise from plant is identified by SPE staff as a potential problem then this will be dealt with according to the methods described above including by appropriate location and screening.

5. CONSTRUCTION AND DISMANTLING

Typical Activities and Noise Control

5.1 Construction and dismantling activities are undertaken at events for the following:

- Jumps
- Judges/commentator's cabins
- Tents and gazebos for retail and refreshments
- Delivery/collection of portable toilets
- Installation of temporary stabling

5.2 The potential for disturbance by noise from general event construction and dismantling activities described above will be minimized by:

- Adherence to the agreed operating hours.
- Locating loading and unloading areas away from noise sensitive receptors.
- Allocating clear site operations and vehicles routes away from nearby noise sensitive dwellings and to minimize the need for reversing movements.
- Switching off idling engines, plant or equipment between works.
- Undertaking potentially loud fabrication or assembly works off site or in enclosed workshops nearby.
- Using modern equipment and plant which complies with relevant noise emissions standards.

5.3 Operating hours for set-up and take-down activities associated with events have been agreed by Cherwell District council and SPE. These are shown in Appendix C.

5.4 SPE will seek to maintain good public relations as this can be essential to minimize the potential impact of construction noise.

5.5 The character, intensity, duration and operating hours of the construction and dismantling activities associated with events are in keeping with normal agricultural activity.

Temporary Stabling

5.6 Temporary stabling is currently used at one event in the season and is a flat-packed semi-rigid system with a tent-like roof which can be erected and dismantled quickly and with minimal noise.

5.7 Temporary stabling will be located away from the noise sensitive receptors. The Location is shown in Appendix D and is approximately 150 m from the nearest dwelling.

5.8 Temporary stabling is transported by heavy goods vehicle. The driver of this vehicle will be instructed to turn off the vehicles engine while the stables are loaded and unloaded.

5.9 Loading and unloading of temporary stabling is undertaken by a tractor. Noise from this source is considered typical in a rural environment.

6. TRAFFIC

Arrivals and Departures

6.1 As part of an effort to control noise, SPE will follow the guidance and protocol stated in the DTPC Transport Statement dated October 2014 which is provided separately by others.

6.2 SPE will also implement guidance in the Swalcliffe Park Equestrian Events Management Plan Report No. J251/EMP revision A.

On the Site

6.3 Noise from slow moving vehicles traversing the site is insignificant compared with levels generated by both events and non-events traffic travelling at greater speeds on nearby roads and in closer proximity to the noise sensitive dwellings identified in Appendix A.

6.4 Visitor will not be permitted to leave vehicle engines running while parked for events.

6.5 Visitors will not be permitted to play loud music from vehicles or similar during events.

7. HORSES AND COMPETITION PROCEDURE

Horses

7.1 Previous assessment has identified that the whinnying of horses can be audible at the site boundaries.

7.2 For the NMP we consider this a normal and acceptable type of sound in a rural setting. Further, monitoring and/or effective control of noise from horses is impracticable.

7.3 SPE, competitors and spectators alike understand that the comfort and welfare of participating horses is paramount. By enacting this principle, any unnecessary whinnying or other sound from horses is avoided.

Competition Procedure

7.4 Equestrian events such as show jumping and dressage often use audible signals to call competitors to competition.

7.5 Audible signals can include a bell, buzzers or car horns.

7.6 Previous assessment and observations during events has established that these signals, although sometimes audible at the perimeter are not significant in terms of level or duration and do not require specific measures for control.

8. COMMUNICATION AND COMPLAINTS MANAGEMENT

Communication

8.1 SPE will notify nearby residents of the details of forthcoming events as this can be one of the most effective ways to ensure that the potential for disturbance is minimized.

8.2 SPE will inform all relevant event partners (construction staff, independent retailers, etc) of the importance of noise control.

8.3 Events partners will comply with restrictions on their activities should these be reasonable and justified in the interests of controlling noise.

8.4 SPE will maintain an appropriate level of awareness amongst permanent and temporary staff as to the details and general principles of the NMP.

Complaints Handling

8.5 SPE will designate a senior member of staff who will be responsible for the handling of complaints during events. Contact details will be made available to Cherwell District Council.

8.6 SPE will operate a complaints telephone number and email address through which noise complaints can be directed. This will enable an immediate response to be made to any reasonable complaints and for SPE, or their designated representative, to assess whether or not action is required.

8.7 Information regarding complaints will be recorded on a standard template which will include but is not limited to:

- The date and time of the compliant.
- The method by which the complaint was made.
- Details of the complainant such as their location, an email address or phone number for follow-up action.
- The nature of the complaint.
- The action taken by SPE in response to the compliant.
- Details of any follow-up contact with the complainant.
- If no follow-up action then the reasons of this.

8.8 SPE will fully investigate all complaints and where reasonable and practicable, will put in place measures to address the issue raised.

8.9 All relevant information will be made available to Cherwell District Council on request.

9. NOISE MONITORING

9.1 Specific monitoring of noise from public address systems and plant can be undertaken by measurement in close proximity to these items and compliance with the specified noise level limit and demonstrated by calculation.

9.2 This will take place during the setup/commissioning stage of events according to the method described in Sections 3 and 4 and with reference to the information shown in Appendix B.

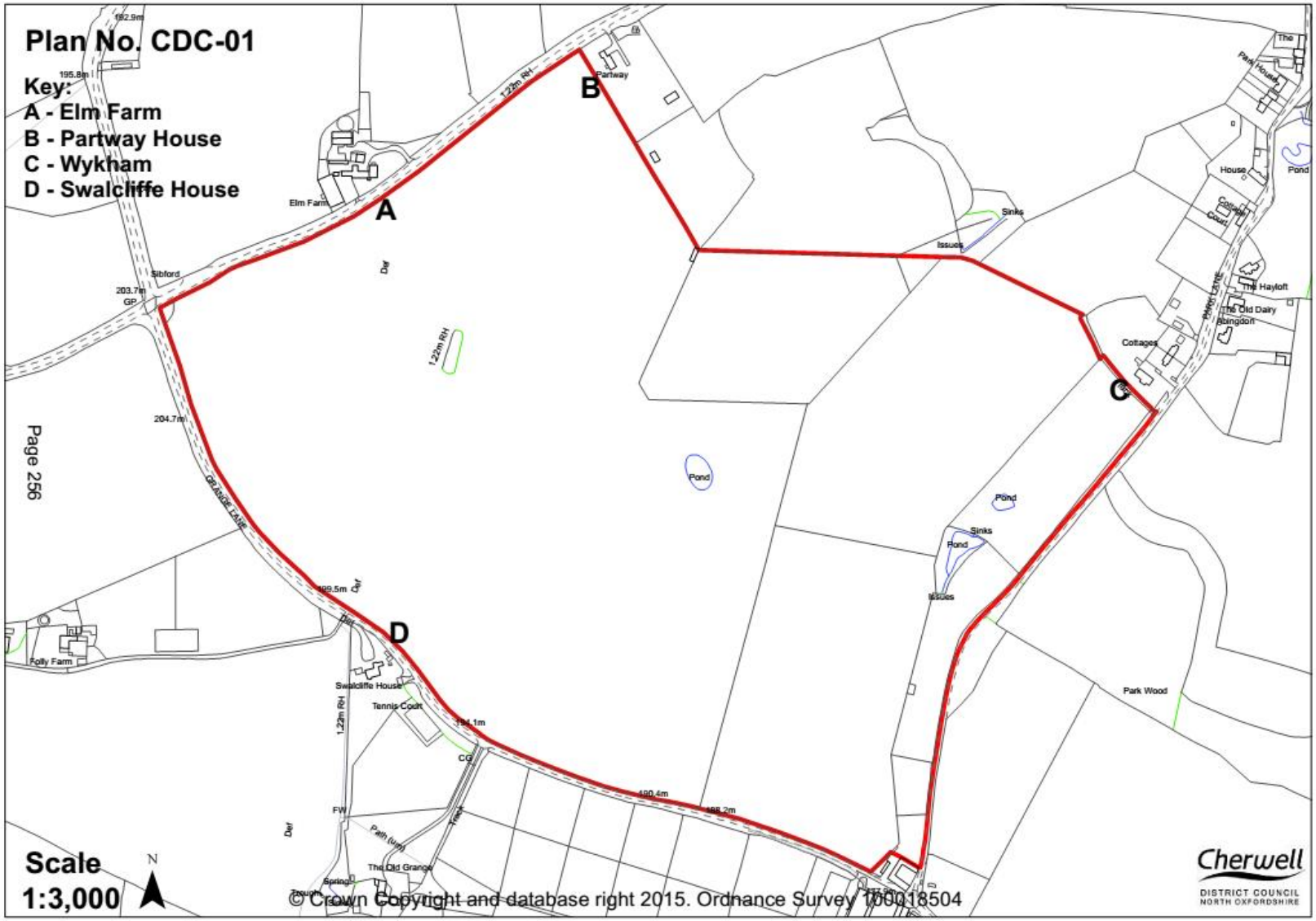
9.3 After commissioning and during events, SPE will undertake regular monitoring by subjective assessment at the site boundary and use reasonable judgment to determine if levels of sound from public address systems or plant are likely to cause significant disturbance at nearby dwellings.

9.4 As part of any noise monitoring undertaken, a record will be kept to include details of the date, time and location of measurement, weather conditions and notes concerning noise sources in the area. This information will be made available to Cherwell District Council.

9.5 Officers from Cherwell District Council may undertake monitoring of similar events and SPE will provide full cooperation.

9.6 Those undertaking noise monitoring on behalf of SPE will comply with requests made by Cherwell District Council.

APPENDIX A: PLAN CDC-01 NOISE SENSITIVE LOCATIONS



APPENDIX B: SUPPORTING INFORMATION

SPE will use the information below to determine suitable distances between equipment which generates sound and dwellings at the boundary of the site.

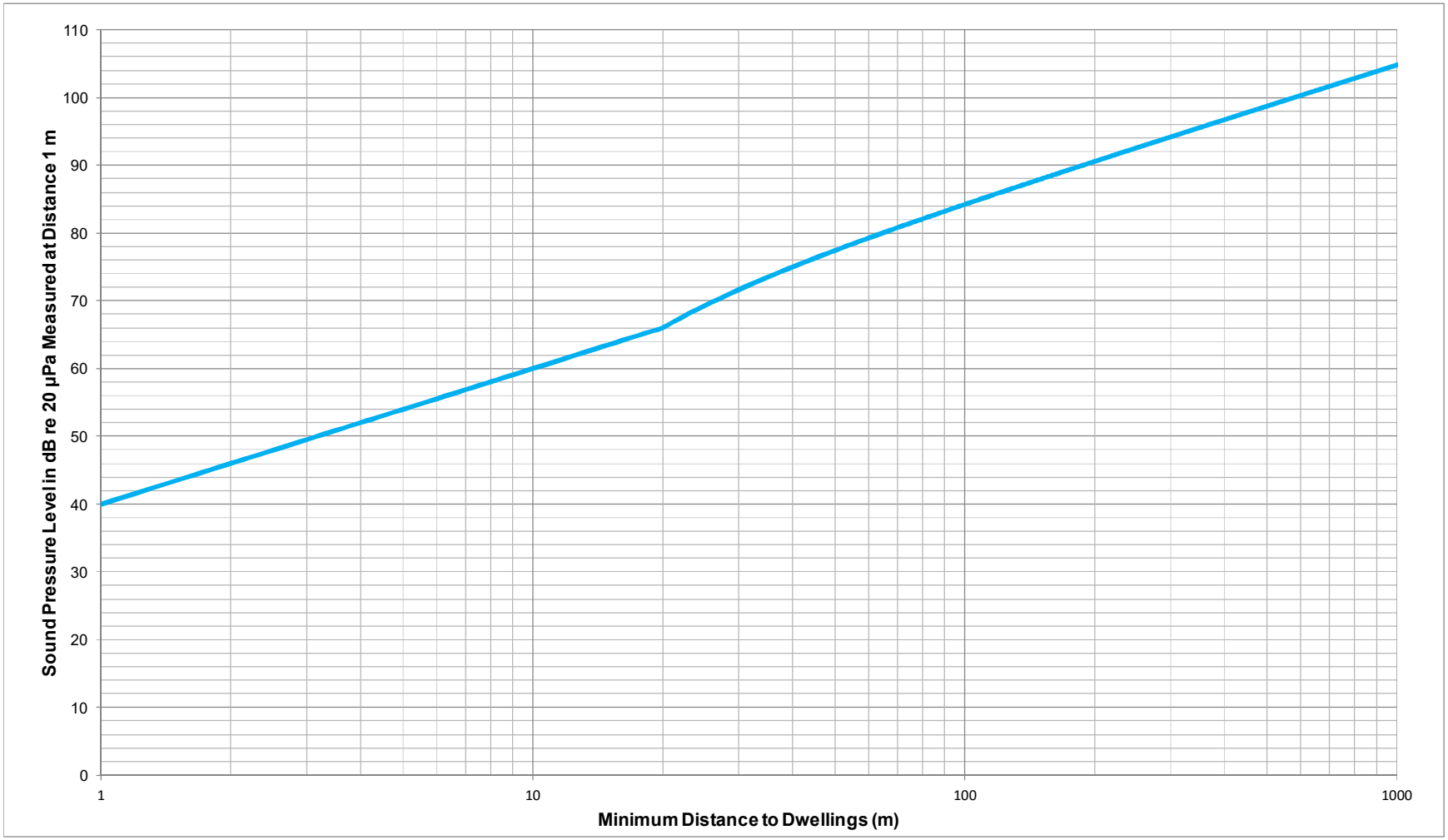
The chart is intended for use with:

- Public address systems and loudspeakers
- Stationary plant such as generators, air conditioning units

Notes to accompany the below graph are:

- The calculations used to create the graph below exclude air absorption, meteorological effects (such as wind direction) and screening by topography or structures.
- Calculations are calibrated to achieve a level of 40 dB L_{pA} at the specified distance to nearby dwellings.
- The sound pressure level limits in the below graph are valid only at a measurement distance of 1 m from the source equipment or loudspeaker.
- This information is intended as a guide and based on a single noise source. Detailed calculations could be undertaken as part of events commissioning to assess cumulative impacts where the complexity of a specific setup warrants. Our experience of events is that sound sources are located suitably far apart that cumulative effects are insignificant.
- Where units are screened by structures, vehicles, hay bales, etc it may be acceptable for the maximum required distance to dwellings to be reduced. This can be assessed either by calculation or by subjective assessment. In many case, the sound level, distance and screening effects can mean that equipment is inaudible at the site boundary.
- With specific reference to loudspeaker locations, the use of the below graph can take account of off-axis response by ensuring that measurements to verify the required sound level are made in direction of nearby dwellings rather than according to the orientation of the loudspeaker.

Appendix B continued…



Sound pressure level of sound source (measured at 1m) versus required distance from dwellings at the site boundary

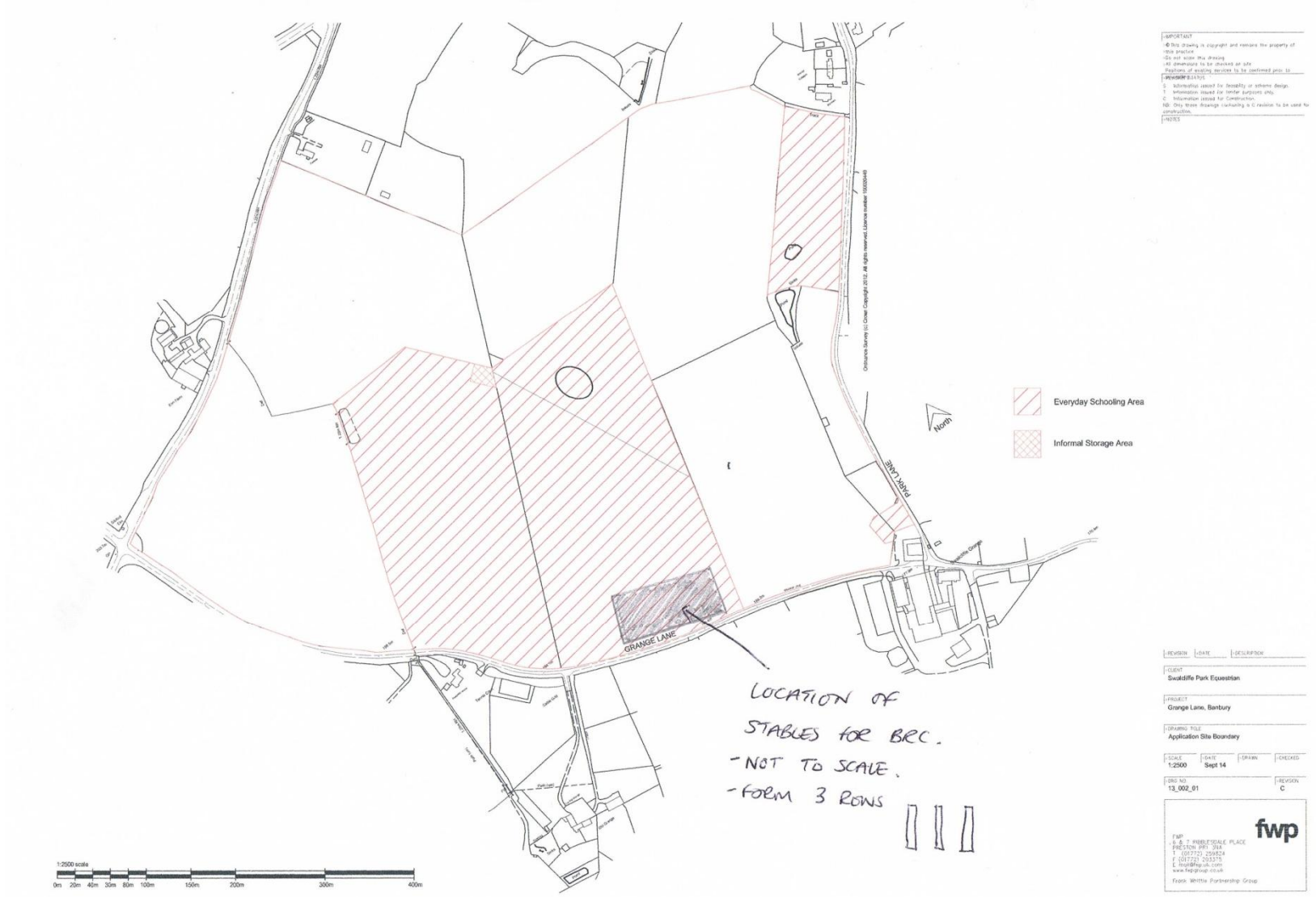
APPENDIX C: OPERATING HOURS

The following hours of operation will apply:

Description	Operating Hours
Equestrian Events (1 and 2 day events)	08:00 - 20:00
Set Up Days	08:00 - 20:00
Take-Down Days	08:00 - 20:00

Operating hours for SPE events

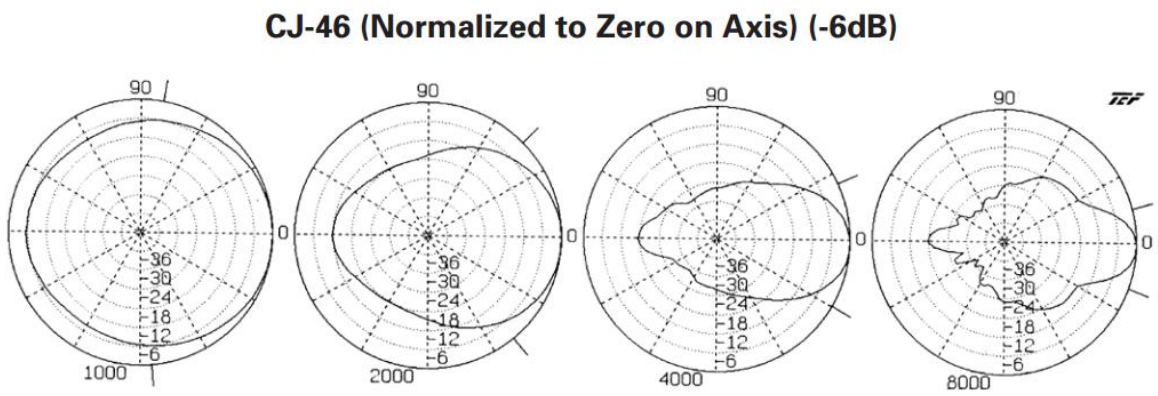
APPENDIX D: LOCATION OF TEMPORARY STABLING



APPENDIX F: TECHNICAL INFORMATION

Atlas CJ-46 Horn Loud Speaker

The directivity of the Atlas CJ-46 is shown below and is taken from the manufacturers' technical data.



Honda EU20I Generator Specification

Primary usage	Leisure Use
Type	Portable
Max output (W)	2000
Voltage stability (%)	+ or - 1
Output voltage (V)	230
Rated output (W)	1600
Frequency rating (Hz)	50
DC voltage (volts)	12
Power Stability	Inverter Technology®
DC current (amps)	8
Engine type	GX100
Type	single cylinder 4-stroke OHV air cooled
Oil capacity	0.4 litre with Oil Alert®
Starter system	recoil
Length (mm)	510
Width (mm)	290
Height (mm)	425
Dry weight (kg)	21
Noise Level (1/4 load) (dB(a))	52
Run Time, up to (hrs)	10
Fuel tank capacity (litres)	4.1
Fuel type	Unleaded petrol