



PREPARED: 23 March 2026

81c London Road, Waterloooville

Planning Condition Report (Condition 11)

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LIST OF ATTACHMENTS

AS14434/SP1	Indicative Site Plan
AS14434/TH1-TH10	Environmental Noise Time Histories
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Project Ref:	AS14434	Project Name:	81c London Road, Waterlooville
Report Ref:	AS14434.260313.PCR11	Report Title:	Planning Condition Report (Condition 11)
Client Name:	Success Nations Ltd		
Project Manager:	Michael Symmonds		
Report Author:	Michael Symmonds		
Clarke Saunders Acoustics Winchester SO22 5BE		This report has been prepared in response to the instructions of our client. It is not intended for and should not be relied upon by any other party or for any other purpose.	

1.0 EXECUTIVE SUMMARY

- 1.1 Clarke Saunders Acoustics has undertaken an environmental noise survey and external building fabric assessment of the proposed residential redevelopment at 81c London Road, Waterloooville, PO7 7EL. This has been required to assist in the discharge of Planning Condition 11 of the associated consent.
- 1.2 Sound reduction performances have been specified for glazing and passive background ventilators. Appropriate internal ambient noise levels are expected to be achieved within the dwellings, demonstrating compliance with Planning Condition 11.

2.0 INTRODUCTION

- 2.1 Clarke Saunders Acoustics (CSA) has been instructed to conduct an environmental sound survey and external building fabric assessment for the proposed residential redevelopment at 81c London Road, Waterloooville, to assist with the discharge of Planning Condition 11 of consent APP/22/01072.
- 2.2 This report provides detail of the environmental noise survey and subsequent external building fabric assessment, resulting in specification for the external building fabric.
- 2.3 A glossary of acoustic terminology used throughout this report is shown in Appendix A.

3.0 SITE DESCRIPTION

- 3.1 81c London Road, Waterloooville, PO7 7EL (the Site) is a vacant ground floor commercial unit, unit located in the centre of Waterloooville. The existing unit also extends to first floor level along the front façade.
- 3.2 At ground and first floor level, the Site is bound by a martial arts club to the northeast, London Road (bus-only) to the southeast, an estate agent to the southwest and Swiss Road to the northwest. At second floor level, the Site is bound by residential flats to the northeast.
- 3.3 In a wider context, the Site is located within a largely commercial setting, with notable local noise sources being identified as the bus-only London Road, the roads approaching Forest End Roundabout, Waterloooville Police Station, and traffic and persons visiting the ASDA supermarket to the northwest.
- 3.4 The residential redevelopment proposals include provision for the demolition of the existing commercial building and construction of 13 no. residential flats over four (inc. ground) floors with two Class E units on ground floor (fronting onto London Road) with bin and cycle store.
- 3.5 The 13 no. flats will be spread over two buildings, one located towards London Road (the front building) and one located towards Swiss Road (the rear building). Access to car parking spaces in between the buildings is provided via a ground floor passage from Swiss Road. The front building comprises 6 no. 2-bed flats, and the rear building 7 no. 1-bed flats.
- 3.6 An indicative site plan outlining the site layout and surrounding area is attached as AS14434/SP1.

4.0 PLANNING CONDITION 11

4.1 Planning Condition 11 of the decision notice reads as follows:

Condition 11:

“A scheme of noise insulation/reduction shall be submitted to and approved in writing by the Local Planning Authority prior to first occupation of the development to ensure that the noise level of 35 dB LAeq,16 hour in living rooms and bedrooms during the daytime (0700 to 2300 hours) and 30 dB LAeq,8 hour and 45 dB L_{Amax} during the night time (measured with F time-weighting and between 2300 and 0700 hours) in bedrooms in accordance with BS8233:2014 shall not be exceeded. Where these levels cannot be met with windows open appropriate acoustic ventilation should be provided so that the room can be sufficiently ventilated. The acoustic performance of any passive vent, variable speed mechanical air supply unit or whole house ventilation must be sufficient to ensure that the noise level standards given above are not compromised”.

4.2 The World Health Organisation’s Guidelines for Community Noise comments on night-time noise maxima, resulting in a typically adopted target of L_{AFmax} 45dB not being exceeded in bedrooms more than 10-15 times per night. The 45 dB L_{Amax} criterion set out in the planning condition is, therefore, to be adopted for events occurring more than 10 times per night.

5.0 ENVIRONMENTAL NOISE SURVEY

5.1 PROCEDURE AND EQUIPMENT

5.1.1 A survey of the existing noise levels was undertaken at two locations shown in the attached site plan AS14434/SP1.

5.1.2 Measurements of consecutive 5-minute L_{Aeq}, L_{Amax}, L_{A10} and L_{A90} sound pressure levels were recorded between 11:20 hours on Friday 13th March and 14:00 hours on Tuesday 17th March 2026.

5.1.3 Owing to access restrictions, monitoring position LT1 was installed behind a perforated metal roller shutter. To determine whether the noise levels measured behind this perforated roller shutter were still representative of the those incident upon the front façade of the site, synchronised attended measurements were taken 1m from the front façade of the unit.

5.1.4 Monitoring position LT2 was installed at approximately first floor level.

5.1.5 The following equipment was used throughout the survey:

- 1 no. Rion sound level meter type NL32 (LT1);
- 1 no. Nti sound level meter type XL2 (LT2);
- 1 no. Rion sound level meter calibrator type NC74;

5.1.6 The calibration of the sound level meters was verified before and after use. No significant calibration drift was detected. All equipment has current laboratory calibration and certification is available for inspection upon request.

5.1.7 The weather during the survey was generally dry with low winds. Periods of rain have been excluded from analysis and highlighted grey in the time histories.

5.1.8 Measurements were made following procedures in BS7445:1991 (ISO:1996-2:1987) *Description and measurement of environmental noise Part 2 – Acquisition of data pertinent to land use.*

5.2 RESULTS

5.2.1 Figures AS14434/TH1-TH10 show the L_{Aeq} , L_{Amax} , L_{A10} , L_{A90} sound pressure levels as time histories at monitoring positions LT1 and LT2.

5.2.2 The average noise levels at the monitoring positions for the daytime and night-time periods are shown in Table 5.1, along with the typical highest night-time maximum levels that are derived from the 90th percentile of the relevant L_{Amax} dataset. These levels have been confirmed to be commensurate with those that were not exceeded more than 10 times a night during the survey period.

Position	Period	Average Ambient $L_{Aeq,T}$	Typical Highest* L_{AFmax}
LT1	Daytime (07:00 – 23:00)	59 dB	N/A
	Night-time (23:00 – 07:00)	51 dB	76 dB
LT2	Daytime (07:00 – 23:00)	57 dB	N/A
	Night-time (23:00 – 07:00)	49 dB	71 dB

Table 5.1: Summary of measured noise levels [dB ref. 20 μ Pa]

*Derived from the 90th percentile of the relevant L_{Amax} dataset (typically exceeded not more than 10 times a night)

5.2.3 The results of the synchronised measurements taken behind and in front of the perforated roller shutter showed that the difference between measurements was ≤ 1 dB.

5.2.4 Monitoring position 1 is, therefore, representative of the noise levels that will be incident upon the ground floor of the front building and monitoring position LT2 is representative of the noise levels incident upon the first floor of the rear building.

6.0 EXTERNAL BUILDING FABRIC ASSESSMENT

6.1 This review is based on the submitted proposed site and flat layouts available at the time of writing, targeting the internal noise levels set in planning condition 11.

6.2 It has been assumed that non-glazed elements, i.e traditional brick and block external walls and roofs, will provide the following minimum sound insulation performances, when tested in accordance with ISO 10140-2:2021 or equivalent test standard.

Non-Glazed Façade Element	Period
Masonry	R_w 51 dB
Roof	R_w 45 dB

Table 6.1: Assumed minimum sound insulation performance of existing non-glazed elements of external building fabric

- 6.3 On the basis of the measured noise levels at the proposed building facades, the required minimum acoustic performance of glazing and ventilation units has been determined. This assessment has considered both the daytime and night-time average and typical maximum noise levels in habitable rooms.
- 6.4 The assessment includes for the correction noise levels measured at ground floor level (LT1) to first floor level. The effects of building mass screening sheltering some windows from the primary road noise sources has also been taken into account.
- 6.5 Internal noise levels that demonstrate compliance with Planning Condition 11 can be achieved where all glazed and background ventilation elements meet the minimum sound insulation specifications shown below.

Building	Non-Glazed Façade Element	Glazing Specification	Trickle Ventilation Specification
Front (London Road)	Bedrooms facing London Road	R_w 34 dB	$D_{n,ew}$ 34 dB
Front (London Road)	Lounge/Kitchens facing London Road	R_w 30 dB	$D_{n,ew}$ 30 dB
Front and Rear	Bedrooms on sheltered facades		
Front and Rear	Lounge/Kitchens on sheltered facades	R_w 25 dB	$D_{n,ew}$ 27 dB
Rear (Swiss Road)	Lounge/Kitchens facing Swiss Road		

Table 6.2 Minimum sound insulation performance of proposed glazing and ventilation units

- 6.6 Standard thermal double glazing can achieve a performance of R_w 30 dB and will, therefore, be sufficient for all windows except those facing London Road, where slightly uprated systems (thicker panes and/or larger cavity) would be required.
- 6.7 Where trickle ventilators are utilised for background ventilation, the above performance specification is denoted on the basis on of a single vent per room. If multiple vents are required, the individual performance requirement will increase by a value equal to $+10\log(N)$, with N being the total number of vents serving the room.

7.0 CONCLUSIONS

- 7.1 Clarke Saunders Acoustics has undertaken an environmental noise survey and external building fabric assessment of the proposed residential redevelopment at 81c London Road, Waterloooville, PO7 7EL. This has been conducted to aid in the discharge of Planning Condition 11.
- 7.2 Sound reduction performances have been specified for glazing and passive background ventilators, which should result in the targeted internal ambient noise levels being achieved. On this basis, the requirements of Planning Condition 11 have been satisfied.



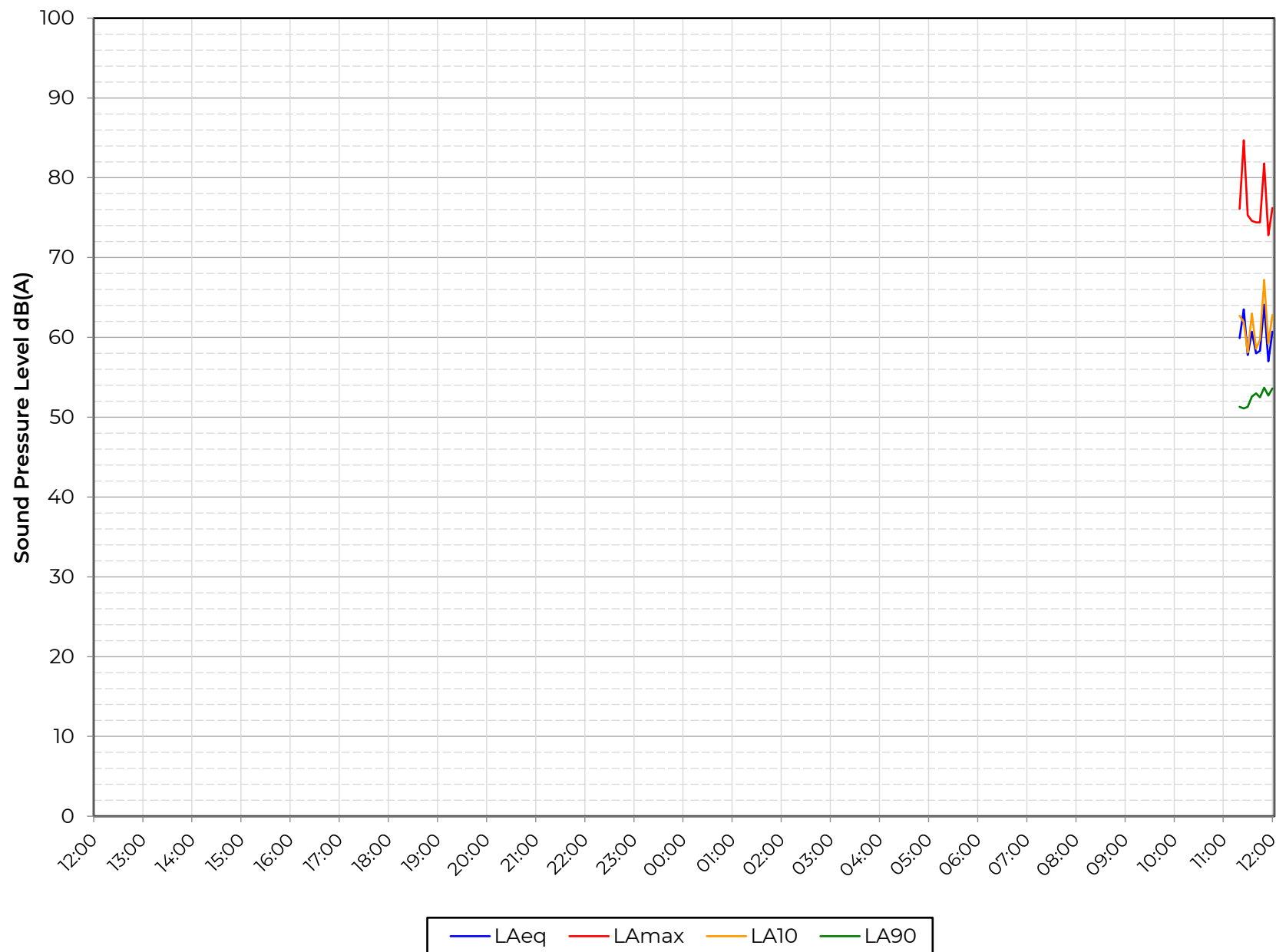
Michael Symmonds MIOA
CLARKE SAUNDERS ACOUSTICS



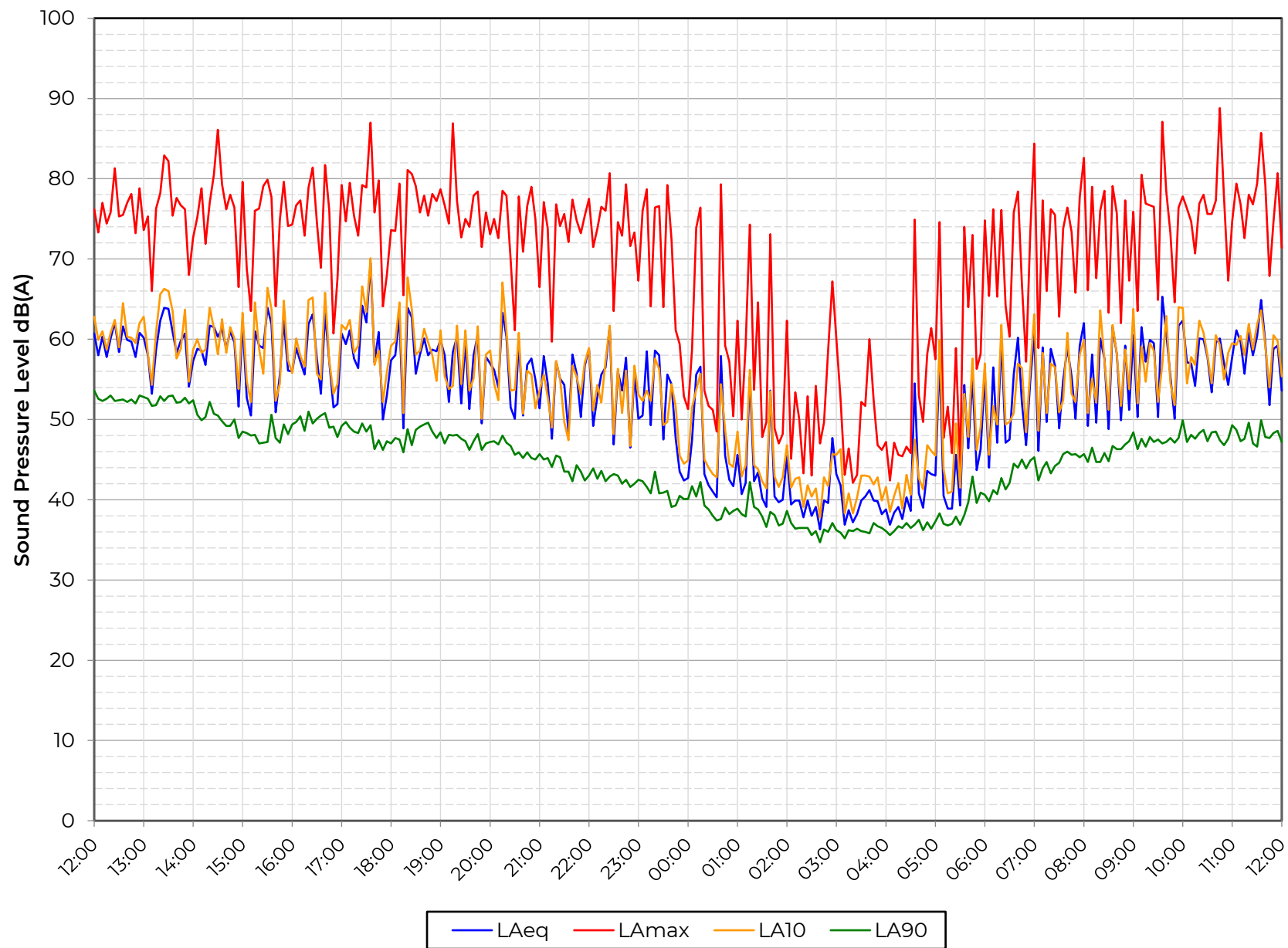
Indicative Site Plan

FigureAS14434/SP1

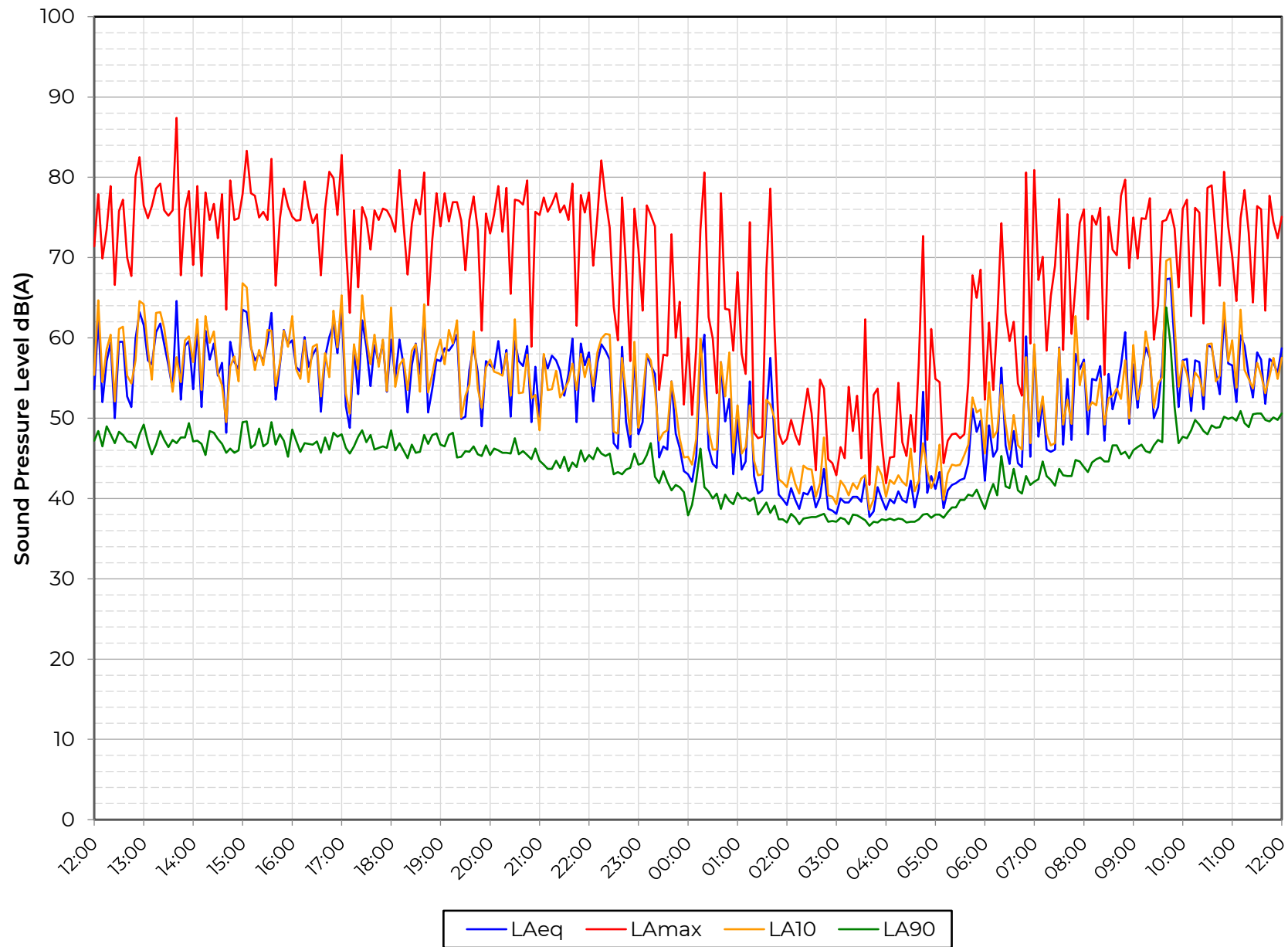
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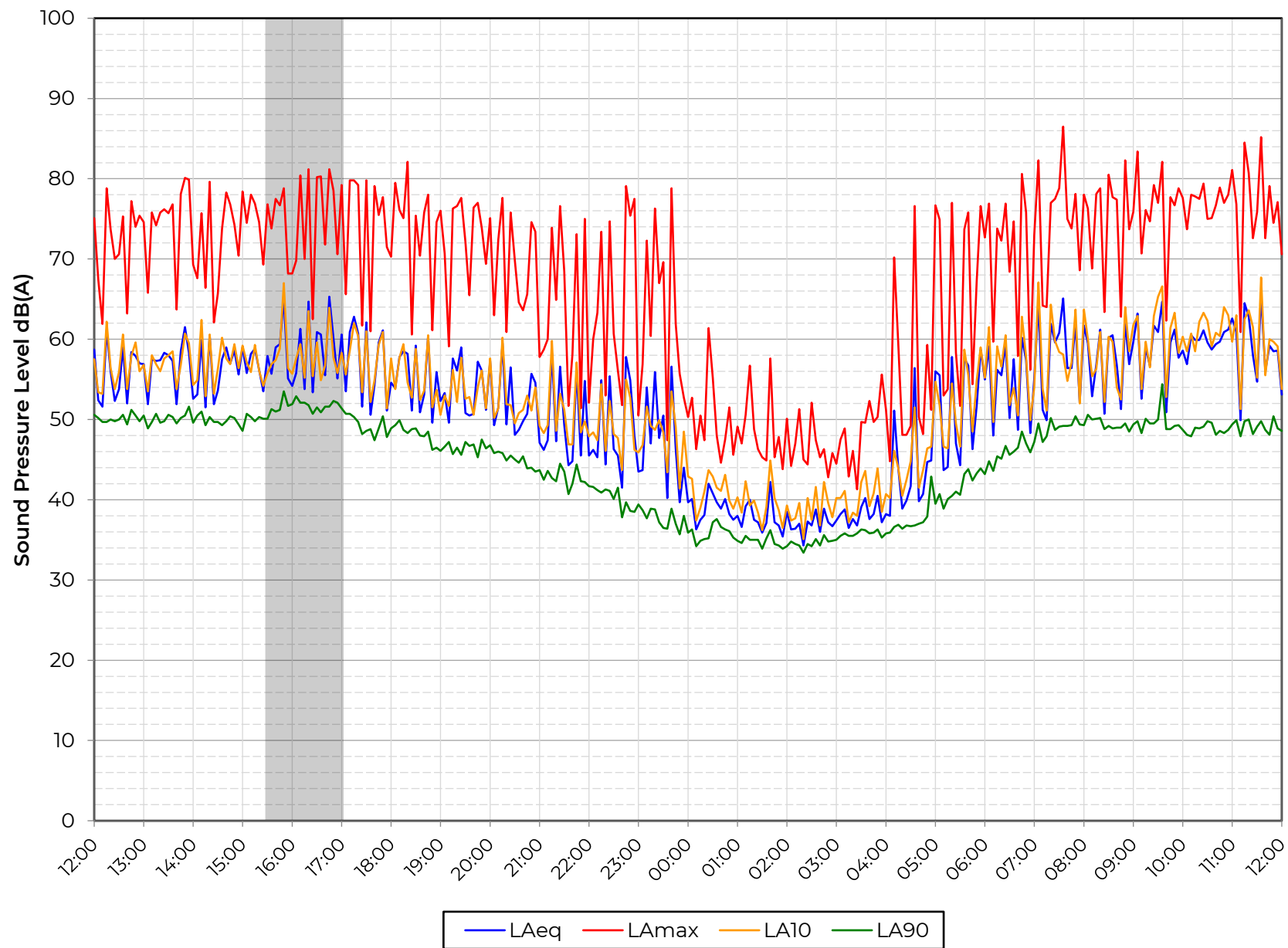
Position LT1



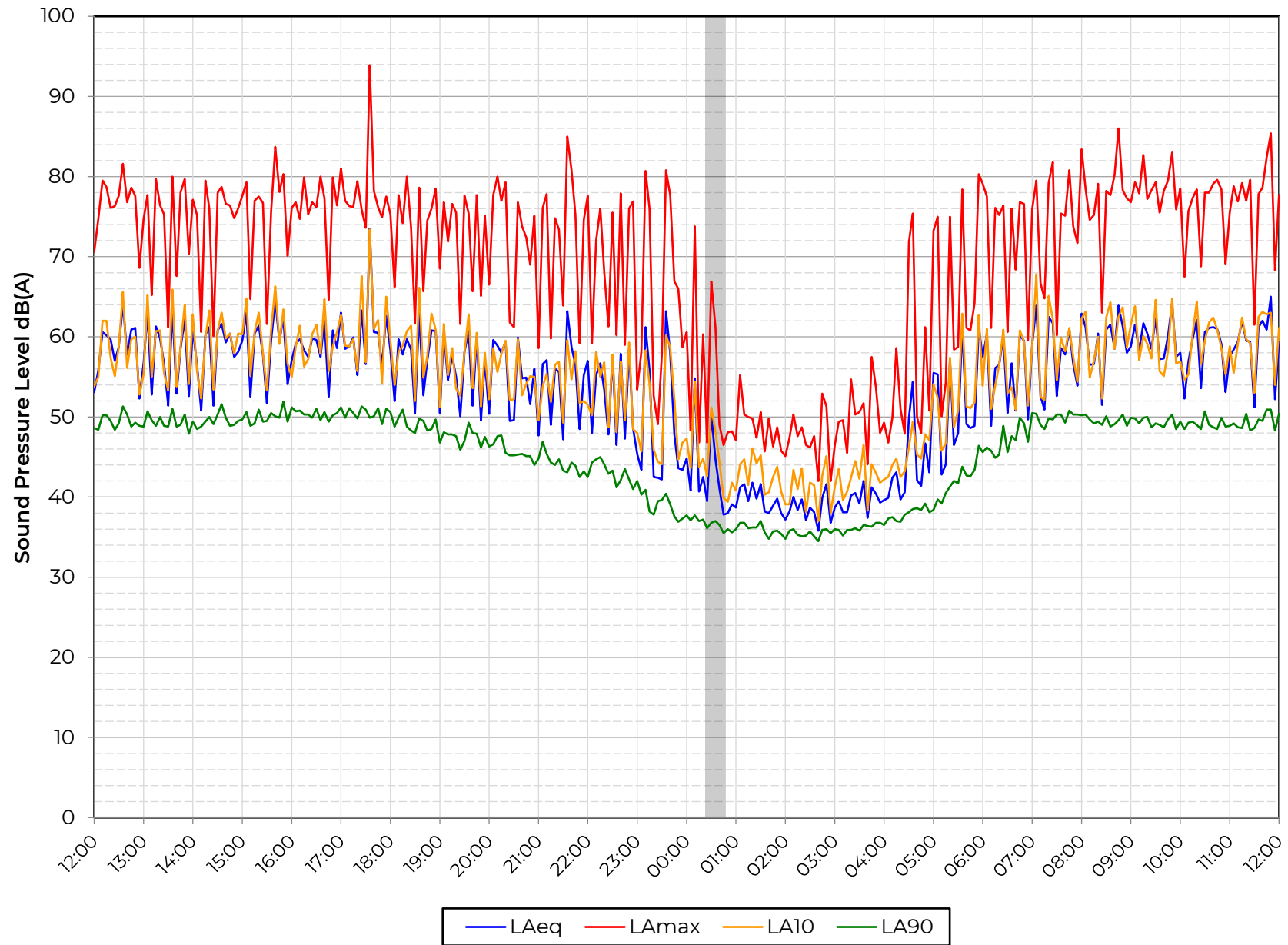
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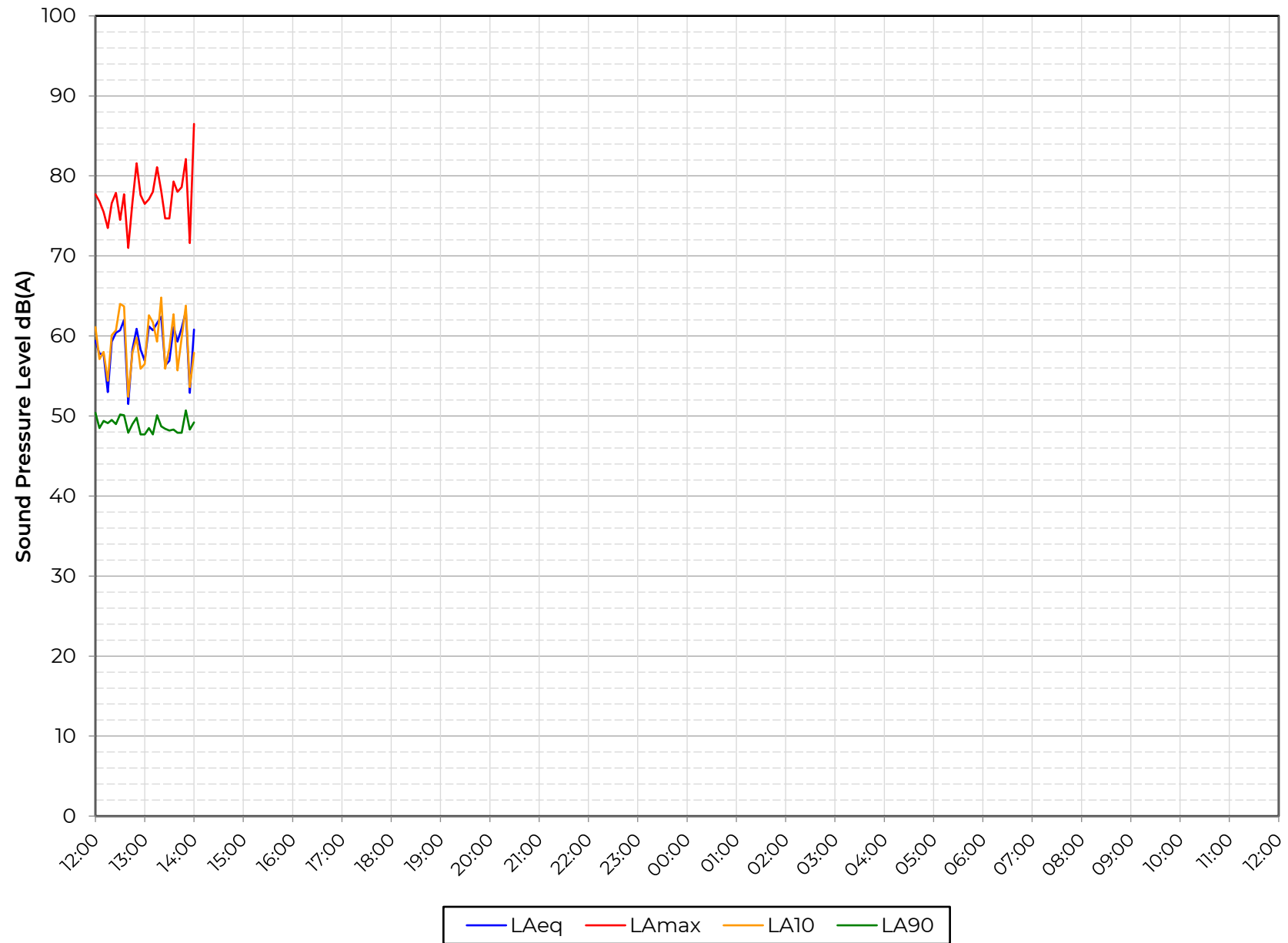
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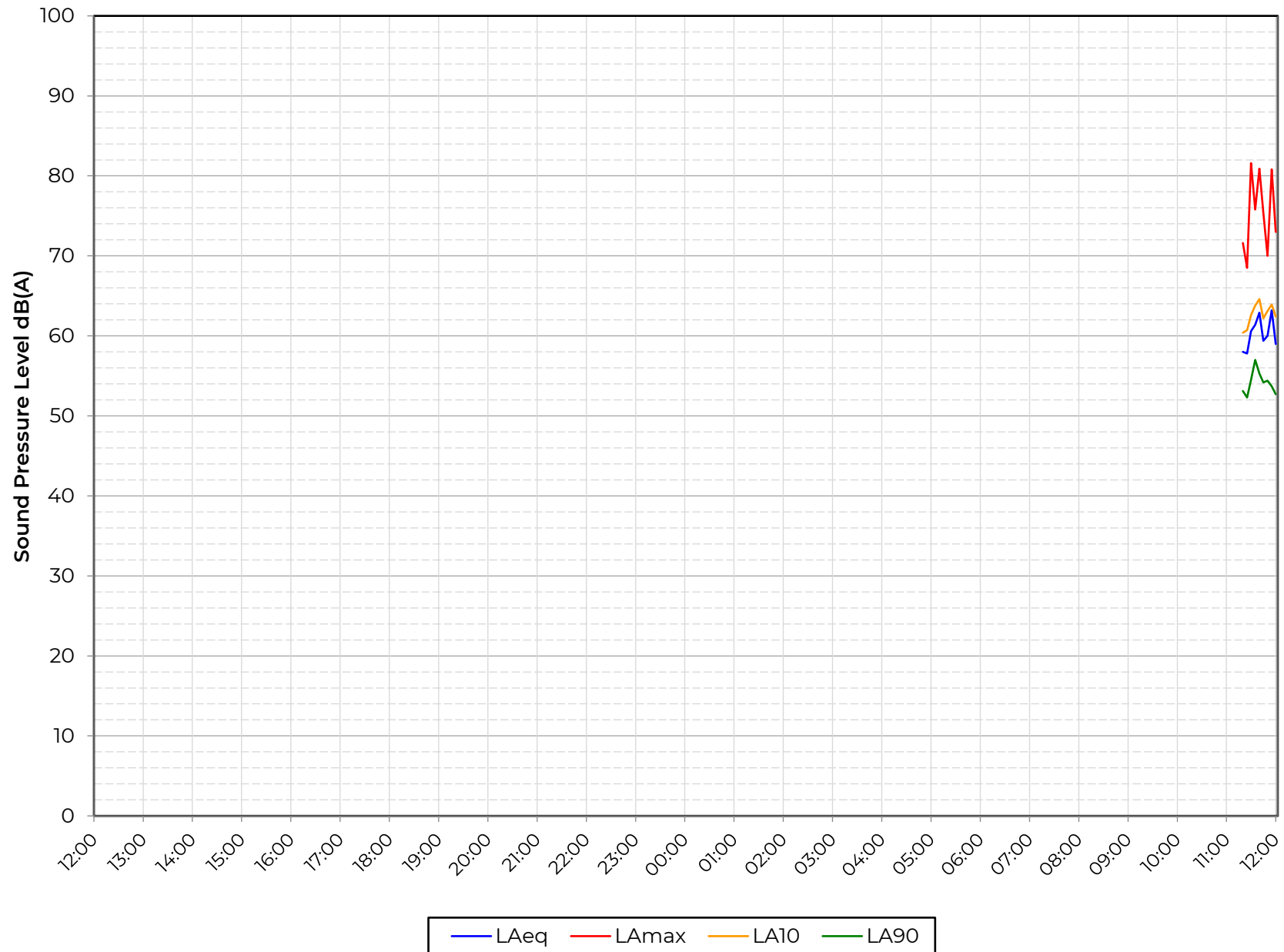
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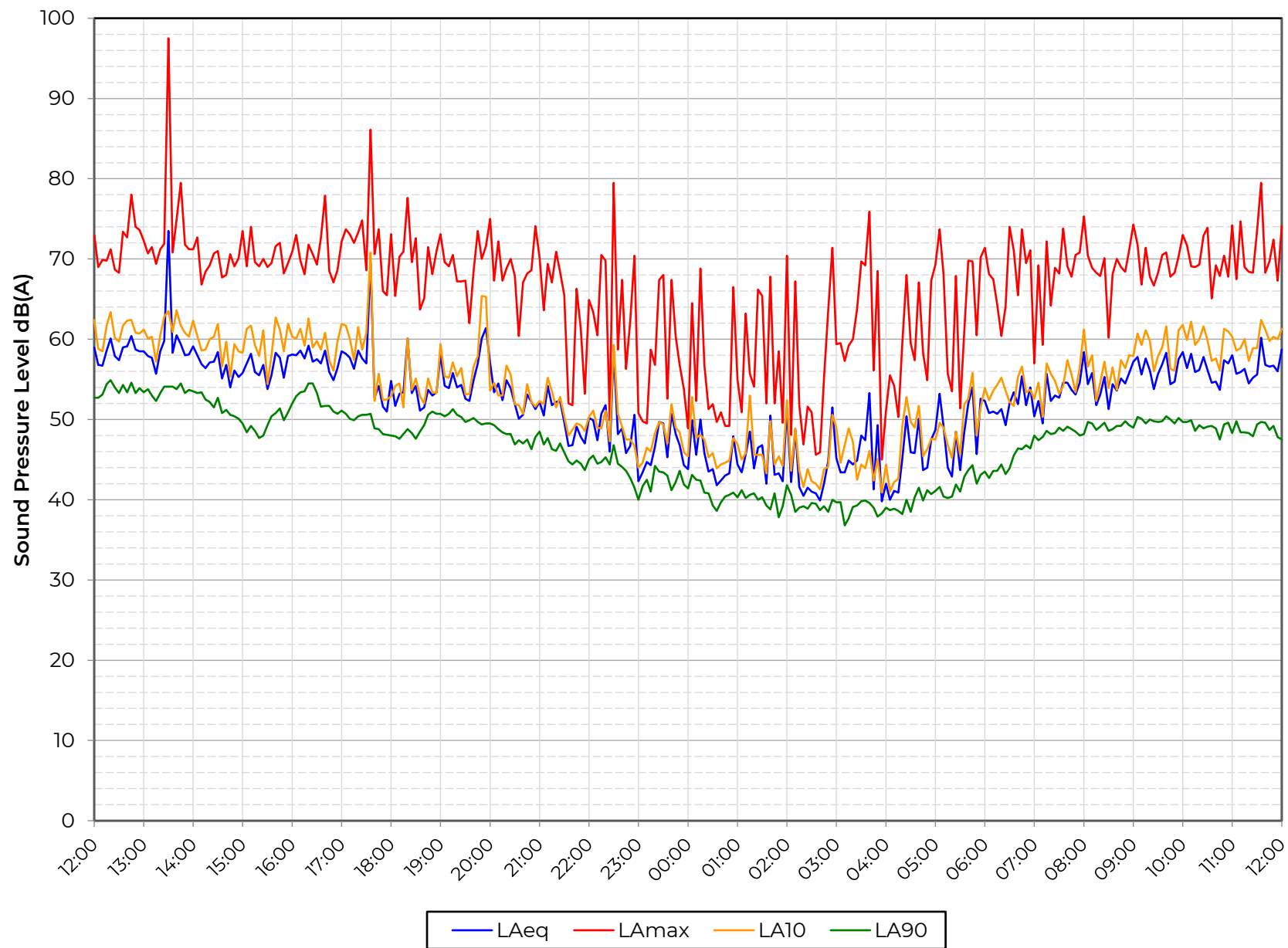
Position LT1



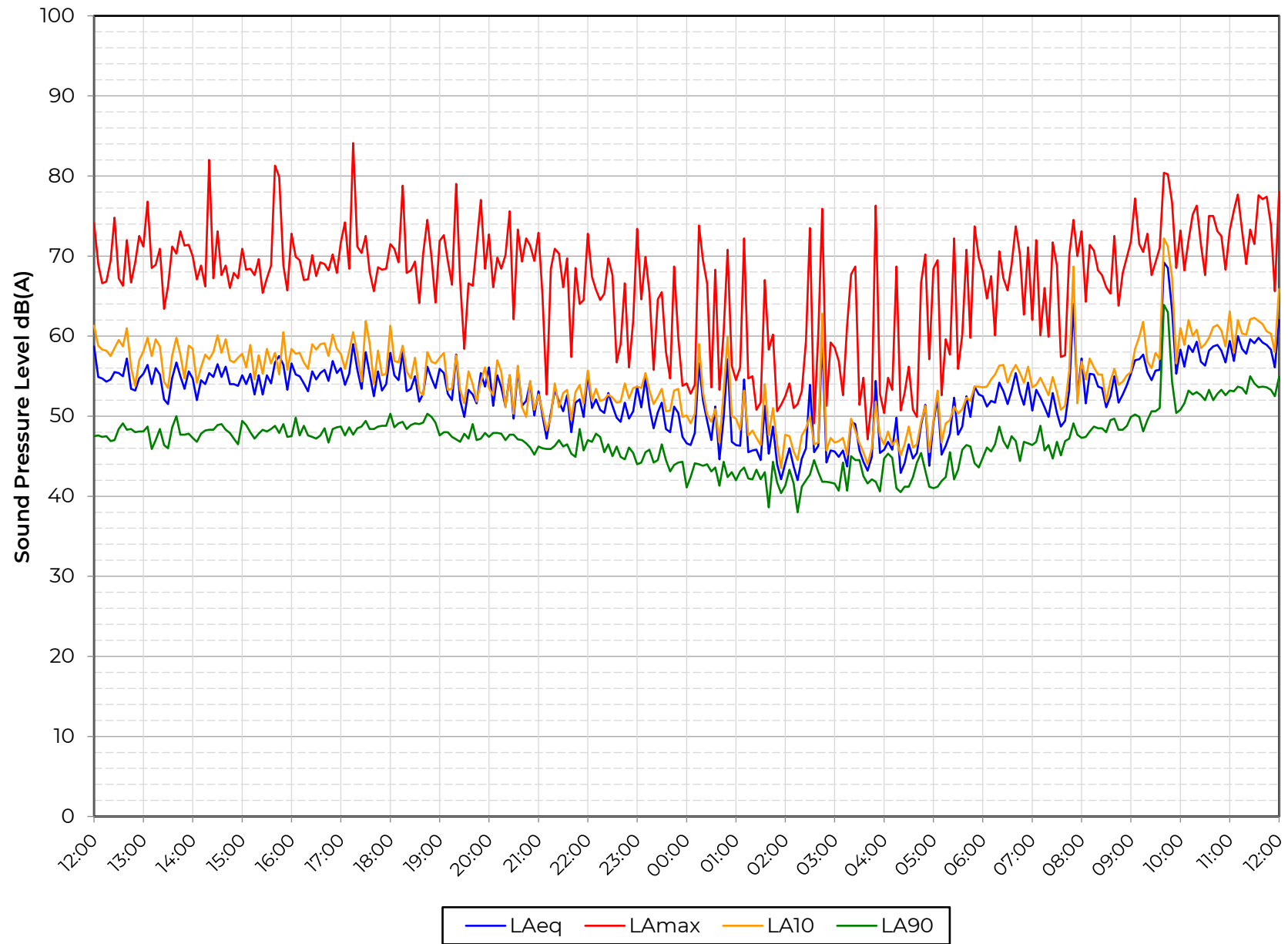
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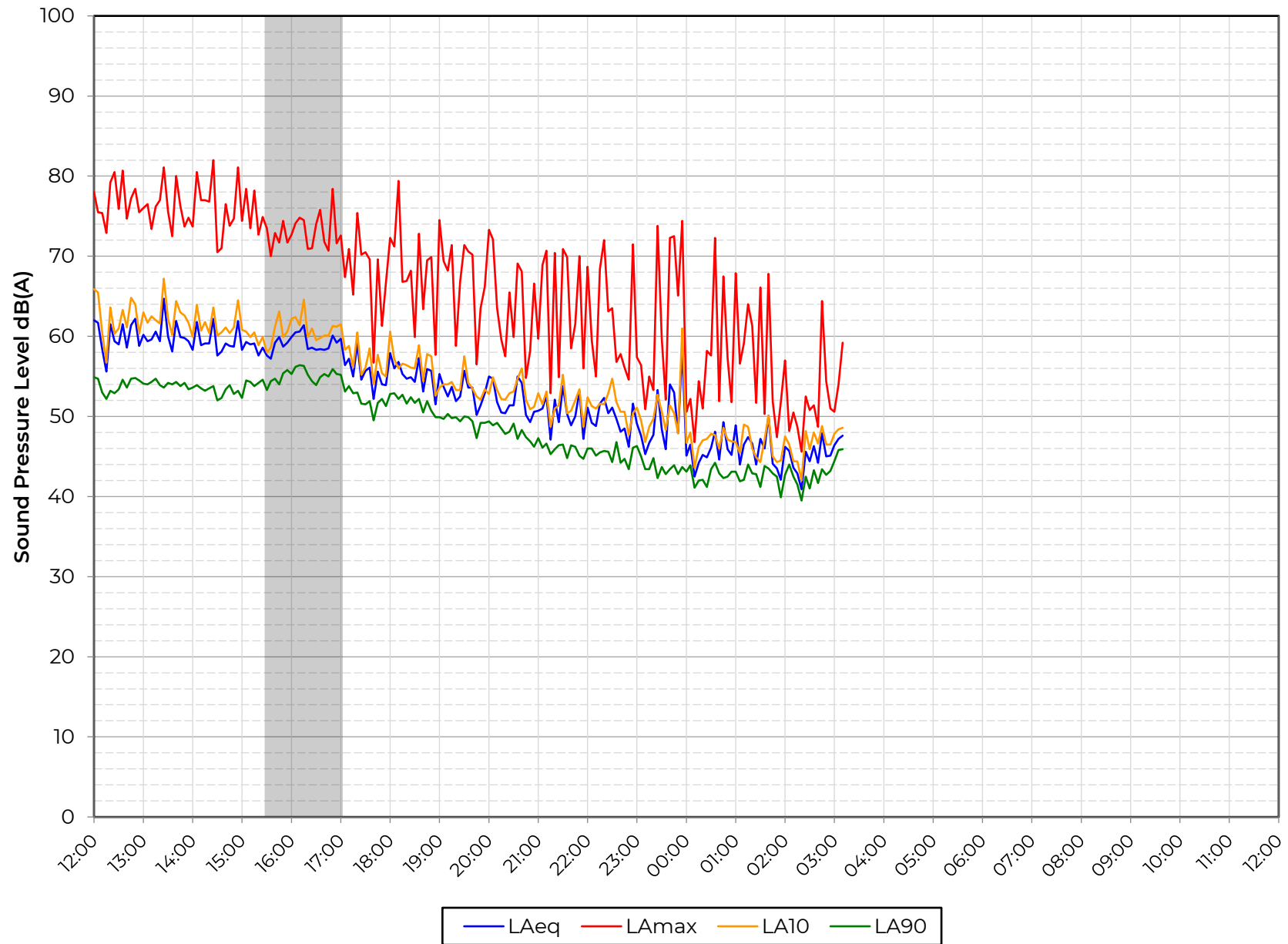
Position LT2



Position LT2



Position LT2



Acoustic Terminology

The human impact of sounds is dependent upon many complex interrelated factors such as 'loudness', its frequency (or pitch) and variation in level. In order to have some objective measure of the annoyance, scales have been derived to allow for these subjective factors.

Sound	Vibrations propagating through a medium (air, water, etc.) that are detectable by the auditory system.
Noise	Sound that is unwanted by or disturbing to the perceiver.
Frequency	The rate per second of vibration constituting a wave, measured in Hertz (Hz), where 1Hz = 1 vibration cycle per second. The human hearing can generally detect sound having frequencies in the range 20Hz to 20kHz. Frequency corresponds to the perception of 'pitch', with low frequencies producing low 'notes' and higher frequencies producing high 'notes'.
dB(A):	Human hearing is more susceptible to mid-frequency sounds than those at high and low frequencies. To take account of this in measurements and predictions, the 'A' weighting scale is used so that the level of sound corresponds roughly to the level as it is typically discerned by humans. The measured or calculated 'A' weighted sound level is designated as dB(A) or L_A .
L_{eq}:	<p>A notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the actual, fluctuating sound measured over that period (e.g. 8 hour, 1 hour, etc).</p> <p>The concept of L_{eq} (equivalent continuous sound level) has primarily been used in assessing noise from industry, although its use is becoming more widespread in defining many other types of sounds, such as from amplified music and environmental sources such as aircraft and construction.</p> <p>Because L_{eq} is effectively a summation of a number of events, it does not in itself limit the magnitude of any individual event, and this is frequently used in conjunction with an absolute sound limit.</p>
L_{10} & L_{90}:	<p>Statistical L_n indices are used to describe the level and the degree of fluctuation of non-steady sound. The term refers to the level exceeded for n% of the time. Hence, L_{10} is the level exceeded for 10% of the time and as such can be regarded as a typical maximum level. Similarly, L_{90} is the typical minimum level and is often used to describe background noise.</p> <p>It is common practice to use the L_{10} index to describe noise from traffic as, being a high average, it takes into account the increased annoyance that results from the non-steady nature of traffic flow.</p>
L_{max}:	The maximum sound pressure level recorded over a given period. L_{max} is sometimes used in assessing environmental noise, where occasional loud events occur which might not be adequately represented by a time-averaged L_{eq} value.
NR	<i>Noise Rating</i> . A single figure noise level rating that takes into account the frequency content of an acoustic environment.
R	<i>Sound Reduction Index</i> . Effectively the Level Difference of a building element when measured in an accredited laboratory test suite in accordance with the procedures laid down in BS EN ISO 10140-2:2010 and corrected for its size and the reverberant characteristics of the receive room.
D	The sound insulation performance of a construction is described in terms of the difference in sound level on either side of the construction in the presence of a

sound source on one side and the reverberant characteristics of the adjoining 'receive' space. D is the arithmetic Level Difference in decibels between the source and receive sound levels when filtered into frequency bands.

D_{nT}	<i>Weighted Standardised Level Difference.</i> As defined in BS EN ISO 717-1, representing the Weighted Level Difference, when standardised for reference receiving room reverberant characteristics.
$D_{n,e}$	Normalised sound insulation of small building elements of fixed dimensions, such as vents, measured in an accredited laboratory test suite in accordance with the procedures laid down in BS EN ISO 10140-2:2010.
$D_{n,f}$	Flanking sound insulation of lightweight elements, such as curtain wall mullions, measured in an accredited laboratory test suite in accordance with the procedures laid down in ISO 10848-2:2006
$R_w D_w$ $D_{nT,w} D_{n,e,w}$ $D_{n,f,w}$	Value of parameter, determined as above, but weighted in accordance with the procedures laid down in BS EN ISO 717-1 to provide a single-figure value.
C, C_{tr}	Spectral adaptation terms to be added to a single number quantity such as $D_{nT,w}$, to take account of the sound insulation within frequency ranges of particular interest.
$L'_{nT,w}$	<i>Weighted Standardised Impact Sound Pressure Level</i> as defined in BS EN ISO 717-2, representing the level of sound pressure when measured within a space where the floor above is under excitation from a calibrated tapping machine, standardised for the receiving room reverberant characteristics.
ΔL_w	Change in impact sound pressure level when a floor is fitted with a 'soft' or resilient covering, as measured in an accredited laboratory test suite in accordance with the procedures laid down in BS EN ISO 10140-3:2010.

Octave Band Frequencies

In order to determine the way in which the energy of sound is distributed across the frequency range, the International Standards Organisation has agreed on "preferred" bands of frequency for sound measurement and analysis. The widest and most commonly used band for frequency measurement and analysis is the Octave Band.

In these bands, the upper frequency limit is twice the lower frequency limit, with the band being described by its "centre frequency" which is the average (geometric mean) of the upper and lower limits, e.g. 250 Hz octave band extends from 176 Hz to 353 Hz. The most commonly used octave bands are:

Octave Band Centre Frequency Hz	63	125	250	500	1000	2000	4000	8000
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Human Perception of Broadband Noise

Because of the logarithmic nature of the decibel scale, it should be borne in mind that sound levels in dB(A) do not have a simple linear relationship. For example, 100dB(A) sound level is not twice as loud as 50dB(A). It has been found experimentally that changes in the average level of fluctuating sound, such as from traffic, need to be of the order of 3dB before becoming definitely perceptible to the human ear. Data from other

experiments have indicated that a change in sound level of 10dB is perceived by the average listener as a doubling or halving of loudness. Using this information, a guide to the subjective interpretation of changes in environmental sound level can be given.

INTERPRETATION

Change in Sound Level dB	Subjective Impression	Human Response
0 to 2	Imperceptible change in loudness	Marginal
3 to 5	Perceptible change in loudness	Noticeable
6 to 10	Up to a doubling or halving of loudness	Significant
11 to 15	More than a doubling or halving of loudness	Substantial
16 to 20	Up to a quadrupling or quartering of loudness	Substantial
21 or more	More than a quadrupling or quartering of loudness	Very Substantial

Earth Bunds and Barriers - Effective Screen Height

When considering the reduction in sound level of a source provided by a barrier, it is necessary to establish the "effective screen height". For example if a tall barrier exists between a sound source and a listener, with the barrier close to the listener, the listener will perceive the sound as being louder if they climb up a ladder (and are closer to the top of the barrier) than if they were standing at ground level. Equally if they sat on the ground the sound would seem quieter than if standing. This is explained by the fact that the "effective screen height" is changing with the three cases above. In general, the greater the effective screen height, the greater the perceived reduction in sound level.

Similarly, the attenuation provided by a barrier will be greater where it is aligned close to either the source or the listener than where the barrier is midway between the two.