MARTIN
ENVIRONMENTAL
SOLUTIONS

Acoustic Assessment for Proposed dog grooming salon at 42 Durham Road, Wilpshire, Blackburn, BB1 9NH

Prepared for:

Jill Taylor
42 Durham Road,
Wilpshire,
Blackburn,
BB1 9NH

November 2018

Contents

1. Introduction

1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic assessment to support planning applications for a conversion of a utility to dog grooming salon at 42 Durham Road, Wilpshire Blackburn BB1 9NH.

Site Location and Context

1.2. The site is located to the north of Wilpshire, and consists of a residential property. Other residential properties are located to the east, south and west with agricultural fields to the north. An aerial photograph is enclosed in Figure 1.

1.3. It is the close proximity to the surrounding residential properties that has raised concerns over sound levels and the request for this report.

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 July 2018, 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 including those within Lancashire 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 (<30dB(A)inside <50dB(A) outside, 10dB below background)
LOAEL – Lowest Observed Adverse Effect Level (30-35dB(A) inside 50-55dB(A) outside, background to +5dB)
SOAEL – Significant Observed Adverse Effect Level (>35dB(A) inside, >55dB(A) outside, >+10dB above background)

2.5. The sound levels within the brackets of the previous paragraph are those determined by Lancashire authorities as appropriate levels to indicate the relevant effect levels represented by the NPSE. These levels are detailed with in the Lancashire Planning

Guidance document on noise which is in the process of being finalised and is currently used by a number of Lancashire authorities.

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 LAeq,8hr is recommended. Criteria for external areas mirrors that within the WHO guidance.

2.12. In addition, the recently published '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. Simple 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 Lancashire guidance, WHO and BS 8233: 2014.

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 is required considered 4 elements to be considered:

I. Element 1 – Good Acoustic Design

II. Element 2 – Internal Noise Level Guidelines

III. Element 3 – External Amenity Area Nosie 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.

3. The Assessment

3.1 The proposed development consists of a conversion of an existing utility/office into a dog grooming salon. The room is constructed from masonry filled cavity wall with a first floor above. There is one double-glazed window facing south onto the road.

3.2 The facility will only be used during the hours of 9:00-17:30 Monday to Friday and 09:00-13:30 on Saturdays. Only one dog will be present at any time with no more than 3 in any day. Ensuring no cross over between clients and therefore preventing the dogs interacting and becoming anxious/aggressive and therefore minimising any barking.

3.3 The structure of the building has a sound reduction over approximately 50dB R_w, with the small window being 30dB R_w+C_{tr}. Data obtained by Martin Environmental Solutions, and previously accepted by a number of Lancashire authorities including Ribble Valley, on the sound level of a large barking dog identifies the sound level of 1 barking dog to be 65.6dB(A) at 10m or 85.6dB at 1m.

3.4 Assuming no absorption in the room this would equate to a sound level of less than 49.6dB 1m from the front of the building via the closed window.

$$SPL_{ext,1m} = SPR_{int}\_attenuation\ (R_w) - 6$$

3.5 The direct line of sight to the adjacent property boundary (not the 90^0 angle that exists from the window (-6dB)), number 40, is 3.5m away. This would result in a sound level of less than 38.7dB(A) at the boundary of the adjacent property.

$$Dist\ att = 20log\left(\frac{r}{R}\right)$$

3.6 At the front façade of the property 6.6m away the sound level would be less than 33.2dB(A) and therefore given an open window provides 15dB attenuation[1] the resulting internal sound level within the proposed properties will be less than 18.2dB(A). The rear amenity area of the property would not be affected.

3.7 There is currently no recognised methodology for assessing noise from barking dogs, as such it in this case it is consider acceptable to use the criterion identified in section 2 of the report from the World Health Organisation, and BS8233: 2014, of 50dB(A)

[1] BS8233: 2014; Guidance on sound insulation and noise reduction for buildings

externally and 30dB(A) internally, with levels below these equating to a No Observed Effect Level (NOEL).

3.8 The above sound levels are for short duration barking, should it occur, and are significantly below those criterion values identified.

3.9 In addition to the potential barking of dogs inside the proposed salon 2 other pieces of equipment will be used with the potential to generate noise. The first is the clippers to be used on the dogs. These are similar to those used by hairdressers and no louder. They will therefore not be heard outside the property through the closed window. The second is the blower/hair drier. The sound levels from this are similar to a small domestic vacuum, and again through the closed window will not result in any adverse impact on the adjacent property.

4 Conclusion

4.1 The assessment undertaken of the existing structure of the proposed grooming salon and the sound levels likely to be generated have been identified. Calculations have shown that the impact on the adjacent property given the worse case scenario of a continually barking dog through glazing (not the cavity brick wall) will result in sound levels which equate to a no observe effect and are significantly below the guideline values identified.

4.2 The proposed development will therefore not result in a significant adverse impact as required by the National Planning Policy Framework and as such in terms of noise is acceptable.

Figure 1 – Aerial Photograph