Cole Jarman

Warren Court, London NW1

Environmental Noise Survey

Report 15/0688/R1

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Warren Court Investments LLP

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Issue	Description	Date	Prepared by	Checked by
0	1st Issue	18 February 2016	Adam Sharpe	Neil Jarman
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Attachments

1 Introduction

1.1 Planning permission is being sought for the replacement and extension of the current 6th floor at Warren Court, Tottenham Court Road, London, NW1 3AA. It is proposed to install new mechanical services plant in order to service the new development.

1.2 Due to a lack in opportunity to undertake a representative noise survey due to reduced levels of activity as a result of the Coronavirus pandemic, details of an historical noise survey conducted at the site as part of a previous planning application (ref: 2016/5317/P) have been used to quantify typical background noise levels representative of those at nearby noise sensitive locations. Based on these results, appropriate building services plant noise limits to meet the requirements of the local planning authority can be derived.

1.3 The noise survey was also to record noise levels incident upon the building for the purpose of assessing and advising on the sound insulation of the external fabric of the scheme

1.4 This report sets out the methodology and results of the survey, along with the derived plant noise limits.

2 Site Description

2.1 The site address is Warren Court, Tottenham Court Road, London, NW1 3AA. The site sits above the Warren Street underground station and currently features a ground level plus 6further storeys. The site is the easternmost building within a block surrounded by the A400, Tottenham Court Road to the east, the A501, Euston Road to the north and Warren Street to the south.

2.2 Beyond the A400 to the east is the western section of the University College Hospital, which forms the north-westernmost section of the University College London campus. To the south of the site, running along the A400 is a large five storey hotel, with retail units surrounding its ground floor demise.

2.3 To the north of the site, across the A501, Euston Road is a complex consisting of several large office blocks, the most notable of which is Euston Tower. Immediately to the northeast of the site is the intersection between the A400, Hampstead Road, and the A501. Continuing down the A501 to the east is London Euston train station.

2.4 Traffic around site is busy, with the site being located at the corner of a busy junction between the A400 and A501, as well as being on the edge of the congestion charge zone. Due to the site's location above the Warren Street underground station, there is also a large amount of footfall around the site.

2.5 The nearest noise sensitive premises to the proposed plant location are considered to be the residential flats across Warren Street to the south which rise to five levels above ground, and

the eastern facing windows on the fifth floor of the adjoining building to the west. The University College Hospital to the east and the offices within the Euston Tower complex to the north are also considered to be noise sensitive in accordance with Camden's planning policy.

2.6 The site and surrounding area are shown on attached site plan 15/0688/SP1-1.

3 Background Noise Survey

3.1 Methodology

3.1.1 An unattended noise survey was undertaken at the site commencing at 1215 hours on Wednesday 10th February and 1445 hours on Thursday 11th February 2016.

3.1.2 Measurements of background noise levels were taken from free field positions overlooking Warren Street and Euston Road. This has been illustrated in attached site plan 15/0688/SP1-1, and more detailed descriptions can be found below:

- MP1 – Free-field position, protruding approximately 1.5m from 7th floor rooftop level, overlooking Warren Street to the south
- MP2 – Free-field position, protruding approximately 1.5m from 6th floor rooftop level, overlooking A501, Euston Road

3.1.3 These positions were selected to quantify background noise levels representative of those at the nearest noise sensitive receptors to the proposed mechanical services plant, as well as to assess incident noise levels.

3.1.4 Measurements of the L_{Aeq}, L_{Amax} and L_{A90} indices were recorded over consecutive 15 minute periods for the duration of the survey using the equipment listed within table T1 (see attached Glossary of Acoustic Terms for an explanation of the noise units used).

Item	Manufacturer	Type
Sound Level Analyser x2	Rion	NL-52
Acoustic Calibrator x2	Rion	NC-74
Weatherproof windshield x2	Rion	WS-15

T1 Equipment used during unattended noise survey.

3.1.5 The microphone was fitted within a weatherproof enclosure, and the sound level meter was calibrated before and after the survey in order to confirm an acceptable level of accuracy. No significant drift was noted to have occurred.

3.1.6 The weather conditions when setting up the noise monitoring equipment were overcast and cool, with damp roads and some breeze. When collecting the equipment, the weather was overcast and cold with dry roads and some breeze. These conditions are deemed acceptable and are not considered to have affected measurement results.

3.2 Results

3.2.1 The results of the previous noise measurements are presented in attached time history figures 15/0688/TH01 & TH02.

3.2.2 The noise climate on the site was dominated by traffic noise from Euston Road and the A400. Public transport announcements could also be heard clearly, though it was not possible to localise them.

3.2.3 The minimum background noise levels recorded during the day and night time measurement hours during the survey duration are set out in table T2 below.

Location	Minimum Background Noise Level, dB(A)		
	Daytime (0700-1900)	Evening (1900-2300)	Night time (24-hour)
MP1 7th floor rooftop level, overlooking Warren Street	61	61	58
MP2 6th floor rooftop level, overlooking Euston Road	66	67	63

T2 Lowest measured background noise levels, L_{A90}.

3.2.4 Despite this survey being undertaken during 2016, we are not aware of any significant changes in the local environment that would give rise to a materially altered noise climate from that which we have detailed above. As such, we anticipate that the results set out within this document will remain representative of normal conditions.

4 Plant Noise Limits

4.1 The site falls within the jurisdiction of the London Borough of Camden.

4.1.1 Policy A4 of the London Borough of Camden's *Local Plan 2017* relates specifically to noise:

We will only grant permission for noise generating development, including any plant and machinery, if it can be operated without causing harm to amenity.

Planning conditions will be imposed to require that plant and equipment which may be a source of noise is kept working efficiently and within the required noise limits and time restrictions.

Conditions may also be imposed to ensure that attenuation measures are kept in place and are effective throughout the life of the development.

4.1.2 With regard to noise from new mechanical services plant, Appendix 3 of the Local Plan sets out the following:

4.1.3 A relevant standard or guidance document should be referenced when determining values for LOAEL and SOAEL for non-anonymous noise. Where appropriate and within the scope of the document it is expected that British Standard 4142:2014 'Methods for rating and assessing industrial and commercial sound' (BS 4142) will be used. For such cases a 'Rating Level' of 10 dB below background (15 dB if tonal components are present) should be considered as the design criterion).

4.2 Based on the above, the following plant noise limits are to apply here:

Location	Rating Noise Emission Limit, dB		
	Daytime (0700-1900)	**Evening (1900-2300)**	**Night time (2300-0700)**
Properties to south of site overlooking Warren Street	51	51	48
Properties to east and north of site on Tottenham Court Road and Euston Road	56	57	53

T3 Plant noise emission limits at the nearest residential properties.

4.1.4 The noise limits are to apply at 1m from the outside of nearby residential and office windows. Any plant with a tonal component out of character with the existing environment would be subject to a further penalty.

4.1.5 Whilst the noise survey was carried out in 2016, we are satisfied that there have been no significant changes in the local environment that would give rise to a materially altered noise climate from that which we have detailed above. As such, we anticipate that the results set out within this document will remain representative of normal conditions.

4.1.6 A new survey, if undertaken now (April 2020) would not be representative of 'typical' conditions, as would clearly be affected by the reduced levels of activity during the period of the Coronavirus pandemic.

5 Conclusions

5.1 It is proposed to install new mechanical services plant as part of extension works at Warren Court, Tottenham Court Road, London, NW1 3AA.

5.2 Cole Jarman have undertaken a noise survey at the site to quantify typical background noise level at a position representative of the nearest noise sensitive premises to the proposed plant locations. Based on the results of the survey and the requirements of the local authority, suitable noise limits have been set to apply at the nearby premises, as set out within this report.

5.3 The development will not have an adverse impact on the surrounding existing residential receptors given that noise emissions from any mechanical services plant associated with the scheme will be mitigated so as to comply with the noise limits set.

End of Section

Glossary of Acoustic Terms

L_{Aeq}:

The notional steady sound level (in dB) which over a stated period of time, would have the same A-weighted acoustic energy as the A-weighted fluctuating noise measurement over that period. Values are sometimes written using the alternative expression dB(A) L_{eq}.

L_{Amax}:

The maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise when occasional loud noises occur, which may have little effect on the L_{Aeq} noise level. Unless described otherwise, L_{Amax} is measured using the "fast" sound level meter response.

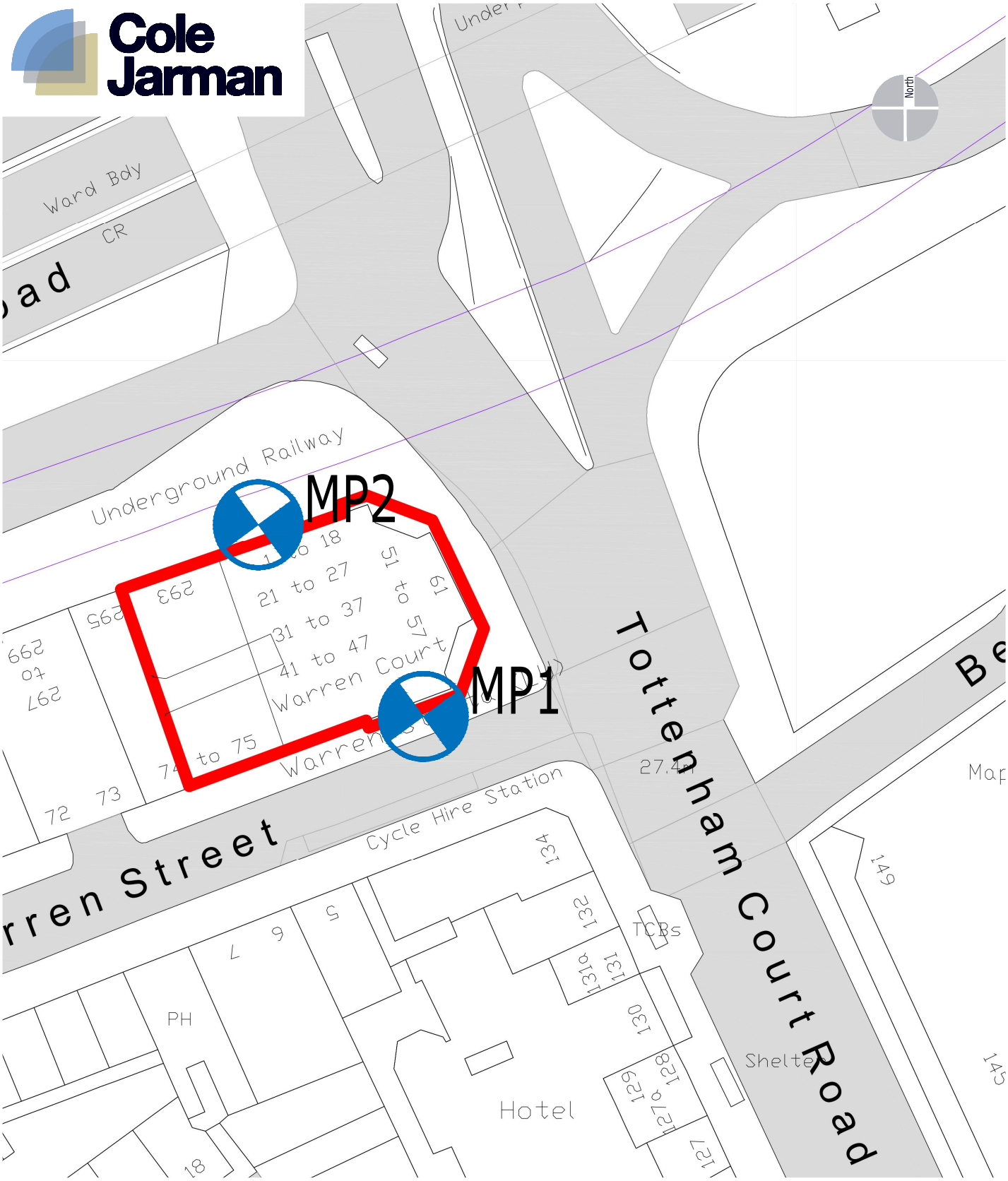
L_{A10} & L_{A90}:

If non-steady noise is to be described, it is necessary to know both its level and degree of fluctuation. The L_{An} indices are used for this purpose. The term refers to the A-weighted level (in dB) exceeded for n% of the time specified. L_{A10} is the level exceeded for 10% of the time and as such gives an indication of the upper limit of fluctuating noise. Similarly L_{A90} gives an indication of the lower levels of fluctuating noise. It is often used to define the background noise.

L_{A10} is commonly used to describe traffic noise. Values of dB L_{An} are sometimes written using the alternative expression dB(A) L_{n}.

L_{AX}, L_{AE} or SEL

The single event noise exposure level which, when maintained for 1 second, contains the same quantity of sound energy as the actual time varying level of one noise event. L_{AX} values for contributing noise sources can be considered as individual building blocks in the construction of a calculated value of L_{Aeq} for the total noise. The L_{AX} term can sometimes be referred to as Exposure Level (L_{AE}) or Single Event Level (SEL).



Title: Site Plan detailing survey measurement positions

Figure 15/0688/SP1

Project: Warren Court, London NW1

Date: April 2020 Revision: 1

Scale: Not to scale

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Noise Level Time History at Position MP1, 10 - 11 February 2016

Figure 15/0688/TH01

Noise Level Time History at Position MP2, 10 - 11 February 2016

Figure 15/0688/TH02

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