



Acoustic Survey and Assessment to demonstrate compliance with planning condition in connection with Proposed Residential development at 8 Roxburgh Street, Gorton, Manchester, M18 8WA.

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 the discharge of a planning condition attached to planning permission 127591/FO/2020 at 8 Roxburgh Street, Manchester, M18 8WA.

Site Location and Context

- 1.2. The site, is located to the rear (south) of a row of commercial properties which front onto the busy Cross Lane. To the northeast is an open car park. Residential properties exist to the east, and southeast. An aerial photograph is enclosed in Figure 1.
- 1.3. The local planning authority attached a condition to the planning permission which required an acoustic assessment to be undertaken to ensure suitable sound levels were to be achieved for the residential development. The condition went further in requiring a validation survey to be undertaken following completion of the buildings to ensure the levels were achieved.
- 1.4. This report details the validation survey undertaken.



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 2021, 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 $L_{Aeq,8hr}$ is recommended. Criteria for external areas mirrors that within the WHO guidance.
- 2.12. The above criterion were identified in the original report and a were agreed upon by the Council within the imposed condition.



3. The Assessment

- 3.1 On-site monitoring was undertaken over the 6th to 8th June 2022 in order to identify the sound level within the property.
- 3.2 The sound level meter, a Cirrus Optimus Green CR171C unit was set up in front of the window within the front first floor room of one of the residential properties (second one from the north).
- 3.3 The sound level meter was field calibrated at the start and end of the monitoring period with no significant deviation and full calibration certificates are available on request.
- 3.4 The weather at the time of the monitoring was variable with rain during the first day, then dry with little to no wind through out.
- 3.5 Workmen were present on site during the first day and as such internal levels were slightly higher on this day.
- 3.6 The full results are shown in Appendix A, with a summary in the tables below.
- 3.7 The maximum night-time sound level regularly exceeded has been identified from the monitoring results at 42.2dB(A) on the first night and 41.2dB(A) on the second night.

Start Time	End Time	Duration	L _{Aeq}	L _{AMax}
06/06/2022 23:00	07/06/2022 07:00	08:00:00	22.7	50.5
07/06/2022 07:00	07/06/2022 23:00	16:00:00	32.0	72.9
07/06/2022 23:00	08/06/2022 07:00	08:00:00	26.1	47.7

- 3.8 Background sound levels to the rear of the site were dominated by refrigeration plant associated with the ground floor commercial units, bird song was easily identifiable above this sound.
- 3.9 The results of the monitoring indicate that the condition has been complied with and the internal levels within the properties are acceptable.



4 Conclusion

- 4.1 On-site monitoring has identified that the internal sound levels within the property are below those detailed within section two of this report and previously identified as acceptable criteria.
- 4.2 The inclusion of the above mitigation measures to all habitable rooms will ensure that the internal and external sound levels are acceptable and will
- 4.3 As such the development will result in a No Observe Effect on the future residents in line with the Noise Policy Statement for England and meets 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





Appendix A – Full Monitoring Results

Time	L _{Aeq} (dB)	L _{AMax} (dB)	L _{A90} (dB)
06/06/2022 12:00	32.7	58.2	26.1
06/06/2022 13:00	53.6	84.7	27.8
06/06/2022 14:00	47.7	84.8	27.5
06/06/2022 15:00	37.2	67.0	32.7
06/06/2022 16:00	30.2	54.3	24.1
06/06/2022 17:00	28.8	52.3	23.6
06/06/2022 18:00	28.5	47.0	22.9
06/06/2022 19:00	27.0	50.2	21.3
06/06/2022 20:00	26.3	46.0	20.8
06/06/2022 21:00	27.1	57.9	20.4
06/06/2022 22:00	26.9	53.5	20.0
06/06/2022 23:00	22.8	42.5	20.0
07/06/2022 00:00	20.5	40.7	20.0
07/06/2022 01:00	19.3	37.9	20.0
07/06/2022 02:00	18.6	36.8	20.0
07/06/2022 03:00	20.0	45.2	20.0
07/06/2022 04:00	19.6	42.4	20.0
07/06/2022 05:00	25.3	50.5	20.0
07/06/2022 06:00	27.0	46.8	20.9
07/06/2022 07:00	29.6	53.7	23.2
07/06/2022 08:00	39.0	72.9	25.8
07/06/2022 09:00	31.4	53.0	27.4
07/06/2022 10:00	30.0	53.6	22.9
07/06/2022 11:00	29.8	48.8	23.1
07/06/2022 12:00	32.8	53.8	26.0
07/06/2022 13:00	32.4	64.9	24.8
07/06/2022 14:00	30.2	53.3	24.2
07/06/2022 15:00	33.1	56.6	24.9
07/06/2022 16:00	34.4	62.4	24.2
07/06/2022 17:00	28.5	52.2	23.8
07/06/2022 18:00	27.9	51.2	22.7
07/06/2022 19:00	29.5	49.5	23.0
07/06/2022 20:00	29.2	54.6	21.6
07/06/2022 21:00	25.7	49.4	20.0
07/06/2022 22:00	26.2	47.4	20.7
07/06/2022 23:00	31.8	47.7	20.3
08/06/2022 00:00	24.8	39.8	20.0
08/06/2022 01:00	20.1	36.9	20.0
08/06/2022 02:00	20.9	47.0	20.0
08/06/2022 03:00	24.5	39.0	20.0
08/06/2022 04:00	20.5	35.4	20.0



08/06/2022 05:00	25.6	45.2	20.0
08/06/2022 06:00	26.4	42.2	20.7

