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Acoustic Survey and Assessment for a Retrospective Planning Application for Change of Use from Storage (B8) to exercise/yoga studio; rehabilitation studio, bicycle repair workshop and storage at
Back Castle Works,
Pendle Court,
Longridge,
PR3 3WY.

Prepared for:

TB Planning,
11 Weavers Lane,
Sudbury,
Suffolk,
CO10 2EZ.

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Contents

1. Introduction

1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic survey and assessment to support a planning application for a retrospective Change of use from storage (B8) to exercise/yoga studio; rehabilitation studio, bicycle repair workshop and storage at Back Castle Works, Pendle Court, Longridge, PR3 3WY.

Site Location and Context

1.2. The development site is situated to the south of Pendel Court, Longridge. To the south of the site is a school playing field, the school building being some 275m away with an industrial estate in between. To the east residential properties and beyond an access track to the northeast. To the north of the site, 15m away, another residential property. To the west a fenced off car parking area and beyond access to the school field.

1.3. An aerial Photograph is enclosed in Figure 1, together with a proposed layout drawing in Figure 2.

1.4. 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 (<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 as appropriate levels to indicate the relevant effect levels represented by the NPSE.

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 '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.

3. The Assessment

The development

3.1 The proposed development has seen the redevelopment of a dilapidated stone-built storage barn into four small commercial units.

3.2 The building is constructed from a solid 9-inch brick wall and insulated roof. The attenuation of the building being ~56dB R_w.

3.3 The units consist of a cycle repair shop, no substantial equipment is used within the unit with hand tools being used for repairs. Two small storage unit. A gym and yoga room, rehabilitation unit, both used sparsely through the day and early evening periods.

3.4 Figure 2 below provides and overview of the proposed development.

Existing Situation.

3.5 In order to obtain representative sound levels for the area and on-site activities monitoring 28th-29th January 2025. This was planned to coincide with activities at both the gym and rehabilitation centres. Classes being held between 16:00-20:00 in the evening and 06:15-06:45 in the morning. The rehabilitation centre operating in the early evening. The bike shop was open all day from 09:00-17:30.

3.6 A Cirrus Optimus Green sound level meter was utilised for the monitoring. The meter was placed over 1m from the first-floor façade of the small storage unit overlooking the access to the units including the gym, and cycle shop.

3.7 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.

3.8 The weather during the monitoring was dry with little to no wind <5m/s.

3.9 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}
28/01/2025 13:00	28/01/2025 23:00	09:59:59	45.9	37.2	82.7
28/01/2025 23:00	29/01/2025 07:00	08:00:00	39.1	34.3	68.3
29/01/2025 07:00	29/01/2025 13:00	06:00:01	47.5	42.2	80.3

3.10 Background sound levels were dominated by distant traffic and wildlife with occasional vehicles accessing Pendel Court.

3.11 No sound was identified emanating from the units, including music during the monitoring period. This included a lack of music noise or talking, although audio recordings did identify people arriving. No significant sound was generated. No increase in prevailing sound levels were observed during the periods when the gym and rehabilitation unit were operating.

3.12 Average sound levels at the monitoring position are below those typically recommended by the Council and detailed within BS8233:2014 and by the World Health Organisation as described in section 2 above.

3.13 This indicates that no impact will be experienced by the use of the site.

3.14 Given the lack of commercial activity, external plant a BS4142:2014 assessment is not appropriate in this situation.

3.15 Occasional vehicles were identified travelling along Pendle Court, although from the audio it is unclear on whether these were related to operations on site or the neighbouring flats. Each movement lasting only a few sections a representing an hourly average of ~45dB(A).

4 Conclusion

4.1 On site monitoring has been undertaken during the use of the development site, including during exercise classes at the gym and rehabilitation unit present. These have not identified any sound emissions from the building with sound levels being similar to less than the prevailing sound levels in the area.

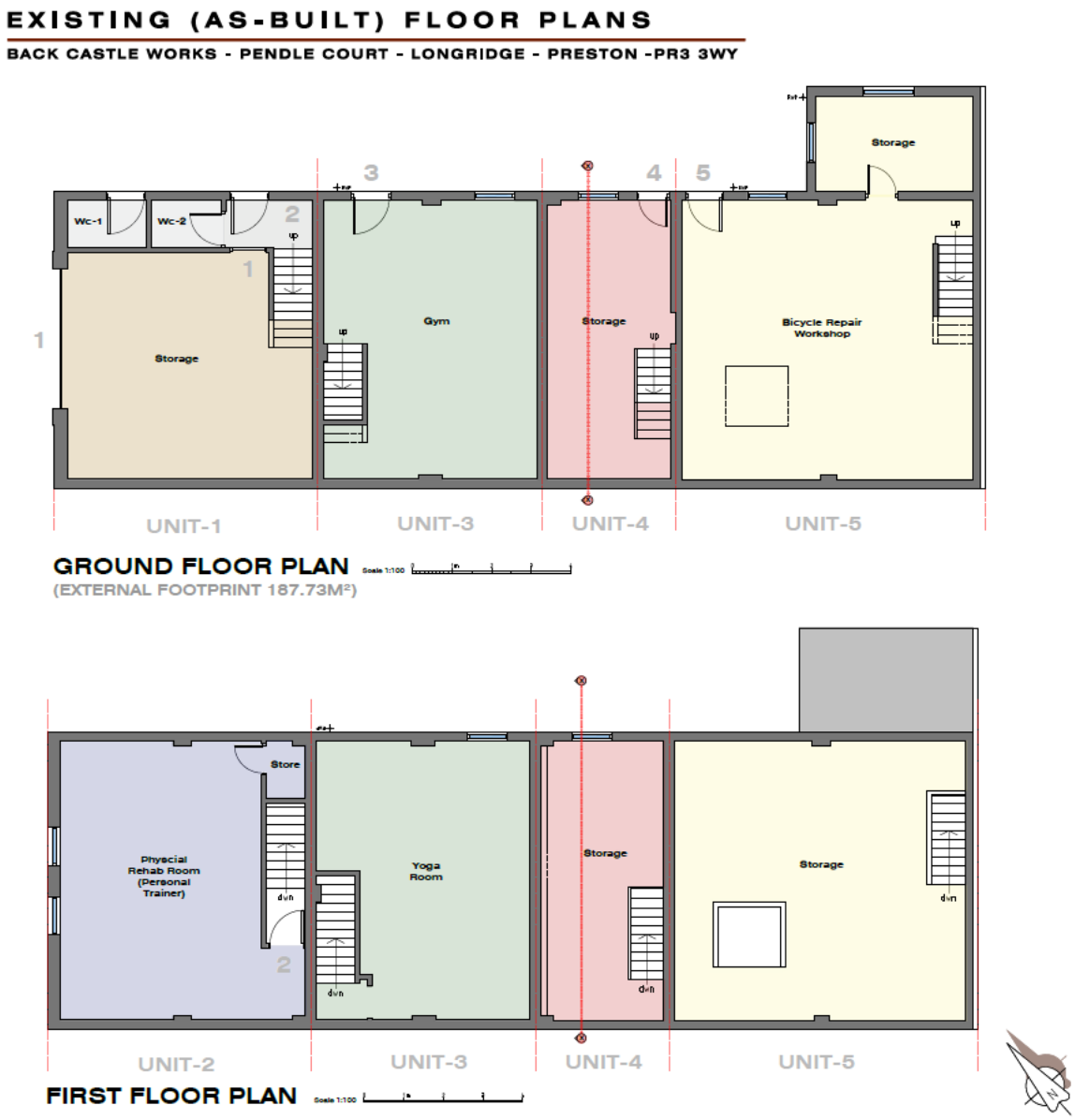
4.2 Based on the recommended sound levels within BS8233:2014 and by the World Health Organisation. The monitored levels are below those recommended and likely to result in any adverse impact.

4.3 The development will ensure that the internal and external sound levels at neighbouring properties are acceptable and will result in a No Observe Effect on the residents in line with the Noise Policy Statement for England.

4.4 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. 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)
28/01/2025 13:00	50.5	82.7	38.6
28/01/2025 14:00	47.8	78.3	41.2
28/01/2025 15:00	47.9	75.8	41.1
28/01/2025 16:00	47.1	70.4	41.0
28/01/2025 17:00	44.9	65.2	40.5
28/01/2025 18:00	43.9	61.5	40.0
28/01/2025 19:00	43.0	60.8	40.2
28/01/2025 20:00	41.0	56.2	38.1
28/01/2025 21:00	40.9	67.6	35.9
28/01/2025 22:00	37.5	52.1	34.8
28/01/2025 23:00	37.9	56.5	34.6
29/01/2025 00:00	35.6	55.6	31.8
29/01/2025 01:00	38.3	61.5	35.3
29/01/2025 02:00	37.2	52.8	34.9
29/01/2025 03:00	36.2	46.8	34.2
29/01/2025 04:00	37.2	53.6	34.5
29/01/2025 05:00	38.7	56.1	35.8
29/01/2025 06:00	44.1	68.3	40.2
29/01/2025 07:00	46.3	68.5	42.6
29/01/2025 08:00	48.5	67.9	45.0
29/01/2025 09:00	46.6	64.1	42.0
29/01/2025 10:00	47.4	70.4	40.3
29/01/2025 11:00	49.3	80.3	42.3
29/01/2025 12:00	46.1	70.1	41.6

Class Times

Appendix B – 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 Bachler'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 20year's 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.