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Report E24030 241031 ENV R1-00
Issue Date 31st October 2024

Project **Torrington Place UCL**
1-19 Torrington Place, London WC1E 7HB

Title **Environmental Noise Survey**

Sub Title

Client Introba,
150 Holborn,
London EC1N 2NS

Case No E24030

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Revision	Reason	Author	Checked	Date
00	First Issue	Harry Maslen DipHE	Rober Adnitt Meng FIOA	31/10/24

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1. INTRODUCTION

1.1 Adnitt Acoustics has been commissioned by Introba on behalf of University College London (UCL) small leases project, to provide Stage 3 MEP design advice.

1.2 The project comprises of the installation of condensers and Air Handling Units to Levels 2, 6 and 12 of the building at Torrington Place.

1.3 An acoustic study[1] was carried out and issued on 06 August 2024 to comply with the terms of the local authority planning guidance.

1.4 A nearby resident has queried whether noise levels assumed near Location 3 'Gordon Mansions Lightwell' were representative of the location and so an updated noise survey has been carried out with sound level meters located at positions agreed with the resident.

1.5 Two unattended long-term environmental noise surveys have been undertaken as a part of the acoustic study.

1.6 As this is a technical report it will refer to some technical terms. To assist the reader a glossary has been included in Appendix A

Consultants Experience

1.7 The checker of this report is Robert Adnitt MEng FIOA.

1.8 He is a Fellow of the Institute of Acoustics (FIOA).

1.9 He has worked in the acoustics industry since graduating with MEng (Merit) from the Southampton University Institute of Sound and Vibration Research (ISVR) in 1989.

1.10 He specialises in acoustics of the built environment and has been the lead consultant on a large number of major projects including leisure and entertainment, healthcare, residential and commercial, uses.

1.11 He is currently honorary treasurer of the Association of Noise Consultants (ANC) and was previously a board member from 2006-2012, he also chaired the Improvement Committee of the ANC.

1.12 On this basis, Robert Adnitt is considered to be a Suitably Qualified Person for the purposes of this assessment.

Statement of Qualification

1.13 The assessment was undertaken by Matthew Watts BA(Hons) TIOA for and on behalf of Adnitt Acoustic Services Ltd.

1.14 Matthew has a BA (Hons) in Music Technology from De Montfort University (2021).

1.15 Matthew is currently a Technician Member of the Institute of Acoustics and joined Adnitt Acoustics in June 2023.

[1] Report E24030 240805 Torrington Stage 3 MEP R3-02

2. SITE DESCRIPTION

2.1 The site address is 1-19 Torrington Place, London WC1E 7HB

Figure 1: Site location plan showing surrounding buildings

2.2 The main contributor to the noise in the immediate area has been identified as:

i. Traffic/street noise from Tottenham Court Road to the West of the building, and Torrington Place to the South.

ii. Noise from pre-existing plant on the building.

2.3 The site is set in a commercial area surrounded primarily by businesses and offices, the nearest potential noise sensitive receptors have been identified as:

i. NSR1 – Gordon Mansions residential,
ii. NSR2 - Woburn Mansions residential, and
iii. NSR3 - Hub by Premier Inn hotel

all located on Torrington Place.

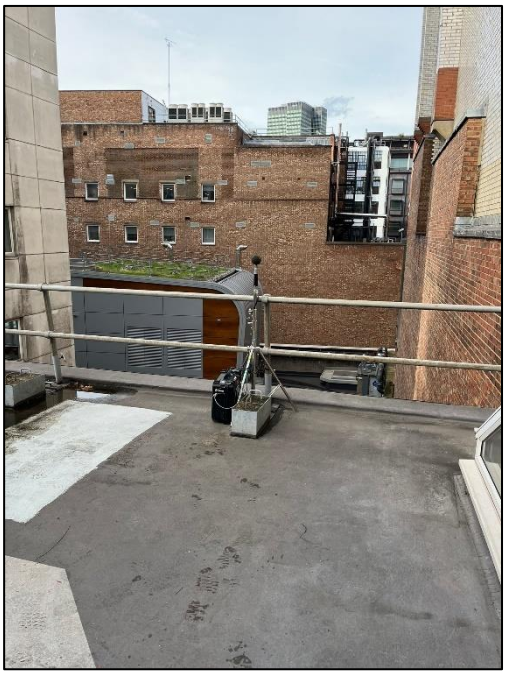
3. ENVIRONMENTAL NOISE SURVEY

3.1 A noise survey was undertaken between Thursday 17th – Wednesday 23rd October 2024 to establish the existing environmental noise climate of the local area.

3.2 The survey consisted of 2 long-term monitoring positions shown in figures 2 – 3.

Position 1 – The meter was located in the Southeast corner of the roof of the building overlooking the vehicle entrance. The microphone was positioned an estimated 1.5 metres from the roof. Measurements are considered to be in façade affected conditions.

Figure 1 Sound Monitoring Position 1



Position 2 – The meter was located in the Southeast corner of the roof of the building overlooking Torrington Place. The microphone was positioned an estimated 1.5 meters above the roof. Measurements are considered to be in partially façade affected conditions.

Figure 2 Sound Monitoring Position 2

3.3 Survey measurements were carried out in accordance with guidelines laid down in BS 7445:1991 Part 2, and other relevant standards.

3.4 The approximate location of the noise survey equipment is shown on the appended site plan E24078/SP1.

3.5 The acoustic parameters of $L_{Aeq,\,T}$, $L_{A90,\,T}$, L_{AFMax} and octave band levels were measured automatically every 15 minutes during the survey.

3.6 An audio trigger was set up to allow for retrospective source identification if required.

Equipment and Weather Conditions

4.11 The equipment used is detailed in the table below. The sound level meter was fitted with a windshield. A sensitivity check was undertaken on the sound level meter before and after the measurements and the variation was within 0.5dB. Calibration certificates are available on request.

Equipment Description	Manufacturer/Model	Serial Number	Calibration Last Date	Certificate Number
Integrating sound level meter	Cirrus Optimus Green CR171B	G061822	03 March 2023	189022
Microphone	Cirrus MK224	212796A	24 February 2023	189026
Acoustic Calibrator	Cirrus CR:515	60704	03 March 2023	189020
Integrating sound level meter	Cirrus Optimus Green CR:171B	G061814	30 January 2024	207606
Microphone	Cirrus MK224	213233D	23 January 2024	207610
Acoustic Calibrator	Cirrus CR:515	60506	30 January 2024	207611

Table E24078/T1. – Survey Equipment Schedule

3.7 There was no suitable secure location for a weather station, therefore, the weather during the automated survey has been reviewed using local publicly available weather station data.[2]

3.8 According to this data the weather was favourable with no rain and wind speeds being typically below 5m/s during the survey period.

3.9 As the weather station was not located directly next to the microphone there could be some local variation.

[2] https://www.wunderground.com/calendar/gb/london/EGLC

4. NOISE SURVEY RESULTS

4.1 Appended are the graphical representation of the time history results at automated monitoring positions 1 and 2, results are summarised in table E24078/T2 and compared with the assumed values of our 06 August 2024 report.

Position	Measurement Period	Ambient Noise Level ($L_{Aeq,T}$, dB)	*Typical Maximum Noise Level (L_{AFMax} dB)	Lowest Background Noise Level ($L_{A90,\ 15min}$, dB)	Location 3 Gordon Mansions Lightwell Assumed Noise Level ($L_{A90,\ 15min}$, dB)
Position 1	Daytime (07:00 – 23:00)	57	67	55	42
	Night-time (23:00 – 07:00)	52.5	65	48	37
Position 2	Daytime (07:00 – 23:00)	58.7	71	56	42
	Night-time (23:00 – 07:00)	53.4	68	48	37

Table E24078/T2. - Environmental Noise Survey Results as Measured

4.2 Measured noise levels were higher than the precautionary values assumed in the previous assessment of 06 August 2024 and no update is required to the report, therefore.

5. CONCLUSION

5.1 Adnitt Acoustics have undertaken an environmental noise survey at 1-19 Torrington Place, London WC1E 7HB to measure the existing ambient and background noise environment.

5.2 Measured noise levels were higher than the precautionary values assumed in the previous assessment of 06 August 2024 and no update is required to the report, therefore.

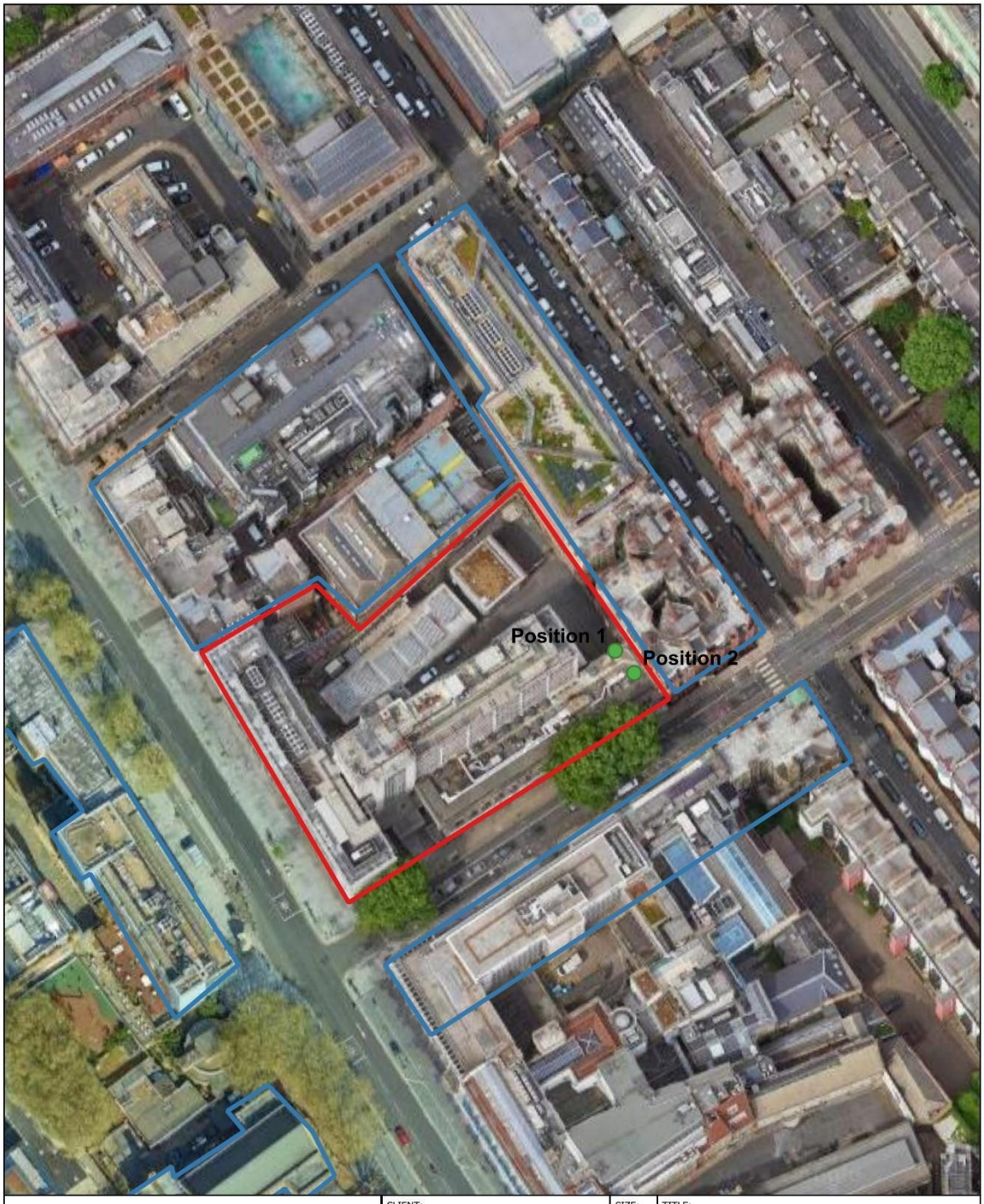
Harry Maslen DipHE

for ADNITT ACOUSTICS

APPENDIX A: GLOSSARY OF ACOUSTIC TERMS

Ambient Noise	The noise climate heard over a period of time due to all normal sources, in the absence of extraneous or atypical sounds. Used to describe noise in the absence of the introduced sound, generally.	
Ambient Noise Level	Describes the average noise level of the ambient noise over a stated period of time, e.g. hourly noise	
	Parameter: A-weighted Continuous Equivalent Sound Pressure Level determined over the time period T.	$L_{eq,T}$ or $L_{Aeq,T}$
	Expressed in decibels / A-weighted decibels	dB(A) or dB
Decibel scale dB	A linear numbering scale used to define a logarithmic amplitude scale, thereby compressing a wide range of amplitude values to a small set of numbers	
dB(A)	An electronic filter in a sound level meter, which approximates under defined conditions the frequency response of the human ear.	
$L_{Aeq,T}$	The equivalent continuous sound level. The steady dB(A) level which would produce the same A-weighted sound energy over a stated period of time as the measured sound pressure level.	
L_{Amax}	The maximum dB(A) level measured during a survey period.	
L_{A10}	The dB(A) level exceeded for 10% of the survey period, often used as a quantifier of traffic noise level.	
L_{A90}	The dB(A) level exceeded for 90% of the survey period. Used in BS 4142:1997/2014 as being representative of the background noise level.	
Acoustic screening	Physical barrier to sound formed by fence, wall, building or other structure, which has the effect of reducing the sound transmitted.	
Individual Event Noise	The noise of a distinctive event with the varying noise climate, usually a transient activity, such as a vehicle pass-by, aircraft flyover or similar, rather than an isolated impulsive noise.	
Individual Event Noise Level	Describes the highest noise level during the event as measured under particular conditions of time-weighting	
	Parameter: A-weighted Maximum Sound Pressure Level with FAST or SLOW time weighting	$L_{Amax,FAST}$ or $L_{Amax,F}$ $L_{Amax,SLOW}$ or $L_{Amax,S}$
	Expressed in decibels / A-weighted decibels	dB(A) or dB
Sound Reduction Index R_w	Single number rating used to describe the sound insulation of building elements as defined in BS EN ISO 717 1997.	
Weighted element-normalized level difference $D_{n,e,w}$	Single number rating used to describe the sound insulation of building elements as defined in BS EN ISO 717 1997.	

Figure E24030/SP1 : Site Plan Showing Noise Sensitive Receptors



Legend

- Measurement Points
- Site Location
- Noise Sensitive Receptors

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Figure E24030/TH1 : Time History Graphs of Position 1

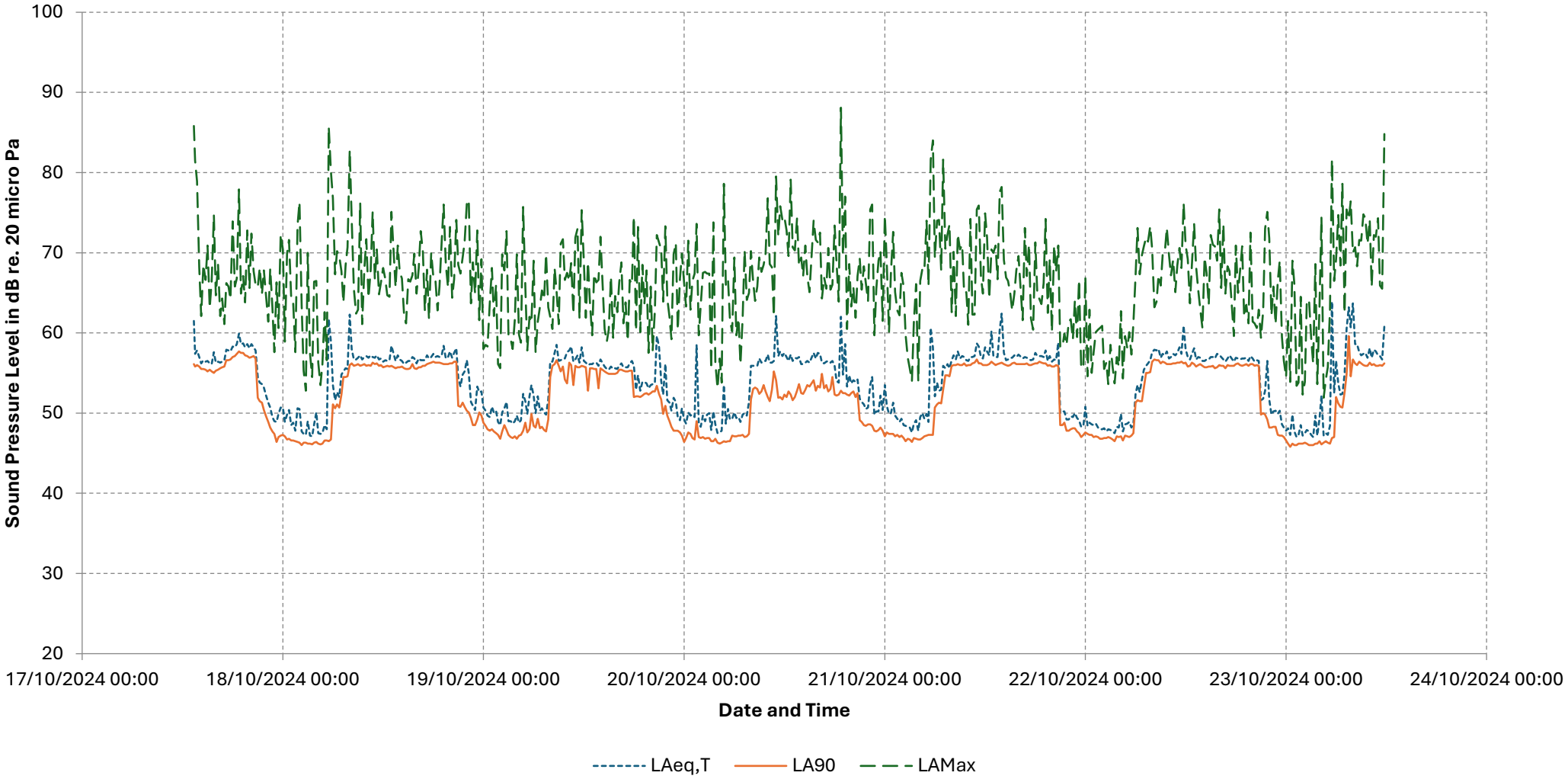

Figure E24030/TH2 : Time History Graphs of Position 2