



REGAL  
LONDON

Ryder

**100-100A Chalk Farm Road  
Planning Pre Commencement Condition Discharge  
Condition 21**



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# Introduction

This information was previously granted approval on 27 November 2024, in accordance with the requirements outlined in the planning conditions of the planning application referenced as 2024/0479/P.

The following document has been prepared by Ryder Architecture on behalf of Regal London to illustrate the details in pursuance of discharging the planning condition noted below under planning application reference number 2024/0479/P.

This information is issued following discussions with the Planning Officer with regards to amending the planning conditions.

## **Prior to above ground planning condition 21 - Sound insulation and noise protection**

Prior to above ground works (other than demolition, site clearance and preparation), details shall be submitted to and approved in writing by the council, of the sound insulation and vibration protection measures in the buildings, both for the student living accommodation and the housing block approved. Details shall demonstrate:

- a) That the design and structure of the development shall be of such a standard that all rooms within the flats are not exposed to levels indoors of more than 35 dB LAeq 16 hrs daytime (07:00 to 23:00 hours) and more than 30 dB LAeq 8 hours at night (23:00 to 07:00 hours the next day).
- b) That the sound insulation ensures that noise levels from music / entertainment noise in the 63Hz and 125Hz octave centre frequency bands (Leq) should be controlled so as not to exceed 47dB and 41dB (Leq) respectively in bedrooms, and 51dB and 46dB (Leq) respectively within other habitable rooms.
- c.) that the vibration dose values do not exceed 0.4m/s<sup>1.75</sup> between 07.00 and 23.00 hours, and 0.26m/s<sup>1.75</sup> between 23.00 and 07.00 hours, as calculated in accordance with BS 6472-1:2008, entitled “Guide to Evaluation of Human Exposure to Vibration in Buildings”, [1Hz to 80Hz] within any residential habitable room.

The approved details shall be implemented prior to occupation of the development and thereafter be permanently retained. The building and abatement measures as implemented shall ensure music noise levels in the 63Hz and 125Hz octave centre frequency bands (Leq) from any entertainment premises do not to exceed 47dB and 41dB (Leq) respectively in bedrooms, and 51dB and 46dB (Leq) respectively within other habitable rooms.

Reason: To ensure that the amenity of future occupiers of the development are not adversely affected by noise and vibration from nearby entertainment venues, mechanical installations, rail and traffic, and to protect the long term viability and operation of music venues in the area, in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017.

The development shall thereafter be carried out in accordance with the approved design and method statements, and all structures and works shall be completed in accordance with the approved details in their entirety, before any part of the building hereby permitted is occupied.

Reason: To ensure that the development does not impact on existing London Underground transport infrastructure, in accordance with policy T3 of the London Borough of Camden Local Plan 2017.

# Information

Evidence	Consultant
CHALF-SOL-XX-XX-RP-Y-XX-0013.P02 Facade Planning Note	Sol acoustics



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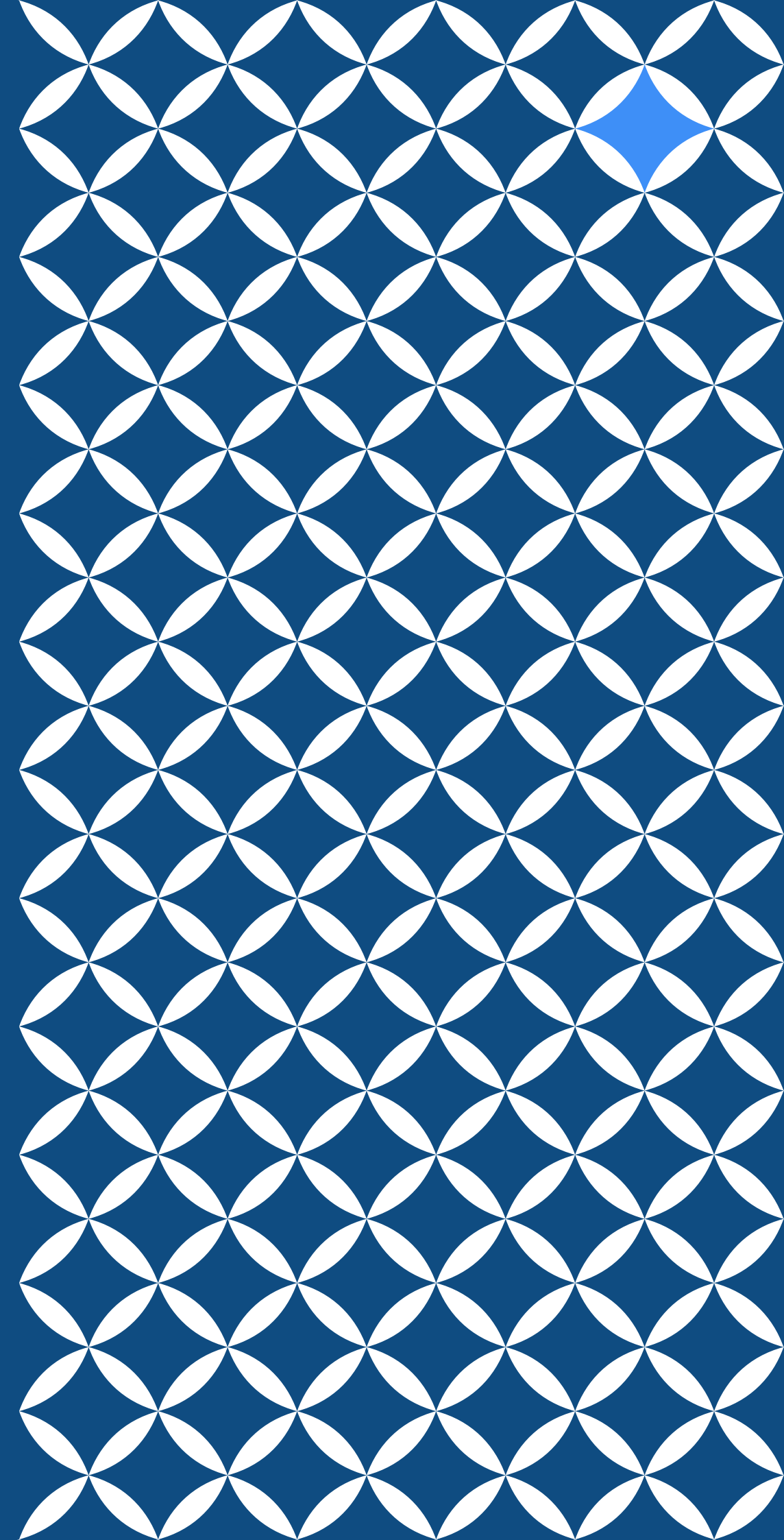
www.solacoustics.co.uk

## 100 Chalk Farm Road, Camden

Condition 21 - Acoustic Façade Specification

CHALF-SOL-XX-XX-RP-Y-XX-0015

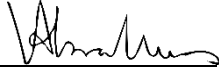
17 April 2025

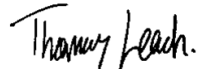


PROJECT100 Chalk Farm Road, Camden  
Condition 21 - Acoustic Façade Specification

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DOCUMENT  
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Disclaimer

This report has been prepared by Sol Acoustics Limited with all the care and diligence required within the terms of the contract and scope of the project. This report has been issued for the sole benefit and use of its intended recipient. Sol Acoustics Limited shall not be responsible for any use of this document or its contents for purposes other than that for which it was provided. Sol Acoustics Limited extends no liability to third parties to whom this document, or any part, has been made available. Any such party relies upon the document at their own risk.

Name of OrganisationSol Acoustics Limited

Company Registration Number4218702

Summary

Sol Acoustics Limited have been commissioned by Regal London to undertake an acoustic assessment for the proposed 100 Chalk Farm Road mixed use development.

The development is a mixed-used redevelopment scheme of a former office building to provide 265 new PBSA spaces across three circular buildings ranging from 6 to 12 storeys, alongside 24 affordable residential units within a 10 storey block, and 824m<sup>2</sup> of commercial space.

Planning Permission (2024/0029/P) was granted for the development by the London Borough of Camden in October 2024.

The purpose of this acoustic report is to assess the scheme and provide acoustic performance specifications for the building envelopes, all as based on the pre-existing environmental noise climate on-site as measured by Sol, together with calculated façade noise levels derived from the ‘CadnaA’ 3D computer noise model of the scheme, the requirements of BS 8233:2014 and Architectural design drawings in order to discharge the requirements of Planning Condition 21, Limb A and Limb B.

In addition, this report provides an assessment of tactile vibration within residential habitable rooms, as based on the baseline vibration survey undertaken by Sol, in order to discharge the requirements of Planning Condition 21, Limb C.



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1 Introduction

1.1 Sol Acoustics Limited have been commissioned Regal London to undertake an acoustic design assessment of the proposed 100 Chalk Farm Road mixed-use development to demonstrate compliance with the requirements of Planning Condition 21 of the extant Planning Permission (2024/0029/P), which states:

“Sound insulation and noise protection

*Prior to above ground works (other than demolition, site clearance and preparation), details shall be submitted to and approved in writing by the Council, of the sound insulation and vibration protection measures in the buildings, both for the student living accommodation and the housing block approved.*

*Details shall demonstrate:*

*a) that the design and structure of the development shall be of such a standard that all rooms within the flats are not exposed to levels indoors of more than 35 dB  $L_{Aeq, 16\text{ hrs}}$  daytime (07:00 to 23:00 hours) and more than 30 dB  $L_{Aeq, 8\text{ hrs}}$  at night (23:00 to 07:00 hours the next day).*

*b) that the sound insulation ensures that noise levels from music / entertainment noise should be controlled so as not to exceed NR25 ( $L_{eq, 15\text{ min}}$ ) in bedrooms (23:00 to 07:00 hours), and NR35 ( $L_{eq, 15\text{ min}}$ ) within all habitable rooms (07:00 to 23:00 hours).*

*c) that the vibration dose values do not exceed  $0.4\text{m/s}^{1.75}$  between 07.00 and 23.00 hours, and  $0.26\text{m/s}^{1.75}$  between 23.00 and 07.00 hours, as calculated in accordance with BS 6472-1:2008, entitled "Guide to Evaluation of Human Exposure to Vibration in Buildings", [1Hz to 80Hz] within any residential habitable room.*

*The approved details shall be implemented prior to occupation of the development and thereafter be permanently retained.*

**Reason:** *To ensure that the amenity of future occupiers of the development are not adversely affected by noise and vibration from nearby entertainment venues, mechanical installations, rail and traffic, and to protect the long term viability and operation of music venues in the area, in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017."*

- 1.2 The purpose of this report is as follows:
- ◆ To assess the scheme in terms of intrusive noise and to determine acoustic performance specifications for the building envelopes based on the pre-existing environmental noise climate on-site and appropriate internal ambient noise levels stated within the relevant design guidance.
  - ◆ To assess the scheme in terms of tactile vibration within residential habitable units in accordance with the guidance in BS 6472-1.

1.3 This report is based on the results of several baseline noise and vibration surveys undertaken at site, a 3D noise model constructed for the scheme, and the consented architectural design drawings.

1.4 This report has been produced by suitably qualified and competent professionals with relevant experience as detailed in [Table 1](#):

Name	Position	Qualifications	Membership of professional bodies	Experience
Victoria Abrahams	Acoustic Consultant	MPhys Physics with Astronomy		
Thomas Leach	Associate Director	MSc Sound & Vibration Studies, BSc(Hons) Sound Technology	Member of the Institute of Acoustics, Association of Noise Consultants registered pre-completion tester	15 years relevant acoustic consultancy experience.

Table 1: Summary of professionals

2 Location & Description of Development

- 2.1 The 100 Chalk Farm Road development site is located in the London Borough of Camden and is surrounded by a mixture of commercial, and residential buildings including the Camden Roundhouse music venue. An overview of the site and the surroundings is presented in [Figure 1](#).
- 2.2 The proposed development will provide 265 new PBSA spaces across three circular buildings ranging from 6 to 12 storeys, alongside 24 affordable residential units within a 10 storey ‘HA block’, and 824m<sup>2</sup> of commercial space.
- 2.3 Planning Permission (2024/0029/P) was granted for the development by the London Borough of Camden in October 2024.



Figure 1: Proposed development

3 Assessment Criteria

3.1 Condition 21

3.1.1 Planning Condition 21 related to intrusive noise from environmental (Limb A) and entertainment (Limb B) noise sources within residential apartments, as well as tactile vibration (Limb C), and states:

“Sound insulation and noise protection

Prior to above ground works (other than demolition, site clearance and preparation), details shall be submitted to and approved in writing by the Council, of the sound insulation and vibration protection measures in the buildings, both for the student living accommodation and the housing block approved.

Details shall demonstrate:

a) that the design and structure of the development shall be of such a standard that all rooms within the flats are not exposed to levels indoors of more than 35 dB  $L_{Aeq, 16\text{ hrs}}$  daytime (07:00 to 23:00 hours) and more than 30 dB  $L_{Aeq, 8\text{ hrs}}$  at night (23:00 to 07:00 hours the next day).

b) that the sound insulation ensures that noise levels from music / entertainment noise should be controlled so as not to exceed NR25 ( $L_{eq, 15min}$ ) in bedrooms (23:00 to 07:00 hours), and NR35 ( $L_{eq, 15min}$ ) within all habitable rooms (07:00 to 23:00 hours).

c) that the vibration dose values do not exceed  $0.4m/s^{1.75}$  between 07.00 and 23.00 hours, and  $0.26m/s^{1.75}$  between 23.00 and 07.00 hours, as calculated in accordance with BS 6472-1:2008, entitled "Guide to Evaluation of Human Exposure to Vibration in Buildings", [1Hz to 80Hz] within any residential habitable room.

The approved details shall be implemented prior to occupation of the development and thereafter be permanently retained.

**Reason:** To ensure that the amenity of future occupiers of the development are not adversely affected by noise and vibration from nearby entertainment venues, mechanical installations, rail and traffic, and to protect the long term viability and operation of music venues in the area, in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017."

Noise Rating Curves

3.1.2 The following table sets out the internal octave band centre frequency noise level limits to achieve the Noise Rating (NR) Curves referenced in Condition 21:

Noise Rating Curve	Unweighted sound pressure level limit (dB, $L_{eq,T}$ ) at Octave band centre Frequency (Hz)						
	63	125	250	500	1k	2k	4k
NR25	55.2	43.7	35.2	29.2	25.0	21.9	19.5
NR35	63.1	52.4	44.5	38.9	35.0	32.0	29.8

Table 2

4 Baseline Environmental Noise Survey

4.1 Noise Survey Details

4.1.1 A baseline environmental noise survey was conducted by Sol between 13<sup>th</sup> June 2024 and 18<sup>th</sup> June 2025. The survey was undertaken in line with the requirements of BS 7445 ‘Description and measurement of environmental noise’ Parts 1-3.

4.1.2 The survey consisted of three long-term unattended measurement positions and one short-term attended measurement position, as described in the table below and shown in Figure 2.

Measurement position	Description
Measurement position 1 (MP1)	Mast-mounted microphone sited in free field conditions, positioned out of a window on the 3rd floor in the north-east corner of the existing building, approximately 1m from the façade.
Measurement position 2 (MP2)	Mast-mounted microphone in free field conditions, at a height of approximately 4.5m from ground level; along the south side of the development site. Approximately 5m to the overground trainline.
Measurement position 3 (MP3)	Tripod-mounted microphone in free field conditions, at a height of 1.8m from the roof level; on the west side of the existing building.
Attended measurement position 1 (SMP1)	Temporary mast-mounted microphone in free field conditions, at a height of 1.95m from local ground level, approximately 5m distance to Chalk Farm Road; in the north-east of the development site.

Table 3: Summary of measurement positions

4.1.3 Measurement positions SMP1 and MP1 were selected to target the noise levels of Chalk Farm Road, Measurement position MP2 was selected to target the noise level of the Overground trainline, and MP3 was selected to target the noise levels of the Roundhouse.

4.1.4 Type 1 Precision Grade sound measuring instrumentation was exclusively used and microphone windshields were fitted at all times. Full details of all the instrumentation used and corresponding traceable calibration records are retained on file by Sol and is available for inspection if required.

4.1.5 The prevailing weather conditions were generally suitable for the purposes of environmental noise measurements during the noise survey, periods of adverse weather have been removed from the dataset.

4.2 Noise Survey Results Summary

4.2.1 The following table provides a basic summary of the A-weighted broadband environmental noise levels measured during the survey:

Measurement Location	Typical Measured Noise Level (dB, $L_{Aeq,T}$ , Highest $L_{Amax}$ , and Range $L_{A90}$ )				
	Daytime		Nighttime		
	$L_{Aeq,16hr}$	$L_{A90,15min}$	$L_{Aeq,8hr}$	$L_{Amax,1sec}$	$L_{A90,15min}$
MP1	69	56-66	67	93	46-56
MP2	60-65	39-63	50-62	82	38-50
MP3	69	49-65	62	85	46-52

Table 4: Summary of typical measured noise levels



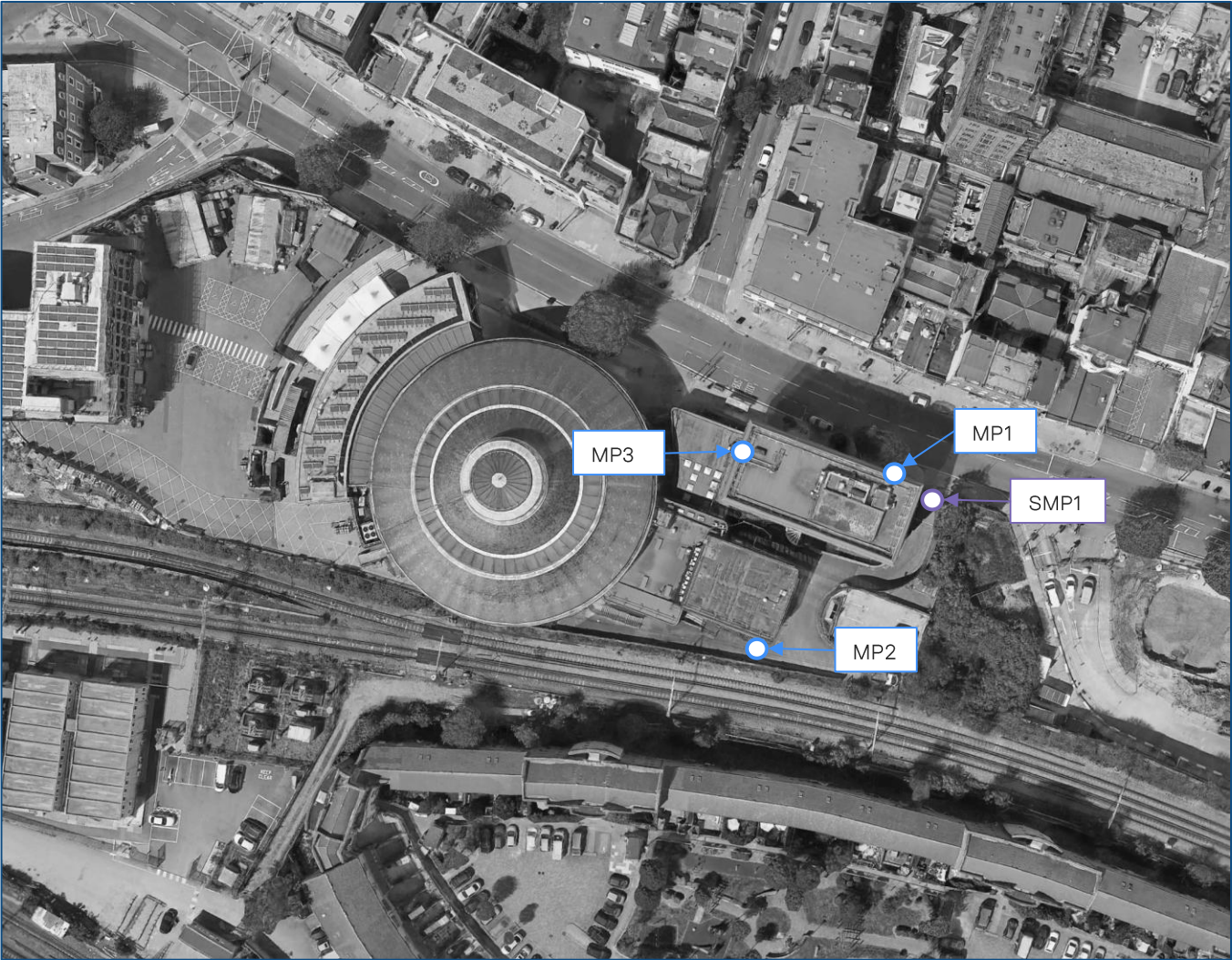


Figure 2: Environmental noise survey measurement positions, June 2024 (Google Earth, 2024)

4.2.2 The following table summarises the corresponding unweighted, time-averaged ( $L_{Aeq,T}$ ) daytime and night-time period ambient noise levels used for the assessment, in linear (unweighted) octave band frequency terms as based on the representative baseline environmental survey data:

Measurement Location	Measurement Period	A-weighted Broadband noise level (dB $L_{Aeq,T}$ )	Unweighted sound pressure level (dB, $L_{eq,T}$ ) at Octave band centre Frequency (Hz)						
			63	125	250	500	1k	2k	4k
MP1	Daytime	69	71	66	64	63	63	62	61
	Night-time	67	69	64	63	61	62	60	58
MP2	Daytime	62	66	61	57	56	54	54	56
	Night-time	62	63	59	55	53	52	54	57

Table 5: Summary of unweighted sound pressure levels at octave band centre frequency

## 5 Baseline Entertainment Noise Survey

### 5.1 Noise Survey Details

- 5.1.1 The Roundhouse operates as an entertainment daily, between the hours of 09:00 to 23:00, with regular music events. It is understood that the venue does not operate in the night time period (23:00 – 07:00).
- 5.1.2 To assess music noise egress from the Roundhouse, a noise survey was conducted by Sol between 17:00 hours and 23:00 hours on the 27th of September 2024 during a dance music event (Diplo and Friends) and between 17:00 hours and 23:00 hours on the 29th of September 2024 during a heavy metal music event (Cannibal Corpse). This consisted of one measurement position, as shown in Figure 3 and described in the table below:

Measurement position	Description
Attended measurement position (MUSP1)	Temporary tripod-mounted microphone in free field conditions, at a height of 1.5m from local ground level (roof), approximately 6m distance to Roundhouse façade.

Table 6: Summary of measurement positions



Figure 3: Roundhouse noise survey measurement positions, September 2024 (Google Earth, 2024)



5.2 Noise Survey Results Summary

5.2.1 The following table provides a summary of the worst case measured entertainment noise levels ( $L_{eq,15min}$ ) used for the assessment:

Measurement Location	Event / Start time	A-weighted Broadband noise level (dB $L_{Aeq,15min}$ )	Unweighted sound pressure level (dB, $L_{eq,15min}$ ) at Octave band centre Frequency (Hz)						
			63	125	250	500	1k	2k	4k
MUSP1	Diplo / 21:30:00	58	73	66	59	55	52	48	42

Table 7

5.2.2 Due to an ongoing music event with 100A Chalk Farm on the eventing of the 29<sup>th</sup> of September, it was not possible to accurately measure noise breakout from the façade of the Roundhouse during the Cannibal Corpse event, however, subjectively the low-frequency noise breakout was significantly lower than that experienced during the Diplo dance music event. Therefore, it is considered that the levels presented in the above table form a robust assessment for the purpose of the façade design.

6 Residential Intrusive Noise Assessment

6.1 Internal Ambient Noise Level Criteria

6.1.1 In accordance with Limb A and Limb B of Condition 21, the following criteria form the basis of the intrusive noise assessment for the PBSA residential units and the HA apartments.

Noise source	Room Type	Daytime (07:00 to 23:00)	Night time (23:00 to 07:00)
Environmental (Road traffic, rail, aircraft)	Living Room	35dB $L_{Aeq,16h}$	-
	Bedroom	35dB $L_{Aeq,16h}$	30dB $L_{Aeq,16h}$
Entertainment (Roundhouse)	Living Room	NR35 $L_{eq,15min}$	-
	Bedroom	NR35 $L_{eq,15min}$	NR25 $L_{eq,15min}$

Table 8

6.2 Predicted Development Environmental Noise Levels

6.2.1 In order to predict the likely resultant environmental noise levels across the future façades of the proposed development, a 3D computer based environmental noise model has been created using the proprietary DataKustik "CadnaA" Noise Mapping software. The following assumptions have been made in the generation of the noise model:

- ◆ The noise model was set up to apply the noise prediction methodology set out in ISO 9613-2: 'Acoustics – Attenuation of Sound propagation outdoors – Part 2: General Method of Calculation'
- ◆ The model was set to include up to second order reflected noise from solid structures.
- ◆ Ground absorption was set to G=0 (hard ground), with the exception of significant area of grass/foilage set to G=1 (soft ground).
- ◆ Acoustic screening and reflections afforded by nearby buildings and solid structures.

6.2.2 Based upon the above and the measured environmental noise levels the daytime and night-time free field noise levels have been predicted across the development.

6.3 Background Ventilation Strategy

Part F Background Ventilation

6.3.1 Background ventilation will be provided to all dwellings via MVHR units and therefore there will be no requirement for passive openings in the façade (e.g. trickle ventilators) for Part F background ventilation purposes.

6.4 Residential Building Envelope

External walls

6.4.1 The proposed residential external building envelope will consist of a façade system with the following constructions:

Wall Typology	Wall build-up (external to internal)	Weighed Sound Reduction Index ( $R'_w + C_{tr}$ ), dB
Brickwork	102.5mm handset brickwork 50mm clear cavity with wall tie system 150mm mineral wool insulation Breather membrane 12mm Sheathing board 150mm SFS with 150mm Mineral wool insulation 12.5mm plasterboard	64 <sup>(1)</sup>
Ceramic Rainscreen	40mm Terracotta ceramic rainscreen system 50mm clear cavity 190mm mineral wool insulation Breather membrane 12mm Sheathing board 150mm SFS with 150mm mineral wool insulation 2 layers of 15mm acoustic plasterboard	61 <sup>(2)</sup>

Note 1: Performance calculated using the proprietary Insul V9.0.20 Sound Insulation Prediction software

Note 2: Performance calculated and advised by Rockwool

Table 9: Summary of external façade build-ups



Acoustic Specification for Glazing to Habitable Rooms

- 6.4.2 The following acoustic glazing specification have been given in terms of the minimum sound reduction for all glazed elements forming part of the building envelope.
- 6.4.3 **Table 10** provides the minimum weighted single figure acoustic performance requirements to meet the requirements for noise intrusion into dwellings as outlined in Planning Condition 21:

Block	Zone	Room Type	Weighted Sound Reduction Index ( $R'_w + C_{tr}$ ), dB
HA (Figure 4)	A (all levels)	Living Room	27
		Bedroom	30
	B (all levels)	Living Room	27
		Bedroom	30
	C (up to Level 9)	Living Room	30
		Bedroom	33
	C (Level 10)	Living Room	30
		Bedroom	30
PBSA (Figure 5)	1 (all levels)	All	35
	2 (all levels)	All	30

Table 10: Minimum glazing system acoustic performance specification, per zone

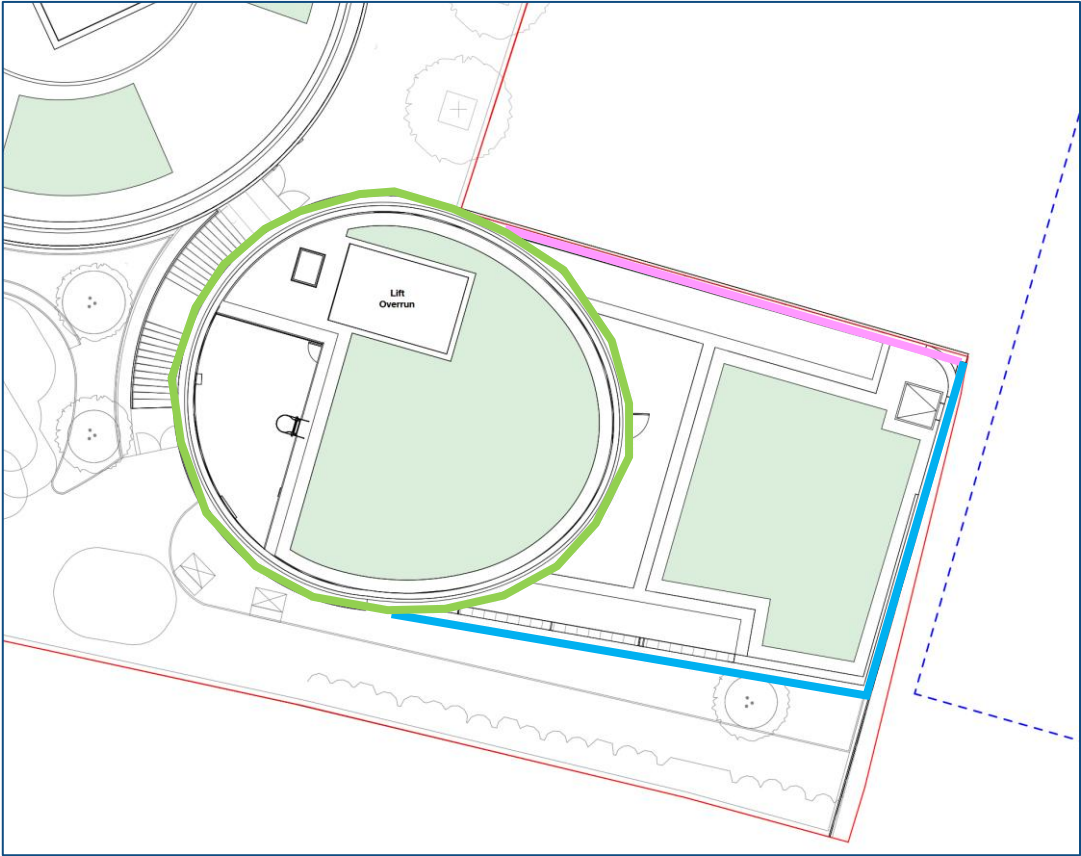


Figure 4: HA Block acoustic façade zones

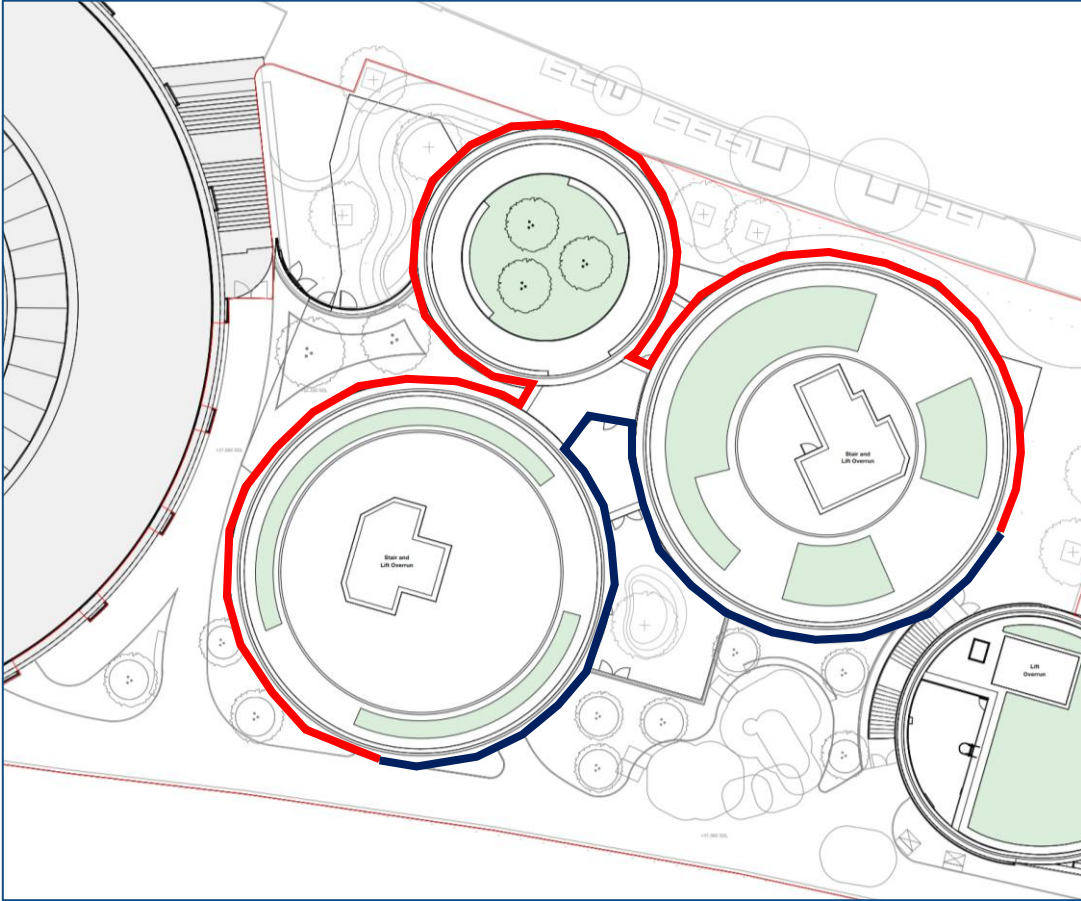


Figure 5: PBSA acoustic façade zones

6.5 Residential Intrusive Noise Assessment

6.5.1 The following table provides a summary of the results of the worst-case apartment internal ambient noise level design calculations for each acoustic zone, as based on the Condition 21 criteria and the proposed façade construction and minimum acoustic glazing performance specifications:

Block	Zone	Room Type	Worst Case Predicted Internal Ambient Noise Level (daytime / night time)	Worst Case Predicted Internal Entertainment Noise Level (daytime / night time)
HA	A (all levels)	Living Room	32dB $L_{Aeq,16h}$ / -	-
		Bedroom	32dB $L_{Aeq,16h}$ / 27dB $L_{Aeq,8h}$	-
	B (all levels)	Living Room	32dB $L_{Aeq,16h}$ / -	-
		Bedroom	30dB $L_{Aeq,16h}$ / 28dB $L_{Aeq,8h}$	-
	C (up to Level 9)	Living Room	30dB $L_{Aeq,16h}$ / -	-
		Bedroom	29dB $L_{Aeq,16h}$ / 27dB $L_{Aeq,8h}$	-
	C (Level 10)	Living Room	31dB $L_{Aeq,16h}$ / -	-
		Bedroom	29dB $L_{Aeq,16h}$ / 27dB $L_{Aeq,8h}$	-
PBSA	1 (all levels)	Premium Studio	35dB $L_{Aeq,16h}$ / 30dB $L_{Aeq,8h}$	NR27 / -
		Studio	34dB $L_{Aeq,16h}$ / 28dB $L_{Aeq,8h}$	NR25 / -
		Cluster	34dB $L_{Aeq,16h}$ / 29dB $L_{Aeq,8h}$	NR25 / -
	2 (all levels)	Premium Studio	30dB $L_{Aeq,16h}$ / 28dB $L_{Aeq,8h}$	NR23 / -
		Studio	28dB $L_{Aeq,16h}$ / 26dB $L_{Aeq,8h}$	NR19 / -
		Cluster	29dB $L_{Aeq,16h}$ / 27dB $L_{Aeq,8h}$	NR21 / -

Note 1: The Roundhouse (entertainment noise source) does not operate in the night time period  
Note 2: Noise from the Roundhouse is not audible at the proposed HA development so has been excluded from the assessment

Table 11

6.5.2 The calculated internal ambient noise levels demonstrate that the proposed scheme of acoustic mitigation meets the requirements of Condition 21 (Limb A and Limb B).

7 Vibration Assessment

7.1 Summary of Vibration Criteria

7.1.1 In accordance with Limb C of Condition 21, the following criteria form the basis of the tactile vibration assessment for the PBSA residential units and the HA apartments.

Room Type	VDV Limit Daytime (07:00 to 23:00)	VDV Limit Night time (23:00 to 07:00)
All habitable rooms	0.4 m/s <sup>1.75</sup>	0.26 m/s <sup>1.75</sup>

Table 12

7.2 Baseline Vibration Survey

7.2.1 An attended vibration and noise survey was conducted by Sol on 31 May 2024 by Thomas Leach MIOA and Daniel Reeves AMIOA.

7.2.2 Simultaneous tri-axial vibration measurements were taken using a 01dB Orion measurement system within the existing buildings. The measurement position is shown in Figure 6, and described in Table 13.

Measurement position	Description
V_MP1	Located at basement level of the existing 100 CFR building within the plant room to the front of the building. The 01dB accelerometer and DIN 45669-2 compliant mounting plate was mounted directly onto the concrete slab at grade in the centre of the room. The measurement position was c.7m horizontally from the TfL tunnel and at a similar height relative to the surface of Chalk Farm Road.

Table 13

7.3 Summary of Vibration Measurements

7.3.1 The following table provides a summary of the measured Vibration Dosage Values at position V\_MP1:

	X-axis VDV <sub>d</sub> m/s <sup>1.75</sup>	Y-axis VDV <sub>d</sub> m/s <sup>1.75</sup>	Z-axis VDV <sub>b</sub> m/s <sup>1.75</sup>
Daytime (07:00 – 23:00)	0.007	0.006	0.09
Night time (23:00 – 07:00)	0.005	0.005	0.06

Table 14

7.4 Assessment

7.4.1 Based on the measured baseline vibration levels, the limits presented in Condition 21 will be achieved within all habitable rooms within the proposed development.

7.4.2 It should be noted that due to the impact of re-radiated groundborne noise from the adjacent railway lines, the proposed scheme includes a fully vibration isolated structure and therefore there will be no impact from transfer of vibration from the surrounding environment into the proposed buildings.

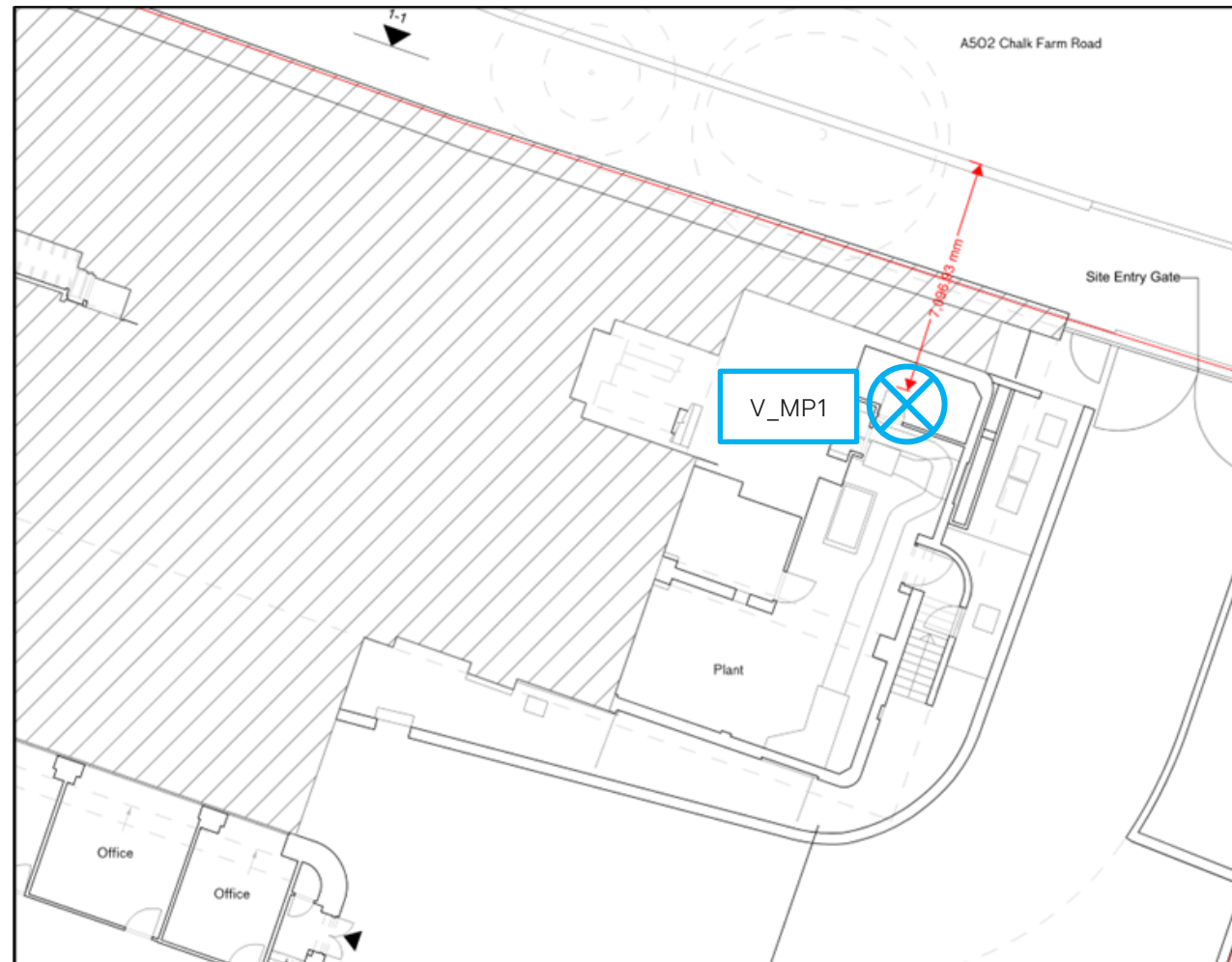


Figure 6 Image showing vibration measurement locations, Basement

APPENDIX A  
Glossary of Acoustic Terms

Term	Abbreviation	Description
Decibel	dB	A scale for comparing the ratios of two quantities, including sound pressure and sound power.
A-weighting	dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the change in sensitivity of the human ear at varying frequencies.
Sound Pressure Level	$L_{pA}$	A measure of the sound pressure at a particular location. Typically expressed in dB(A) referenced to $2 \times 10^{-5}$ Pascals.
Equivalent Continuous Sound Level	$L_{Aeq,T}$	The steady level of sound over a prescribed period of time which would contain the same total sound energy as the actual fluctuating noise under consideration in the same period of time.
Statistical Sound Levels	$L_{A10}$ and $L_{A90}$	The level of noise exceeded for a percentage of the time period being sampled, namely 10% or 90% respectively.
Background Sound Level	$L_{A90,T}$	The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90% of the time period being sampled.
Maximum Sound Level	$L_{Amax}$	The maximum sound or noise level determined with instrumentation set to either a fast time weighting, $L_{AFmax}$ or a slow time weighting, $L_{ASmax}$ as occurring during the time period being sampled.
Sound Power Level	$L_{WA}$	A measure of the total sound energy radiated from a source. Like sound pressure levels, this is also expressed in dB(A) terms, but it is referenced to $1 \times 10^{-12}$ W.
Broadband		Sound sampled over a wide range of frequencies.
Narrow band		Sound sampled over a specific, restricted frequency range. Used to ascertain the amplitude and significant of individual, audible tones, and to assist in identifying particular sources of noise within a complex, multi-source soundscape environment.
Ambient Sound	$L_{eq,T}$	Totally encompassing sound in a given situation at a given time, usually composed of sound from many sources, both near and far.
Specific Sound Level	$L_{eq,T}$	The Equivalent Continuous A-Weighted Sound Level at an assessment position produced by a specific sound over a given reference time interval, $Tr$ .
Rating Level	$L_{Ar,Tr}$	The Specific Sound Level plus any adjustment for the acoustic characteristic features of the noise (e.g. intermittency, tones etc.).
Residual Noise	$L_{Aeq,T}$	The ambient sound remaining at given position in a given situation, when the specific sound source is suppressed to such an extent that it no longer contributes to the ambient sound.
Sound Reduction Index	$SRI$	The reduction in sound energy when transmitted through a panel or similar planar element, typically used in relation to single octave or one-third octave frequency band values.
Weighted Sound Reduction Index	$R_w$	The Sound Reduction Index expressed as a single figure, as expressed against a reference curve.
Dynamic Insertion Loss	$DIL$	Reduction in acoustic energy resulting from the insertion of a noise control element (e.g. an attenuator, acoustic enclosure etc.).
Free Field		Noise measuring location that is free from the presence of sound reflecting objects (except the ground), usually taken to mean being at least 3.5 metres distance from reflective surface(s) or greater.

APPENDIX B  
Environmental Noise Survey Details and Summary Results

LOCATION

Chalk Farm Road, London

DATES AND TIMES

16:00 13th June 2024 to 13:00 18th June 2024

WEATHER CONDITIONS

Weather conditions were understood to be typically dry with light winds and rain and considered to be suitable for environmental noise measurements, periods which have been omitted from the assessment are marked in red on the presented graphs.

PERSONNEL

Ross Pritchard – Sol Acoustics Ltd

Tom Hunt – Sol Acoustics Ltd

INSTRUMENTATION

01dB Cube Sound Level Meter (serial no. 11114)

01dB Pre22 Microphone Preamplifier (serial no. 1610399)

Gras 40CD Microphone Capsule (serial no. 260807)

01dB Cube Sound Level Meter (serial no. 11117)

01dB Pre22 Microphone Preamplifier (serial no. 1610404)

Gras 40CD Microphone Capsule (serial no. 260827)

01dB Cube Sound Level Meter (serial no. 11228)

01dB Pre22 Microphone Preamplifier (serial no. 1610782)

Gras 40CD Microphone Capsule (serial no. 287832)

CAL21 Acoustic Calibrator (serial no. 34375244)

METHODOLOGY

Before and after the measurements the noise monitoring equipment was calibrated to an accuracy of  $\pm 0.4$ dB using the Cirrus CR:515 Sound Calibrator. The calibrator produces a sound pressure level of 94 dB re  $2 \times 10^{-5}$  Pa @ 1kHz.

MEASUREMENT RESULTS

Graphs B1 – B3 summarise the broadband A-weighted results obtained during the survey.



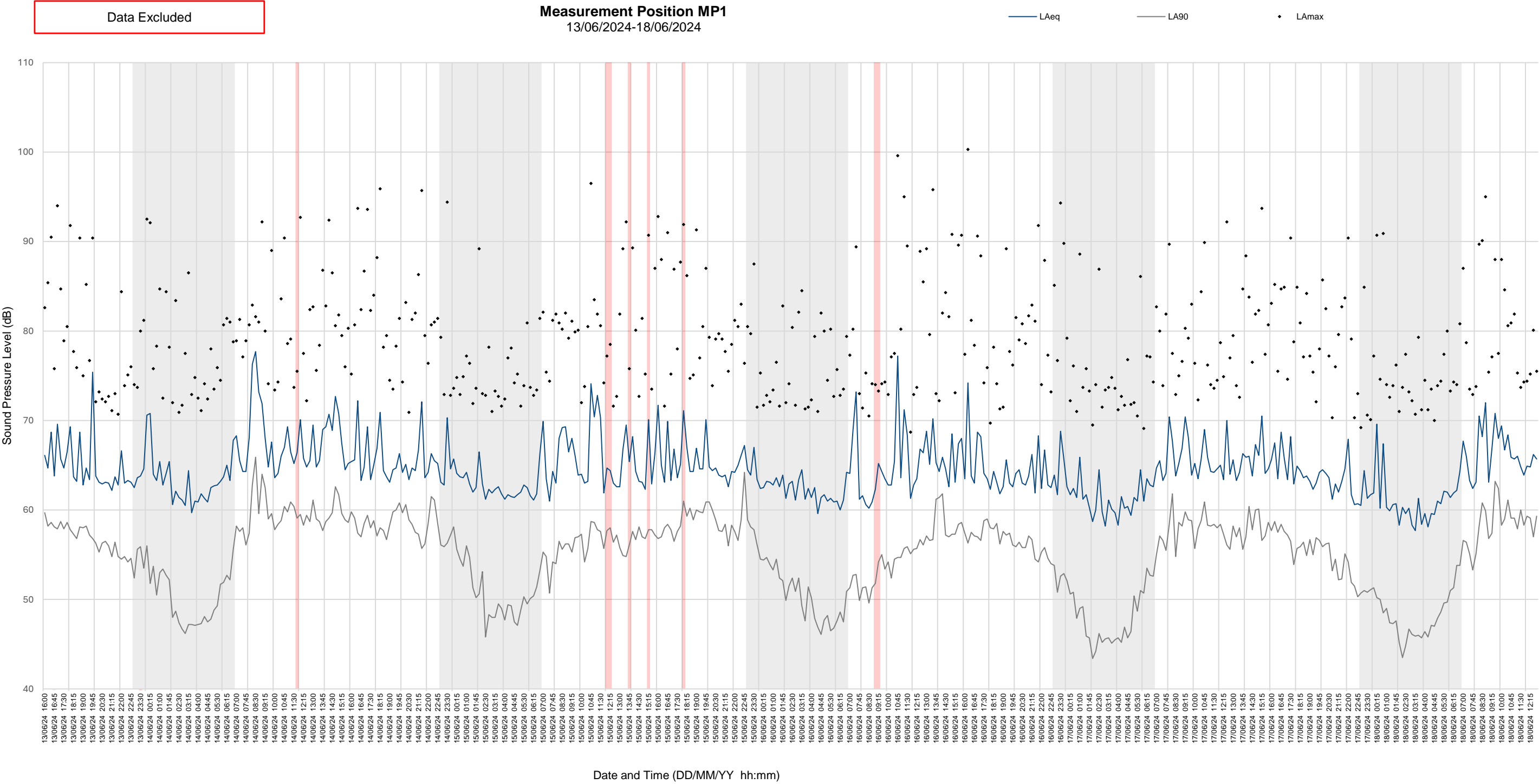


Figure B1: Graph showing measured environmental noise levels at Measurement Position MP1

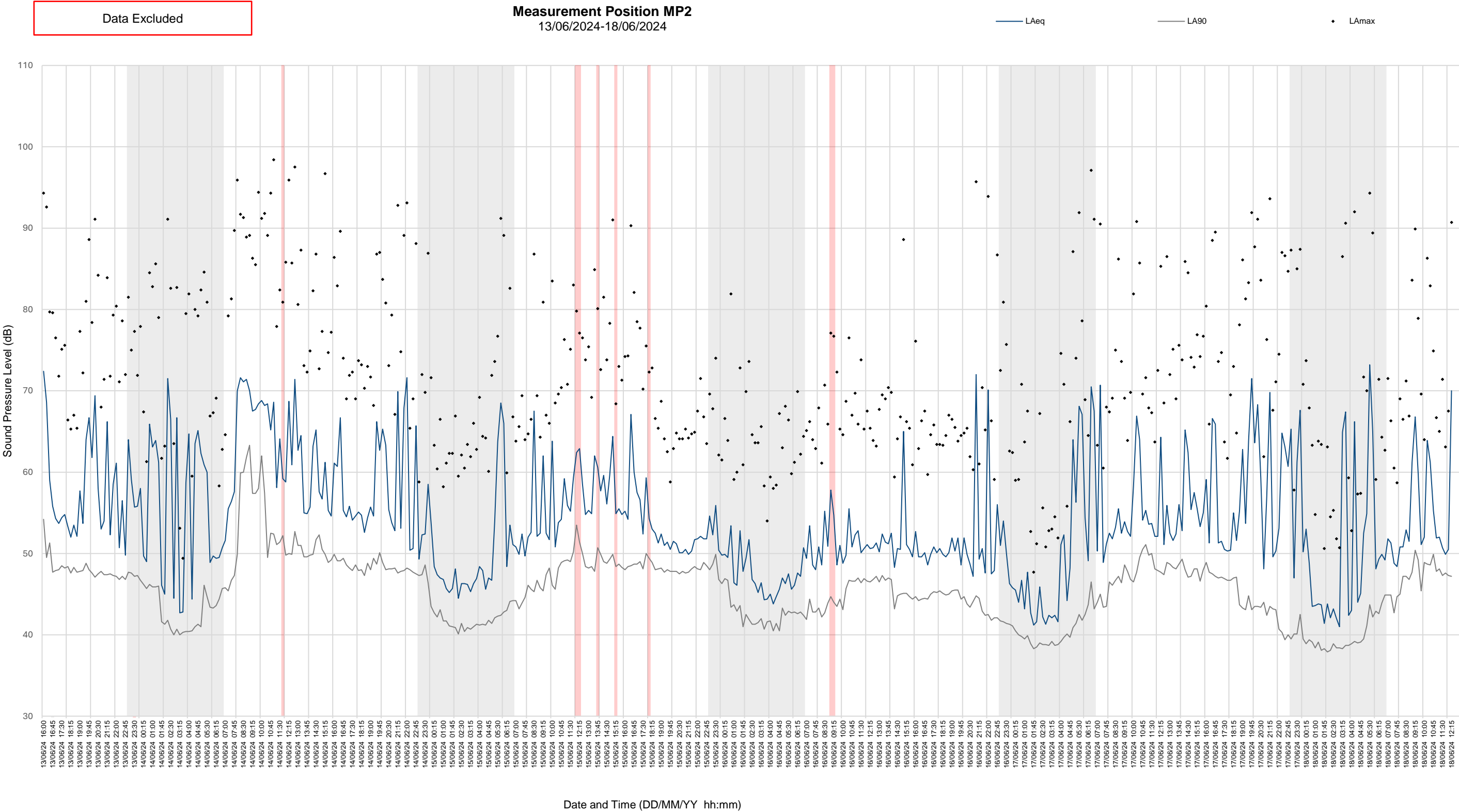


Figure B2: Graph showing measured environmental noise levels at Measurement Position MP2

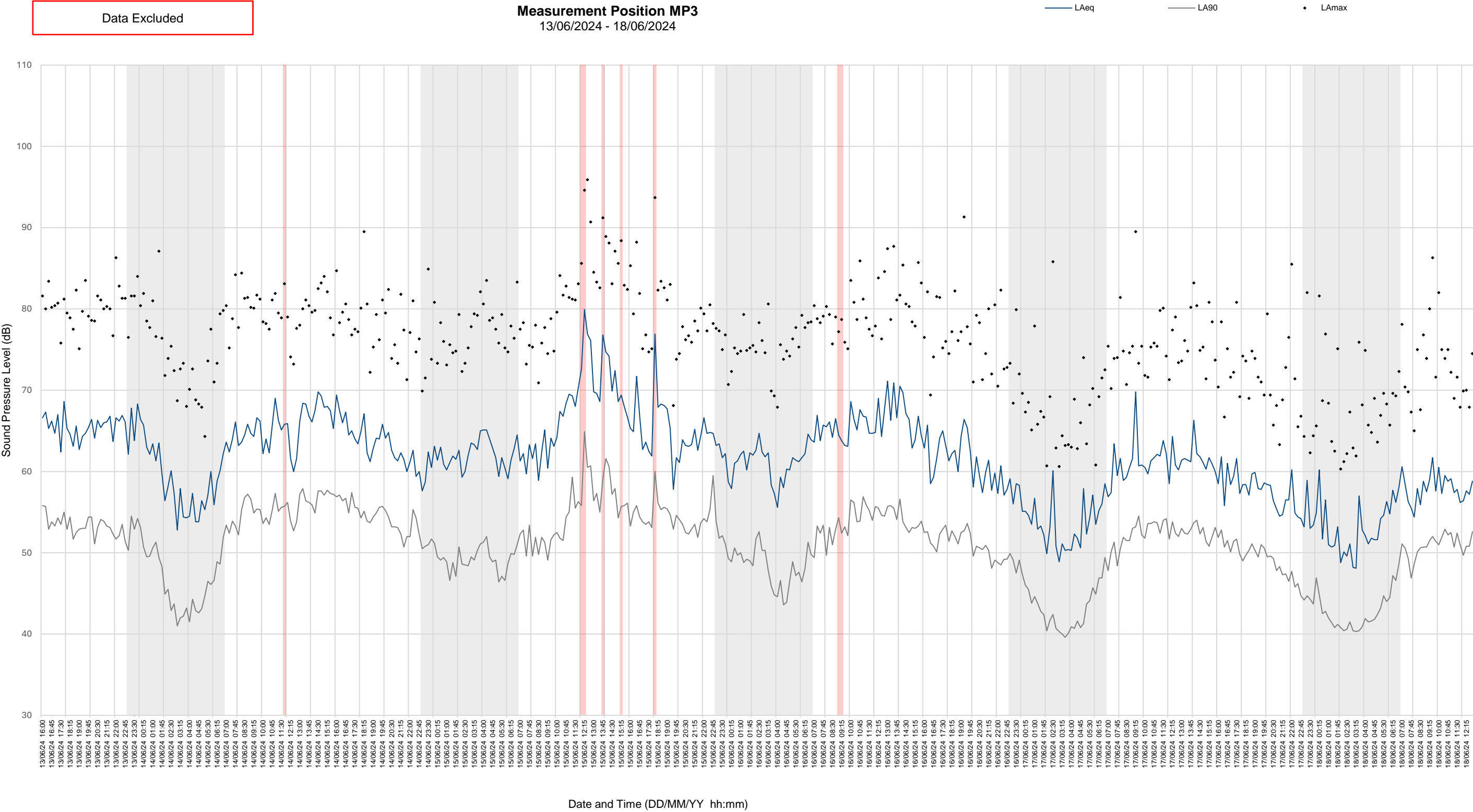


Figure B3: Graph showing measured environmental noise levels at Measurement Position MP3

APPENDIX C  
INSUL Calculations

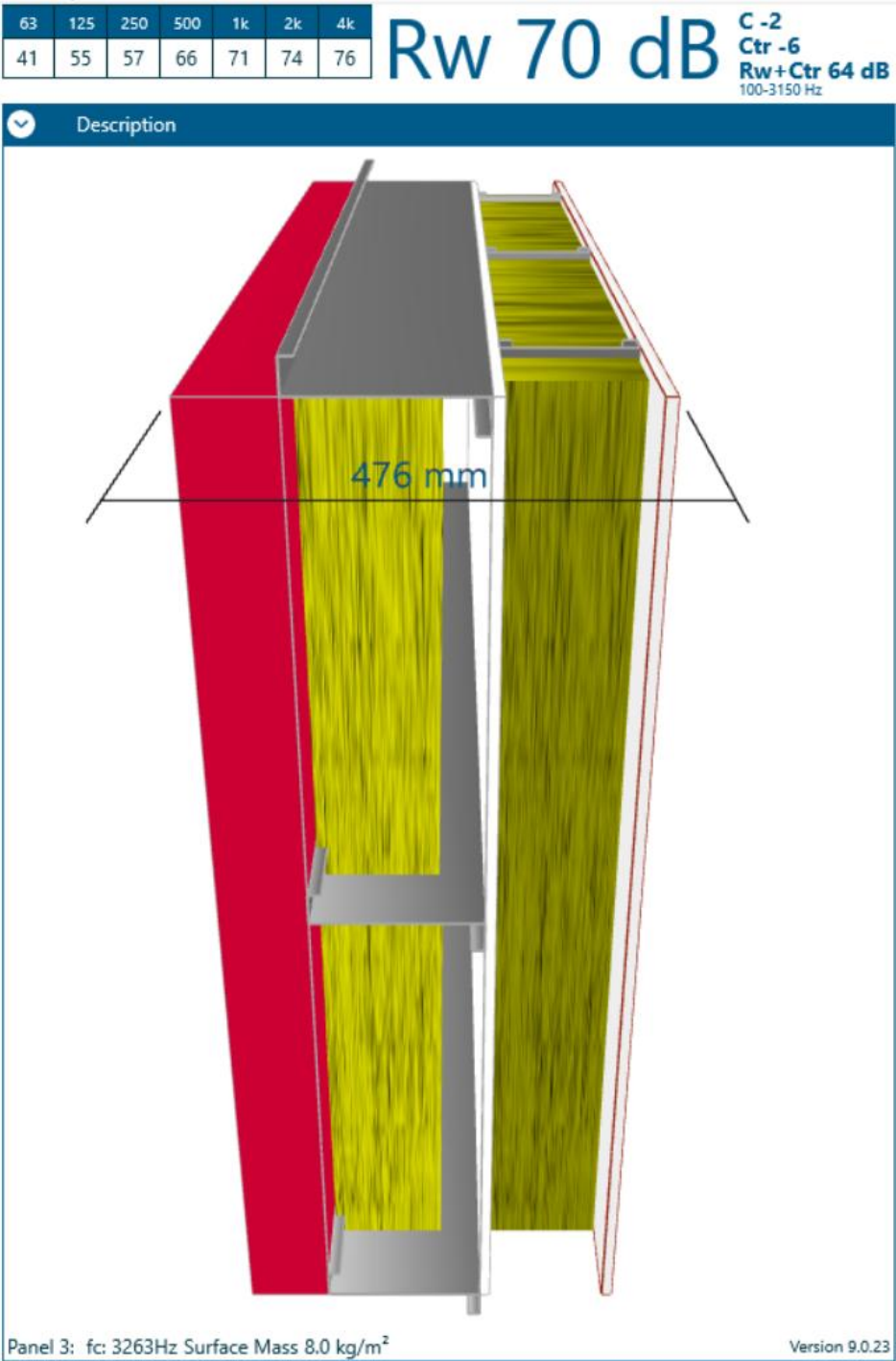


Figure C1: Predicted weighted airborne sound insulation – Masonry façade elements

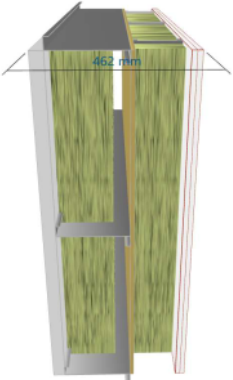
Sound Insulation Prediction (v9.0.24)

Program copyright Marshall Day Acoustics 2017  
Margin of error is generally within Rw ±3 dB  
- Key No. 6591  
Job Name: ACAF  
Job No.: 0320  
Date:30/10/2024  
File Name:insul

Initials:afitz



Notes:Chalk Farm Rd  
Wall 01  
Airborne Sound Reduction.



**Rw 65 dB**  
C -1 dB  
Ctr -4 dB

Mass-air-mass resonant frequency = ≈21 Hz , 57 Hz  
Panel Size = 2.7 m x 4.0 m  
Partition surface mass = 158 kg/m<sup>2</sup>

System description

Panel 1 : 1 x 40 mm Roofing tiles

Frame: Z Girt (2.3E2 mm x 38 mm ), Stud spacing 600 mm ; Cavity Width 230 mm , 1 x NyRock® Rainscreen 032 Thickness 180 mm  
Panel 2 : 1 x 12 mm RCM CemBoard (cement particle board)

Frame: Steel Stud (0.55mm) (1.5E2 mm x 38 mm ), Stud spacing 600 mm ; Cavity Width 150 mm , 1 x NyRock® Frame Slab 032 Thickness 150 mm  
Panel 3 : 2 x 15 mm Gyproc SoundBloc 15mm

freq.(Hz)	R(dB)	R(dB)
50	39	
63	45	43
80	49	
100	51	
125	53	53
160	54	
200	56	
250	57	57
315	58	
400	60	
500	60	60
630	59	
800	61	
1000	67	64
1250	68	
1600	68	
2000	67	67
2500	67	
3150	76	
4000	78	78
5000	80	

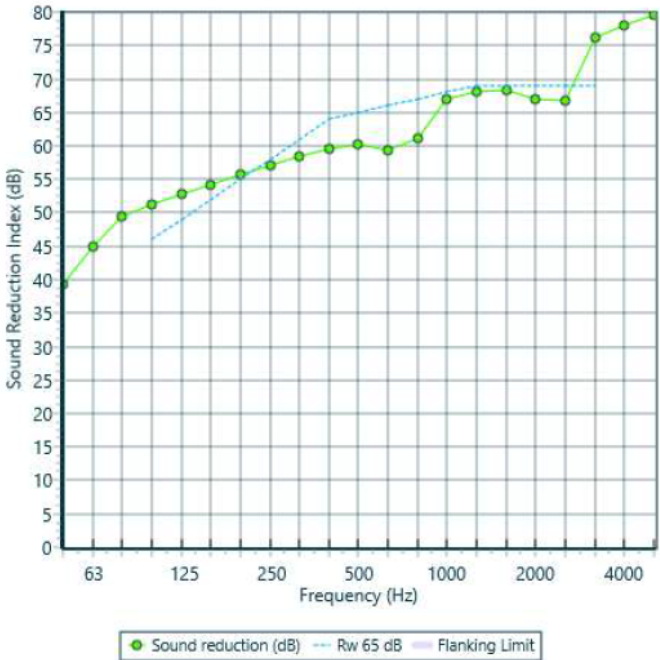


Figure C2: Predicted weighted airborne sound insulation – Ceramic rainscreen façade elements, provided by Rockwool



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