



Acoustic Survey and Assessment for Proposed Holiday Lodges on land at Longridge Road, Chipping, PR3 2QA.

Prepared for:

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1. Introduction

- 1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic survey and assessment to support a planning application for the siting of holiday lodges on land off Longridge Road, Chipping, PR3 2QA.
- 1.2. This revision of the report follows comments received from the Local Planning Authority and a request for further information.

Site Location and Context

- 1.3. The development site is situated to the west of Longridge Road. The area is predominantly agricultural with existing properties to the south on Hesketh Lane. This includes a small kennels to the southwest.
- 1.4. An aerial Photograph is enclosed in Figure 1, together with a proposed layout drawing in Figure 2.
- 1.5. The report has been produced to clarify the potential impact on the proposed development and to identify mitigation measures if required to ensure the development is appropriate in terms of noise impact.



2. Policy and Guidance

- 2.1. The impact of noise can be a material consideration in the determination of planning applications. The planning system has the task of guiding development to the most appropriate locations. It is recognised that on occasions it will be difficult to reconcile some land uses, such as housing, hospitals, or schools, with other activities that generate high levels of noise. However, the planning system is tasked to ensure that, wherever practicable, noise-sensitive developments are separated from major sources of noise (such as road, rail and air transport and certain types of industrial development).
- 2.2. The Government's publication of the National Planning Policy Framework (NPPF), updated in December 2024, states that planning policies and decisions should prevent new and existing development from contributing to or being put at unacceptable risk from, of being adversely affected by unacceptable levels of noise pollution.
- 2.3. The Government have also issued the Noise Policy Statement for England (NPSE). The NPSE clarifies the Government's underlying principles and aims in relation to noise and sets a vision to promote good health and a good quality of life through the effective management of noise while having regard to the Government's sustainable development strategy. The NPSE aims to mitigate and minimise adverse impacts on health and quality of life through the effective management and control of noise.
- 2.4. The NPSE introduces the following terms, although no sound levels are given to represent these, many authorities have identified the sound level criteria in line with the World Health Organisation, BS8233:2014 and BS4142: 2014 levels. The terms introduced by the NPSE are:
- NOEL – No Observed Effect Level**; this is the level of noise exposure below which no effect at all on health or quality of life can be detected.
- LOAEL – Lowest Observed Adverse Effect Level**. this is the level of noise exposure above which adverse effects on health and quality of life can be detected.
- SOAEL – Significant Observed Adverse Effect Level**. This is the level of noise exposure above which significant adverse effects on health and quality of life occur.



2.5. The Planning Practice Guidance on Noise supports the above and highlights that plan-making and decision making need to take account of the acoustic environment and consider;

- Whether or not a significant adverse effect is occurring or likely to occur
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether a good standard of amenity can be achieved.

In line with the NPSE this includes whether the overall effect of the noise exposure would be above or below the SOAEL.

2.6. Other commonly used examples of standards utilised by Local Planning authorities for the consideration of noise impacts include comparison of the likely noise levels to be experienced at a development, with levels that have been recommended by the World Health Organisation (WHO) as Guidelines for the prevention of Community Noise Annoyance and within BS8233: 2014.

2.7. The WHO recommended noise levels for outdoor amenity areas (gardens) that should not be exceeded are 55dB(A) $L_{Aeq,16hr}$ in order to avoid 'Serious Community Annoyance' or 50dB(A) $L_{Aeq,16hr}$ to avoid 'Moderate Community Annoyance' during the day. For indoor levels WHO set 35dB(A) $L_{Aeq,16hr}$ during the day to prevent Moderate Annoyance and 30 dB(A) $L_{Aeq,8hr}$ at night to prevent sleep disturbance.

2.8. The WHO guidance also recommends that maximum sound levels at night should not regularly exceed 45dB(A) within bedrooms to prevent sleep disturbance. Regularly is considered to be more than 10 times during any 8-hour night-time period.

2.9. BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' also specifies desirable noise levels to be achieved inside dwellings.

2.10. BS 8233:2014 'Sound insulation and noise reduction for buildings – Code of Practice' also specifies desirable noise levels to be achieved inside dwellings. BS 8233 presents two levels, the first between the hours of 07:00 – 23:00 and the second between 23:00 – 07:00.

- 2.11. The daytime period suggests internal noise levels of 35dB $L_{Aeq,16hr}$, for resting in living rooms and bedrooms while for night-time a level of 30dB $L_{Aeq,8hr}$ is recommended. Criteria for external areas mirrors that within the WHO guidance.
- 2.12. In addition, the 'ProPG Planning & Noise, Professional Practice Guidance on Planning & Noise, New Residential Development' provides a 4-staged approach to undertaking a risk assessment in relation to anticipated sound levels at new residential development and the provision of mitigation measures. The guidance is principally aimed at sites exposed predominantly to noise from transportation sources.
- 2.13. The first stage consists of an initial noise risk assessment, based on indicative day and night-time noise levels. Simply put, the higher the ambient noise in an area the greater the impact. The levels given are shown below although it should be noted that these are in excess of both the WHO and BS 8233: 2014 guidance.

Noise Risk Category*	Potential Effect if Unmitigated	Pre-Planning Application Guidance
0 – Negligible $L_{Aeq,16hr} < 50dB$ $L_{Aeq,8hr} < 40dB$	May be noticeable but no adverse effect on health and quality of life	In this category the development is likely to be acceptable from a noise perspective, nevertheless a good acoustic design process is encouraged to improve the existing environment and/or safeguard against possible future deterioration and to protect any designated tranquil areas. A noise assessment may be requested to demonstrate no adverse impact from noise. Application need not normally be delayed on noise grounds.
1 – Low $L_{Aeq,16hr} 50-63dB$ $L_{Aeq,8hr} 40-55dB$	Adverse effect on health and quality of life	In this category the development may be refused unless a good acoustic design process is followed and is demonstrated via a Level 1 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised and that a significant adverse impact will not arise in the finished development. Planning conditions and other measures to control noise may be required.
2 – Medium $L_{Aeq,16hr} 63-69dB$ $L_{Aeq,8hr} 55-60dB$ $L_{AFmax} > 80dB^{**}$	Significant adverse effect on health and quality of life	In this category the development is likely to be refused unless good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement which confirms how the adverse impacts of noise on the new development will be mitigated and minimised, and clearly demonstrates that a significant adverse noise impact will not arise in the finished development. Planning conditions and other measures to control noise will normally be required.
3 – High $L_{Aeq,16hr} > 69dB$ $L_{Aeq,8hr} > 60dB$ $L_{AFmax} > 80dB^{**}$	Unacceptable adverse effect of health and quality of life	In this category the development is very likely to be refused on noise grounds, even if a good acoustic design process is followed and is demonstrated via a Level 2 Acoustic Design Statement. Applicants are advised to seek expert advice on possible mitigation measures. Advice on the circumstances when the refusal of a new housing on noise grounds should normally be anticipated is included in the ProPG.



- 2.14. Stage 2, consists of a full assessment of the prevailing ambient noise and requires 4 elements to be considered:
- I. Element 1 – Good Acoustic Design
 - II. Element 2 – Internal Noise Level Guidelines
 - III. Element 3 – External Amenity Area Noise Assessment
 - IV. Element 4 – Assessment of Other Relevant Issues
- 2.15. A good acoustic design is implicit in meeting the requirements of the NPPF and can help to resolve many potential acoustic issues.
- 2.16. Details of the criteria considered suitable are provided above for both internal and external sound levels. Element 4 includes such issues as local and national policy, likely occupants, wider planning objectives.
- 2.17. The planning system requires development to ensure no significant adverse impact is to be experienced in terms of noise, and this is reiterated within the NPPF, NPSE, and Planning guidance note on noise.
- 2.18. The planning system therefore allows for an adverse impact to be present but not a significant adverse impact, while developers should aim to reduce the noise impact to as low as possible given other considerations for the development.
- 2.19. It is therefore necessary to confirm what a significant adverse impact is and the NPSE provides some guidance in relation to the toxicological terms NOEL, LOAEL, & SOAEL. Para 1.8 of the NPSE identifies that when considering the impact from noise a sound science base is required.
- 2.20. The PG note on noise contains the table in Appendix B which explains the various NOAL, LOAEL and SOAEL levels. An adverse impact is one where noise can be heard and causes small changes in behaviour, attitude or physiological response, while a Significant adverse impact is one that causes a material change in behaviour, attitude or physiological response.
- 2.21. BS8233:2014 refers to levels detailed within the WHO guidance, and it is this guidance that is based on scientific research on the impact of noise. The WHO guidance



identifies three adverse effects from noise affecting residential situations, sleep disturbance, speech interference and annoyance.

2.22. Given the details within the above guidance document suitable criterion for the assessment are;

- Internals daytime $L_{Aeq,16hr}$ of 35dB, night-time $L_{Aeq,8hr}$ of 30dB with a night-time maximum sound level not regularly exceeded of 45dB L_{Amax} .
- Externally to avoid a significant adverse impact a sound level of 55dB $L_{Aeq,16hr}$ for amenity areas.



3. The Assessment

The development

3.1 The proposed development consists of the siting of five holiday lodges and associated infrastructure on land off Longridge Road, Chipping. There is no dedicated outdoor space provided as part of the lodges but parking is to be provided and the site is generally open.

3.2 Figure 2 below provides an overview of the proposed development.

Existing Situation.

3.3 In order to determine the impact on the proposed development on site monitoring was undertaken over the 2nd 4th October 2024 to obtain representative background sound levels for the area.

3.4 A Cirrus Optimus Green sound level meter was utilised for the monitoring. The meter was placed at a height of ~1.3m to the southwest corner of the site, 35m from the roadside.

3.5 The meter was field calibrated at the start and end of the monitoring period with no significant variation and full laboratory calibration certificates are available on request.

3.6 The weather during the monitoring was dry apart from a short shower on the last morning, with little to no wind <5m/s.

3.7 The full results are shown in Appendix A, with a summary in the tables below.

Start Time	End Time	Duration	L _{Aeq}	L _{A90}	L _{AMax}
02/10/2024 16:00	02/10/2024 23:00	06:59:58	48.0	30.3	78.3
02/10/2024 23:00	03/10/2024 07:00	08:00:00	39.2	23.2	67.4
03/10/2024 07:00	03/10/2024 23:00	16:00:00	49.8	37.2	80.3
03/10/2024 23:00	04/10/2024 07:00	08:00:00	37.8	22.1	73.2
04/10/2024 07:00	04/10/2024 08:00	01:00:01	49.1	39.5	69.2

3.8 Background sound levels were dominated by passing traffic along the road and from bird song in addition some periods of barking were observed from the recordings emanating from the nearby kennels. Night-time maximum sound levels regularly exceeded at identified at 62.4dB(A) due to passing cars. A review of the maximum



sound levels across the records (+55dB(A)), shown that these were due to passing traffic with one incident of bird song in the early hours

- 3.9 The monitoring location was 35m from the roadside and the nearest proposed lodge being 6m resulting in this lodge being exposed to up to sound levels 7.7dB(A) higher than those monitored.
- 3.10 Occasional barking was observed from the site during both the day and night-time periods. This appears to have originated from one single dog with individual barking between 45-56dB(A) at the edge of the site.

Potential Impact on the Proposed Development

- 3.11 Modern lodges are designed to meet minimum legal requirements and this includes a achieve a minimum of 35dB attenuation for the structure of the lodge, along with suitable thermal insulation and ventilation.
- 3.12 Assuming the minimum level of attenuation, which may in reality be greater as manufacturers will look at exceeding the minimum requirements, the internal sound levels of the lodges would be below the recommended criterion at less than 22.5dB(A) during the day, 11.9dB(A) at night and 35.1dB L_{AMax} at night the above representing the lodge nearest to the roadside.
- 3.13 The internal environment for the lodges is therefore acceptable, with a No Observed Impact and will not result in any adverse impact on the short-term occupiers.
- 3.14 No formal external amenity areas are to be provided but the nature of the development provides open space around the lodges which may be used by visiting guests. The current observed sound levels are just below the recommended lower criterion of 50dB(A) to the rear of the site while at the front along the roadside they are just over the upper criterion at 57. 5dB(A). Sound levels at the second lodge from the road would be will be 56.0dB(A).
- 3.15 The site is located within the open countryside and forms part of the ANOB. Occupation of the site will be for a short duration only with no formal external areas being provided. While a barrier would help to reduce the sound levels from passing traffic the current internal sound levels are acceptable.



- 3.16 BS8233:2014 notes that it is recognised that the guideline values are not always achievable and where development is desirable a compromise can be met. Given the lack of formal outdoor amenity areas, occupation of the site on a temporary nature and the location within open countryside the current external sound levels, slightly over the recommended level are considered to be acceptable, with internal sound levels being below the recommended levels. Although this may not be the case on a permanent occupation basis.
- 3.17 The Council have expressed concerns over the potential impact from the kennels to the rear and it has been reported that the kennels were not full during the monitoring period.
- 3.18 It has been agreed with the Council that an assessment of the kennels during full occupancy can be undertaken using calculations, however despite some time lapsing since the first comments were received it has not been possible to identify a time when the kennels have been fully occupied.
- 3.19 An assessment based on calculation has therefore been agreed. The kennels are currently licensed for up to 15 dogs.
- 3.20 There is no specific guidance available for assessing potential noise from barking dogs and no specific assessment methodology from Ribble Valley Borough Council. The South Holland District Council guidance document identifies the sound levels produced from an average dog barking as 65.6dB(A) at a distance of 10m.
- 3.21 This guidance has previously been used and accepted across Lancashire, including by Ribble Valley, and the figure has been used to calculate the combined sound level at the nearest lodge from the adjacent kennels.
- 3.22 The walls of the kennel are constructed from concrete block (~ 45dB R_w) with a metal corrugated roof (~25dB R_w).
- 3.23 Therefore assuming all dogs are barking in complete unison and assuming the minimum attenuation from the building of 25dB reduction, the sound levels at the nearest lodge, 28.5m away would be with a resulting sound level of 0dB, i.e. the dogs will not be heard when in the kennels, see Appendix B for calculations. This calculation assumes the dogs are barking in unison to enable the sound levels to be combined.



- 3.24 The kennels do however have runs that are open and used during the daytime, the dogs are inside at night. These are separated by solid walls. The potential impact from the dogs in the runs barking in unison has been modelled using the dBmap modelling software.
- 3.25 This has identified façade sound levels of 41-51dB(A) from the dogs barking in unison, a situation that is unlikely to occur. Given the 15dB for an open window the internal sound levels would be below the night-time maximum 45dB(A) recommended, and should the bark be continuous, below the identified 35dB(A) night-time criterion.
- 3.26 Externally the impact from the dogs barking in unison would therefore be at or below the prevailing background sound level for the area and below the identified criterion for outdoor amenity spaces, which are absent in this proposal.
- 3.27 Any observed barking from the nearby kennel would not therefore result in a significant adverse impact as required by the NPPF/NPSE.

Potential Impact from the Development

- 3.28 The site is situated with nearby neighbouring residential properties located to the south boundary. The nearest part being a driveway and area of hardstanding used for car parking. The nearest faced being 35m from the boundary of the site.
- 3.29 The site consists of four double lodges, sleeping a maximum of two people. Thus, there will be no children present on site.
- 3.30 No formal outside areas or outdoor furniture are to be provided for any of the lodges and the use of BBQ's etc strictly prohibited under the terms of the rental agreement.
- 3.31 Sound emissions from the site are therefore considered to be minimal.
- 3.32 Vehicle movements will be lower than those on the adjacent highway due to the lower speeds and as such will not result in any readily identifiable off site, below the background sound of passing vehicles identified and will not result in any adverse impact on neighbouring properties.
- 3.33 Externally there will be little activity on site. Given the standard average sound level of a loud male talking at 1m to be 65dB(A), ignoring any barrier attention for people being located behind the lodges and assuming only one person guest at each lodge is speaking at once. The combined impact of people talking in unison at the boundary of



the hard standing area to the south, 12m away, would be 45.1dB(A). This is below the prevailing daytime sound level measured on site, and below the levels identified by the World Health Organisation for outdoor amenity areas to trigger any adverse impact.

- 3.34 At the façade of the nearest property 38dB(A) and internally through an open windows 23dB(A). Again, below the identified criterion at which an observed impact would occur for both day and night-time periods. .
- 3.35 It should also be noted that the above guideline figures are for averaging periods of 16 hours during the day and 8 hours at night, people will not be stood outside for this length of time.
- 3.36 Internally, sound levels of up to 84.7dB(A) could be produced at the nearest lodge while still achieving the current night-time background L_{A90} level of 22.1dB(A) at the hardstanding area, with levels of 98.7dB(A) to achieve the same level at the façade of the property. Even higher levels could be generated at the other lodges located further away and still achieve the current night-time background level.

$$SPL_{ext,façade} = SPR_{int} - attenuation (R_w) - 6 - distance$$

$$22.1 = SPR_{int} - 35 - 6 - \left(20 \log \left(\frac{1}{12} \right) \right)$$

$$SPR_{int} = 22.1 + 35 + 6 + 21.6$$

$$SPR_{int} = 84.7dB(A)$$

- 3.37 These levels are extremely unlikely to ever be generated within the small lodges, being equivalent to busy manufacturing site.



4 Conclusion

- 4.1 On-site monitoring has identified existing background sound levels for the area. While a calculation of the worst-case impact from the adjacent kennels has been considered.
- 4.2 It has been confirmed that the internal sound levels within holiday lodges will not result in any adverse impact. Based on the minimum requirements for lodges and the provision of suitable ventilation systems would in fact result in a No Observe Affect Level.
- 4.3 Externally sound levels, to the front of the site slightly above the recommended sound levels, but given the lack of formal amenity area, temporary nature of the site occupation and its location no further mitigation measures are proposed.
- 4.4 Barking from the adjacent kennel has been shown to not result in any significant adverse Impact.
- 4.5 The Proposed development will ensure that the internal sound levels are acceptable and will result in a No Observe Effect on the future residents in line with the Noise Policy Statement for England.
- 4.6 No significant adverse impact will be experienced by site users and as such the development will meet the objectives of the National Planning Policy Framework. The development is therefore considered to be acceptable in terms of noise.
- 4.7 The potential impact from the development has also been considered. Given the size of the individual lodges, lack of formal outdoor space and prohibition of BBQ, ball games etc, the impact from the development on neighbouring properties has been shown to be negligible.
- 4.8 The Proposed development will ensure that the internal sound levels are acceptable at neighbouring properties and will result in a No Observe Effect on those residents occupying them, in line with the Noise Policy Statement for England.
- 4.9 No significant adverse impact will be experienced as a result of the development and as such the development will meet the objectives of the National Planning Policy



Framework. The development is therefore considered to be acceptable in terms of noise.



Figure 1 – Aerial Photograph



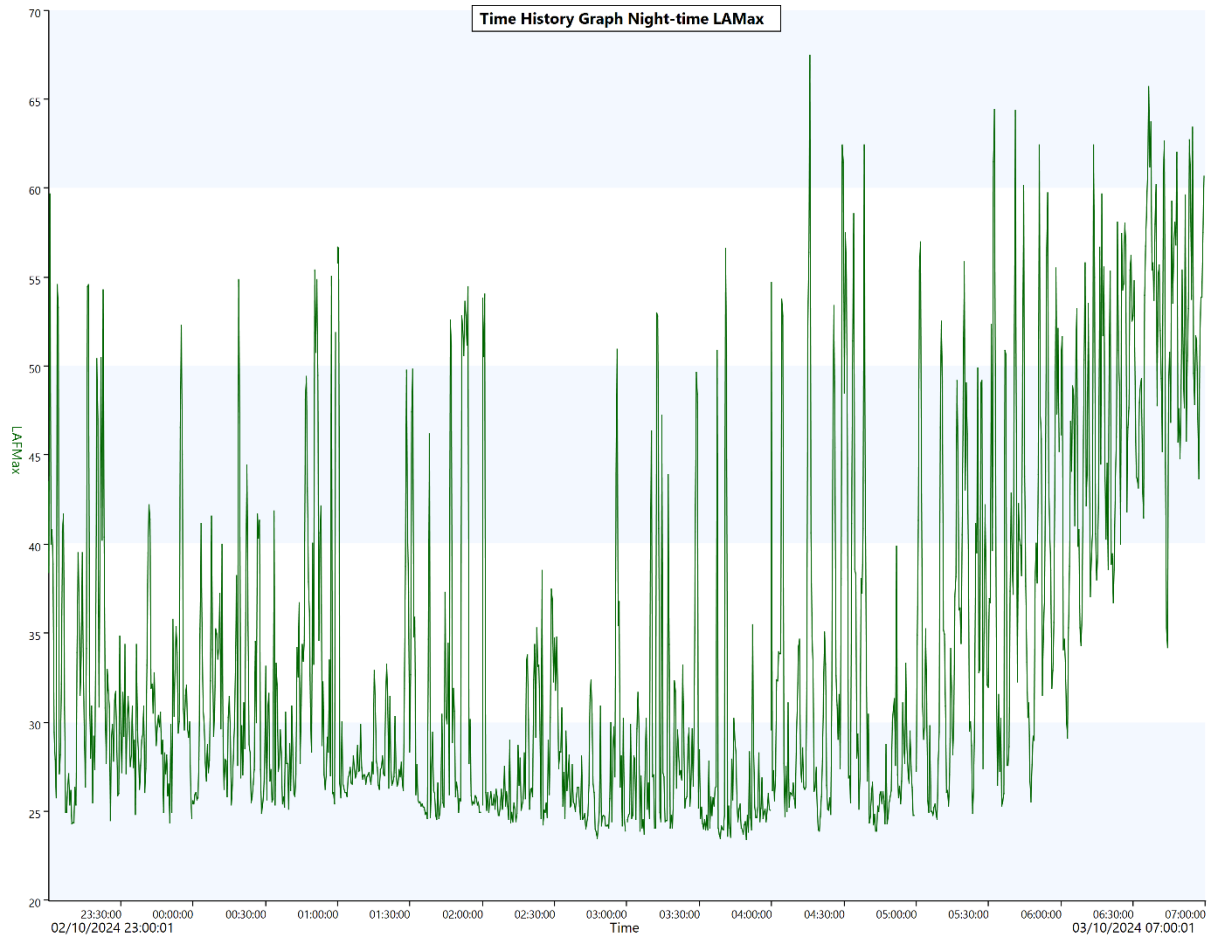
Figure 2 – Proposed Layout Plan





Appendix A – Full Monitoring Results

Time	L _{Aeq} (dB)	L _{AMax} (dB)	L _{A90} (dB)
02/10/2024 16:00	51.4	75.0	42.8
02/10/2024 17:00	51.0	78.3	40.9
02/10/2024 18:00	48.0	75.3	38.3
02/10/2024 19:00	45.8	62.5	32.5
02/10/2024 20:00	44.8	68.8	28.7
02/10/2024 21:00	44.7	66.1	29.2
02/10/2024 22:00	41.0	59.1	24.9
02/10/2024 23:00	33.9	59.7	23.3
03/10/2024 00:00	30.6	55.4	23.8
03/10/2024 01:00	33.4	56.7	23.6
03/10/2024 02:00	28.6	54.0	23.1
03/10/2024 03:00	29.0	56.6	22.5
03/10/2024 04:00	39.7	67.4	23.1
03/10/2024 05:00	41.1	64.4	23.9
03/10/2024 06:00	45.8	65.7	30.0
03/10/2024 07:00	50.2	68.0	40.6
03/10/2024 08:00	55.8	80.3	41.2
03/10/2024 09:00	51.1	69.9	40.3
03/10/2024 10:00	49.9	66.2	42.7
03/10/2024 11:00	49.5	63.6	41.3
03/10/2024 12:00	48.9	63.6	41.1
03/10/2024 13:00	49.1	65.0	40.3
03/10/2024 14:00	49.3	70.9	38.3
03/10/2024 15:00	49.8	68.9	38.0
03/10/2024 16:00	46.7	65.2	36.2
03/10/2024 17:00	51.3	78.2	38.8
03/10/2024 18:00	46.8	64.0	34.8
03/10/2024 19:00	46.4	63.0	31.0
03/10/2024 20:00	47.2	76.6	33.9
03/10/2024 21:00	47.2	69.9	36.7
03/10/2024 22:00	44.5	68.7	35.9
03/10/2024 23:00	38.5	61.5	29.5
04/10/2024 00:00	32.9	53.8	24.4
04/10/2024 01:00	27.1	63.5	22.1
04/10/2024 02:00	25.3	53.0	21.8
04/10/2024 03:00	32.2	55.6	21.5
04/10/2024 04:00	31.9	55.8	22.5
04/10/2024 05:00	38.8	60.4	25.4
04/10/2024 06:00	44.4	73.2	29.2
04/10/2024 07:00	49.1	69.2	38.9



Appendix B – Planning Guidance Note on Noise Extract

Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

Appendix C – Modelling results for kennel runs



--- Receiver Results - Summary ---		
Receiver Name	Height (m)	Total dB(A)
Lodge 1	2.2	50.7
Lodge 2	2.2	51.1
Lodge 3	2.2	51.1
Lodge 4	2.2	44.3
Lodge 5	2.2	47.2



Appendix D - Report Author Details

This report has been produced by Neil Martin, BSc (Hons), PGDip, CEnvH MCIEH, MIOA.

Neil is the principal acoustic consultant at Martin Environmental Solutions Ltd, a consultancy company specialising in Environmental Health disciplines including environmental noise assessment and control. He holds a Bachelor's degree in Environmental Health and Diploma in Acoustics. He is a Chartered Member of the Chartered Institute of Environmental Health and a Full member of the Institute of Acoustics.

Neil has over 20 years' experience working within a Local Authority Environmental Health setting, principally in the Environmental Protection and Public Health areas and has been working as an acoustic consultant since 2011.

Since its formation, Martin Environmental Solutions has advised and assisted many groups including residents, developers and local authorities about the problems of noise and vibration in the environment and the possible solutions. Neil also acts as an expert witness in the area of acoustics.