



128 MILTON ROAD,
GRAVESEND

Acoustic
Commissioning
Report

Reference: 11366.RP01.ACR.0

Prepared: 13 April 2022

Revision Number: 0

Maison Build

105 Brent Lane

Dartford

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Acoustic Commissioning Report



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Revision	Comment	Date	Prepared By	Approved By
0	First issue of report	13 April 2022	Matt Wildman	Andrew Heath

Terms of contract:

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The recommendations within this report relate to acoustics performance only and will need to be integrated within the overall design by the lead designer to incorporate all other design disciplines such as fire, structural integrity, setting-out, etc. Similarly, any sketches appended to this report illustrate acoustic principles only and will need to be developed into full working drawings by the lead designer to incorporate all other design disciplines.



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1.0 INTRODUCTION

RBA Acoustics have been commissioned by Maison Build to undertake testing of internal ambient noise levels at the new development at 128 Milton Road in order to demonstrate compliance with Planning Condition 3 (iii) issued by the Gravesham Borough Council.

2.0 LOCAL AUTHORITY CRITERIA

2.1 Planning Condition 3 (iii)

The decision notice issued by Gravesham Borough Council grants permission for development of land subject to the following condition relating to internal ambient noise levels:

Prior to first occupation of any of the units hereby approved written confirmation shall be provided to the Local Planning Authority that:

(iii) the ventilation system (to be provided in accordance with details approved pursuant to condition 4) meets daytime internal noise limit of 30 dBL_{Aeq,16hr} and the night time internal noise limit of 30dBL_{Aeq,8hr} and 45dBL_{Amax}

3.0 SURVEY METHODOLOGY

3.1 Internal Ambient Noise Levels

Measurements of the internal ambient noise levels were undertaken in the bedroom of Flat 4 were undertaken over the following period:

- 17:00 hours Friday 8 April to 07:00 hours Monday 11 April 2022

Although it is not possible to comment with certainty on weather conditions as the survey was unattended, weather reports for the area indicate conditions were generally suitable for the measurement exercise, it being predominantly dry.

As the measurement exercise took place over a weekend, no construction works were undertaken therefore measurements are considered representative of the existing noise climate around site.

3.2 Instrumentation

Full details of the equipment used are provided in Appendix B.

4.0 RESULTS

4.1 Internal Ambient Noise Levels

The period averaged L_{Aeq} dB noise levels measured are summarised below in Table 1. The full time-histories are shown in Graphs 1-2 in Appendix C.

Table 1 – Period Averaged $L_{Aeq,T}$ Noise Levels in Flat 5

Date	Time	Period	Measured $L_{Aeq,T}$ Noise Level (dB)	Noise Limit (dB)	Comment
Friday 8 April 2022	17:00-23:00*	Day	17	30	Pass
Friday 8 – Saturday 9 April 2022	23:00-07:00	Night	15	30	Pass
Saturday 9 April 2022	07:00 – 23:00	Day	19	30	Pass
Saturday 9 - Sunday 10 April 2022	23:00-07:00	Night	15	30	Pass
Sunday 10 April 2022	07:00 – 23:00	Day	22	30	Pass
Sunday 10- Monday 11 April 2022	23:00-07:00	Night	15	30	Pass

*Measurement period for this day does not span the entire daytime period

The measured noise level data presented in Table 1 shows that both daytime and night-time internal L_{Aeq} noise levels measured within the bedroom of Plot 4 are within the required L_{Aeq} criteria detailed in Section 2.1.

The typical L_{Amax} observed over night-time periods is shown to be 39dB. This is 6dB lower than the upper limit of 45dB L_{Amax} detailed in Section 2.1.

RBA therefore considers that the requirements to discharge Planning Condition 3 (iii) have been achieved.

5.0 CONCLUSION

RBA Acoustics has been appointed by Maison Build to undertake commissioning testing at 128 Milton Road, Gravesend where measurements of internal ambient noise levels were undertaken.

Results of the testing indicate that the requirements to discharge Planning Condition 3(iii) have been achieved.

Gravesend Borough Council

Appendix A – Acoustic Terminology

A-weighting (e.g. dB(A))	A correction applied across the frequency bands to take into account the response of the human ear, and therefore considered to be more representative of the sound levels people hear.
DeciBel (dB)	Unit used for many different acoustic parameters. It is the logarithmic ratio of the level being assessed to a standard reference level.
$L_{eq,T}$	The level of a notional steady sound which, over a stated period of time, T , would have the same acoustic energy as the fluctuating noise measured over that period. Typically used to represent the average or ambient noise level.
$L_{Aeq,T}$	The A-weighted level of a notional steady sound which, over a stated period of time, T , would have the same acoustic energy as the fluctuating noise measured over that period. Typically used to represent the average or ambient noise level.
L_{An} (e.g. L_{A10} , L_{A90})	The sound level exceeded for $n\%$ of the time. E.g. L_{A10} is the A-weighted level exceeded for 10% of the time and as such can be used to represent a typical maximum level. Similarly, L_{A90} is the level exceeded for 90% of the measurement period, and is often used to describe the underlying background noise.
$L_{Amax,T}$	The instantaneous maximum A-weighted sound pressure level which occurred during the measurement period, T . It is commonly used to measure the effect of very short duration bursts of noise, e.g. sudden bangs, shouts, car horns, emergency sirens etc. which audibly stand out from the ambient level.
Octave band	A frequency band in which the upper limit of the band is twice the frequency of the lower limit.
1/3 Octave band	A frequency band which is one-third of an octave band.

Appendix B – Instrumentation

The following equipment was used for the measurements.

Table B1 – Equipment Calibration Details

Manufacturer	Model Type	Serial No.	Calibration	
			Certificate No.	Valid Until
Norsonic Type 1 Sound Level Meter	Nor140	1407795	4712332213	9 December 2023
Norsonic Pre Amplifier	1209	23230		
Norsonic ½" Microphone	1225	468969		3 December 2023
Norsonic Sound Calibrator	1255	125525755	Cal 022-2021-14548	20 October 2023

Appendix C - Graphs

Gravesham Borough Council

128 Milton Road, Gravesend

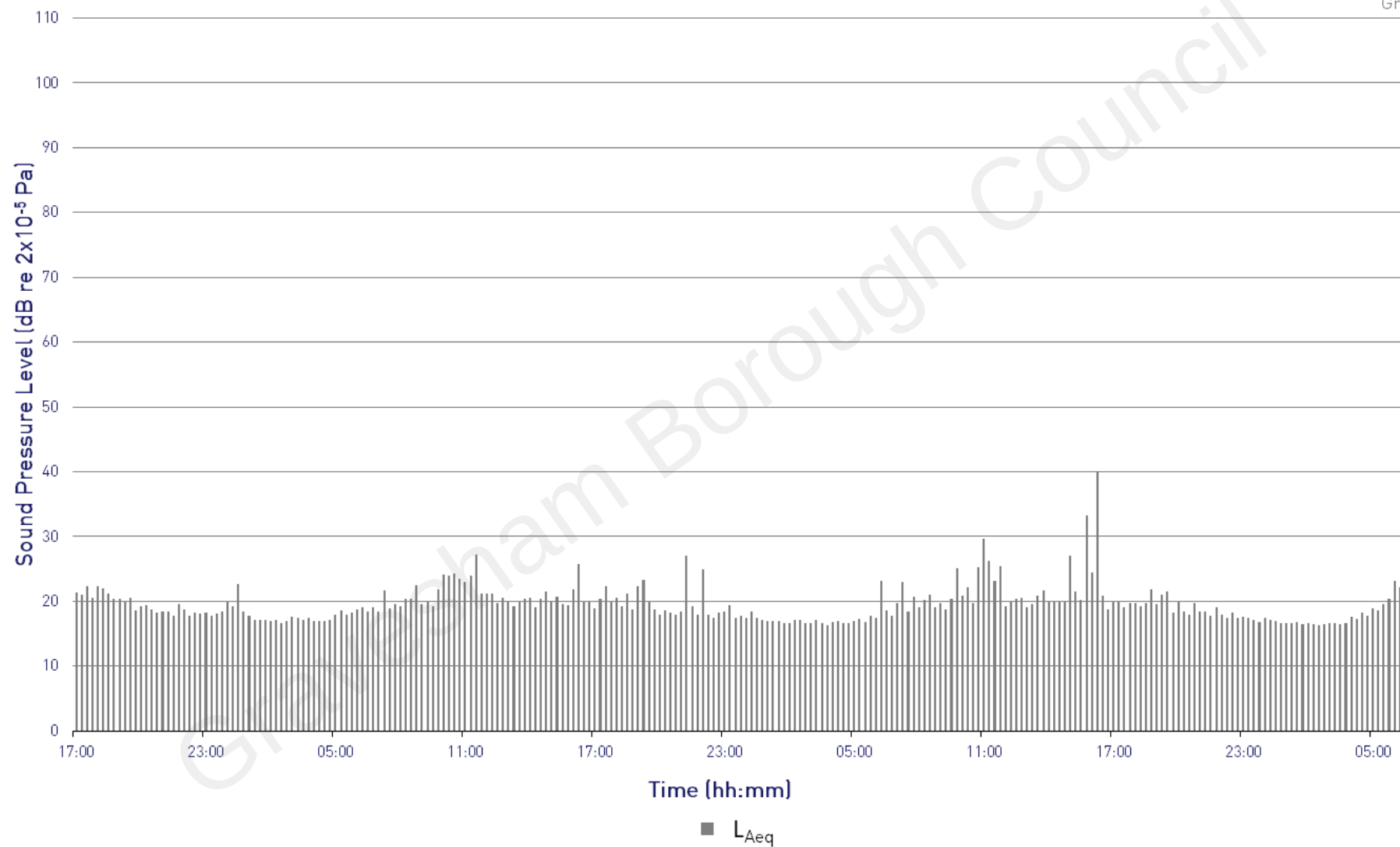
L_{Aeq} Time History

Indoor Ambient Noise Levels - Bedroom 1F



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Graph 1



128 Milton Road, Gravesend

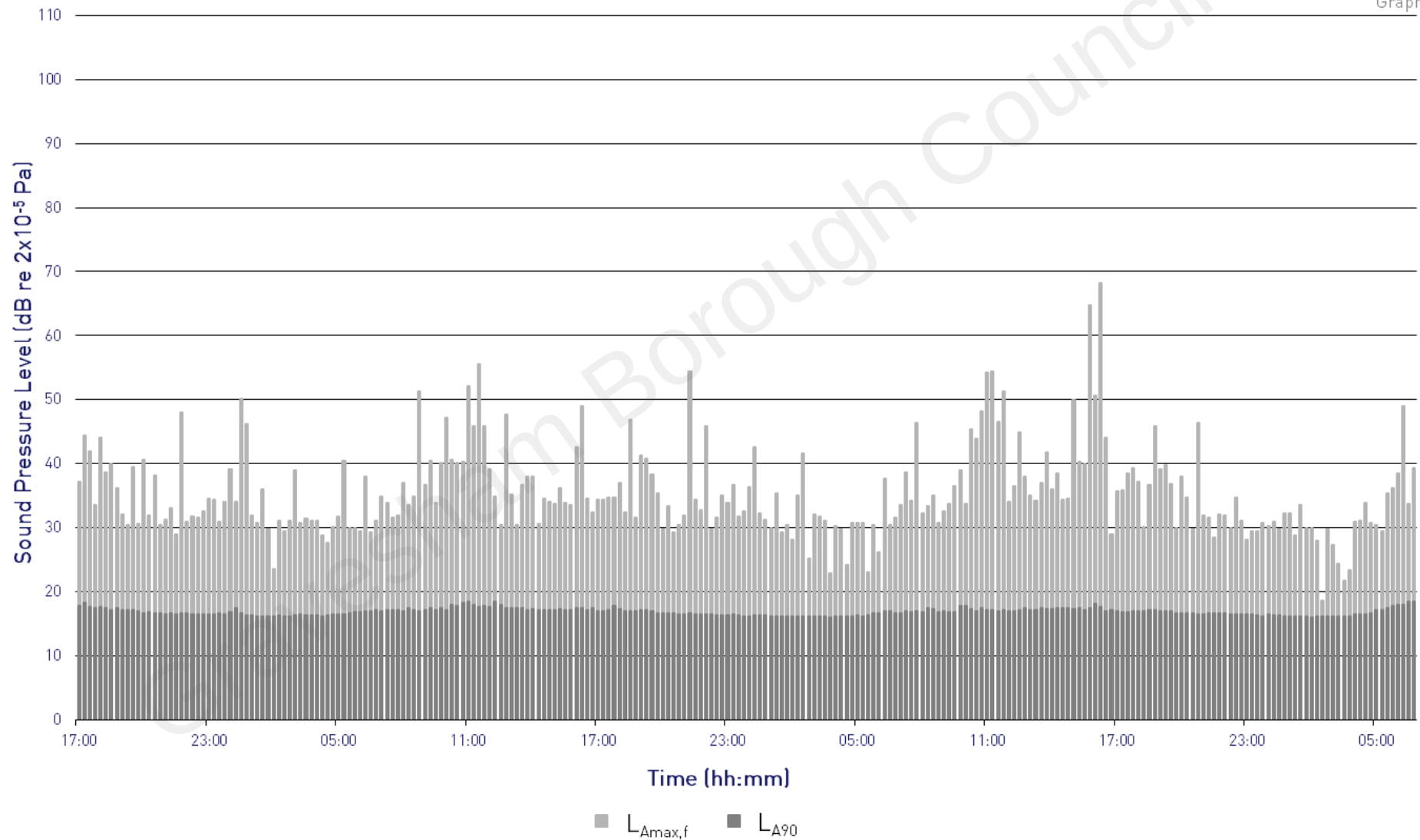
$L_{Amax,f}$ and L_{A90} Time History

Indoor Ambient Noise Levels - Bedroom 1F



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Graph 2



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