

Radlett Place London, NW8 6BT

ENVIRONMENTAL NOISE SURVEY REPORT 18156/ENS1

For :

Davies Boulton Limited
22 Chelsham Road
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REPORT 18156/ENS1

CONTENTS	Page
1.0 INTRODUCTION.....	1
2.0 OBJECTIVES	1
3.0 SITE DESCRIPTION	1
4.0 ACOUSTIC TERMINOLOGY	2
5.0 METHODOLOGY	2
6.0 RESULTS.....	4
7.0 DISCUSSION OF NOISE CLIMATE.....	4
8.0 PLANT NOISE EMISSION CRITERIA.....	4
9.0 CONCLUSIONS	5
APPENDIX A	

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1.0 INTRODUCTION

1 Radlett Place is a new development for a single residential dwelling.

The new development will include building services plant. The purpose of this report is to establish current prevailing background noise levels prior to development and propose noise criteria for new building services plant.

This report presents the survey methodology and findings. The survey data may be used as the basis for various acoustic design/assessment purposes.

2.0 OBJECTIVES

To establish, by means of detailed 24 hour daytime and night time fully automated environmental noise monitoring, the existing A-weighted (dBA) L_{10} , L_{90} , L_{eq} and L_{max} environmental noise levels at selected accessible positions around the site.

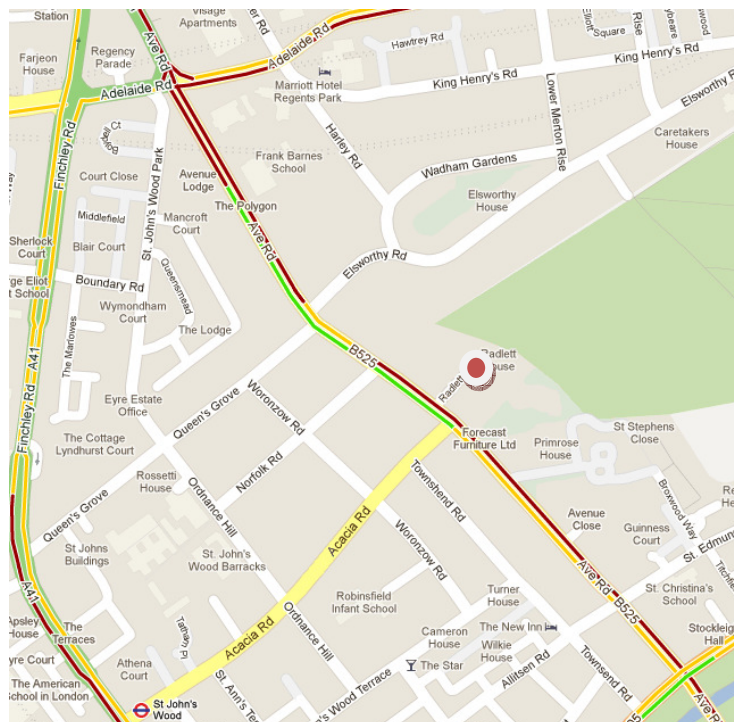
Based on the results of the noise survey, and in conjunction with the Local Authority, to recommend suitable plant noise emission criteria.

These objectives are as set out in Part 1.0 of our letter dated 21 March 2012 and written instructions received on 8 May 2012.

3.0 SITE DESCRIPTION

3.1 Location

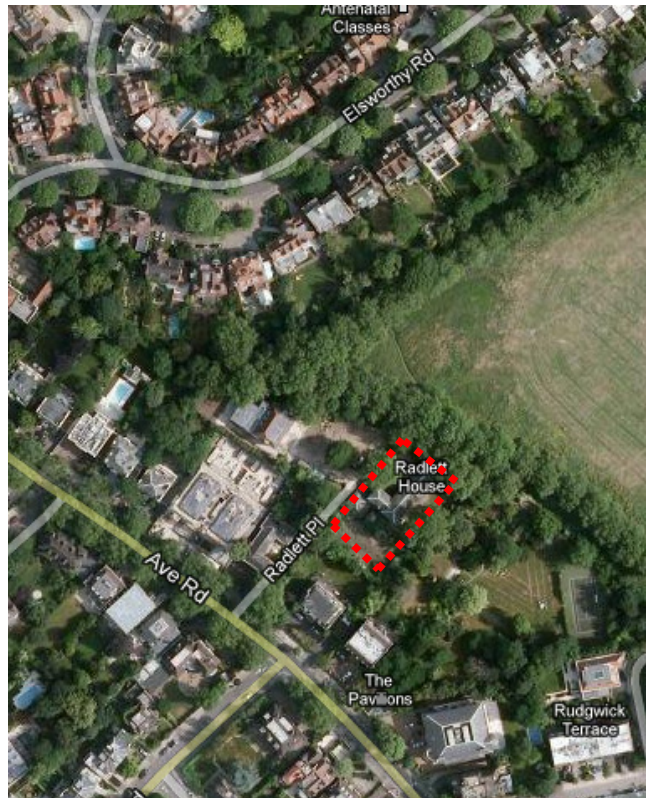
The site is located at Radlett Place NW8 6BT and falls within London Borough of Camden's jurisdiction. See Location Map below.



Location Map (maps.google.co.uk)

3.2 Description

Radlett Place is a small residential road off Avenue Road. The development site is located at the North Eastern end of Radlett Place, adjacent to Primrose Hill. Other properties in the area are understood to be residential use. See Site Plan below.



Site Plan (maps.google.co.uk)

4.0 ACOUSTIC TERMINOLOGY

For an explanation of the acoustic terminology used in this report please refer to Appendix A enclosed.

5.0 METHODOLOGY

5.1 Procedure

Fully automated environmental noise monitoring was undertaken from approximately 12:30 hours on 23 May 2012 to 12:30 hours on 24 May 2012.

Due to the nature of the survey, i.e. unmanned, it is not possible to accurately comment on the weather conditions throughout the entire survey period. However at the beginning and end of the survey period the wind conditions were calm. The sky was generally clear. We understand that generally throughout the survey period the weather conditions were dry and calm. These conditions are considered suitable for obtaining representative measurement results.

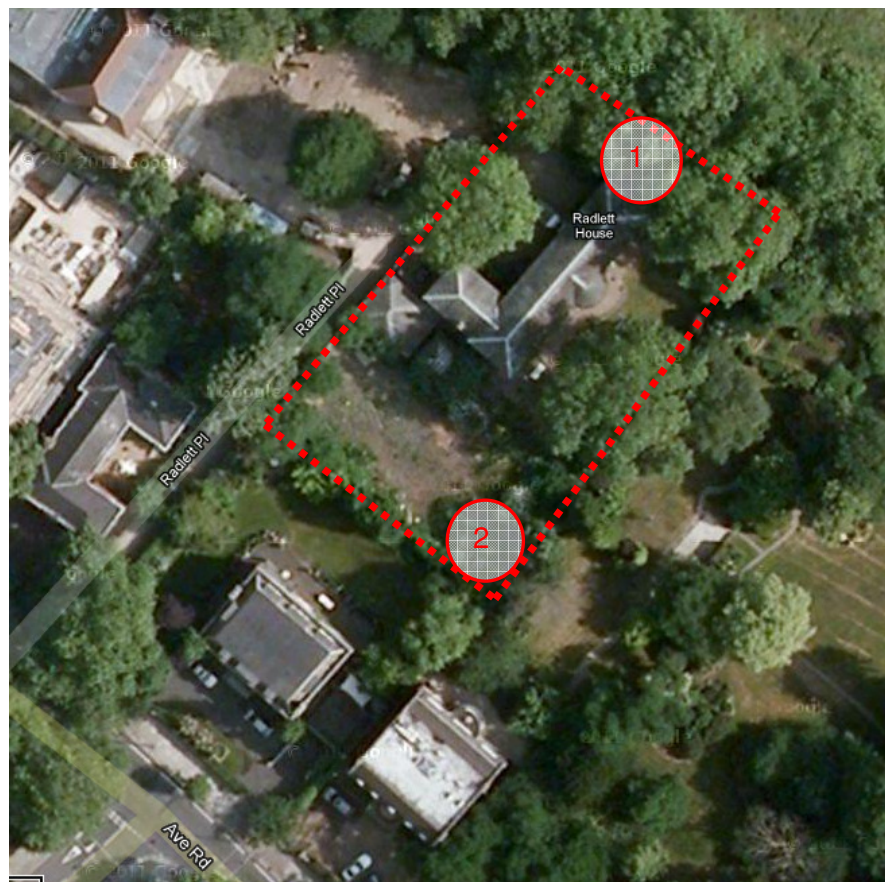
Measurements were taken continuously of the A-weighted (dBA) L_{10} , L_{90} , L_{eq} and L_{max} sound pressure levels over 5 minute periods.

5.2 Measurement Positions

The noise level measurements were undertaken at 2No. positions around the development site. The measurement positions are described in the table below.

Position No	Description
1	Along the Northern site boundary adjacent to Primrose Hill. 1.2m above ground level.
2	At the most Southerly corner of the development plot. 1.2m above ground level.

The positions were selected in order to assess typical/the lowest noise levels at the development site for subsequent use in setting plant noise emission criteria and are shown on the plan below.



Plan Showing Unmanned Measurement Positions (maps.google.co.uk)

5.3 Instrumentation

The instrumentation used during the survey is presented in the Table below:

Description	Manufacturer	Type
Type 1 Data Logging Sound Level Meter	Larson Davis	821 x 1 820 x 1
Type 1 Calibrator	Larson Davis	CAL200

Each sound level meter, including the extension cable, was calibrated prior to and on completion of the surveys. No significant changes was found to have occurred (no more than 0.1dB).

Each sound level meter was located in an environmental case with the microphone connected to the sound level meter via an extension cable. Each microphone was fitted with a Larson Davis windshield.

6.0 RESULTS

The results have been plotted on Time History Graphs 18156/TH1 to 18156/TH4 enclosed presenting the 5 minute A-weighted (dBA) L_{10} , L_{90} , L_{eq} and L_{max} levels at each measurement position throughout the duration of the survey.

7.0 DISCUSSION OF NOISE CLIMATE

Due to the nature of the survey, i.e. unmanned, it is not possible to accurately describe the dominant noise sources, or specific noise events throughout the entire survey period. However at the beginning and end of the survey period the dominant noise sources were noted to be road traffic and wildlife.

8.0 PLANT NOISE EMISSION CRITERIA

We understand that the requirements of Camden Council are as follows:

"Noise levels at a point 1 metre external to sensitive facades shall be at least 5dB(A) less than the existing background measurement (LA90), expressed in dB(A) when all plant/equipment are in operation. Where it is anticipated that any plant/equipment will have a noise that has a distinguishable, discrete continuous note (whine, hiss, screech, hum) and/or if there are distinct impulses (bangs, clicks, clatters, thumps) special attention should be given to reducing the noise levels from that piece of plant/equipment at any sensitive façade to at least 10dB(A) below the LA90, expressed in dB(A)."

On the basis of the above and the survey results we thus propose the following plant noise emission limits to be achieved at 1m from the façades of the nearest neighbouring buildings:

Plant Noise Emission Criteria (dB re 2x10 ⁻⁵ Pa)	
Daytime (06:00 – 23:00)	Night-time (23:00 – 07:00)
33	22

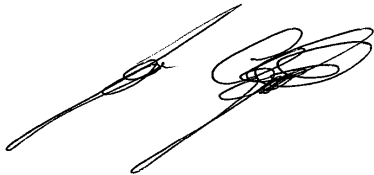
It should be noted that the above plant noise emission limits are subject to approval from Camden Council.

It is our recommendation (to be agreed with Camden) that the above does not apply to standby emergency plant.

9.0 CONCLUSIONS

A detailed 24 hour daytime and night time fully automated environmental noise survey has been undertaken in order to establish the currently prevailing environmental noise climate around the site.

Plant noise emission criteria have been recommended based on the results of the noise survey and in conjunction with the Local Authority.



Prepared by
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Appendix A

The acoustic terms used in this report are as follows:

dB : Decibel - Used as a measurement of sound pressure level. It is the logarithmic ratio of the noise being assessed to a standard reference level.

dBA : The human ear is more susceptible to mid-frequency noise than the high and low frequencies. To take account of this when measuring noise, the 'A' weighting scale is used so that the measured noise corresponds roughly to the overall level of noise that is discerned by the average human. It is also possible to calculate the 'A' weighted noise level by applying certain corrections to an un-weighted spectrum. The measured or calculated 'A' weighted noise level is known as the dBA level.

Because of being a logarithmic scale noise levels in dBA do not have a linear relationship to each other. For similar noises, a change in noise level of 10dBA represents a doubling or halving of subjective loudness. A change of 3dBA is just perceptible.

L₁₀ & L₉₀: If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time, hence L₁₀ is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L₉₀ is the average minimum level and is often used to describe the background noise.

It is common practice to use the L₁₀ index to describe traffic noise, as being a high average, it takes into account the increased annoyance that results from the non-steady nature of traffic noise.

L_{eq} : The concept of L_{eq} (equivalent continuous sound level) has up to recently been primarily used in assessing noise in industry but seems now to be finding use in defining many other types of noise, such as aircraft noise, environmental noise and construction noise.

L_{eq} is defined as 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. 1 hour).

The use of digital technology in sound level meters now makes the measurement of L_{eq} very straightforward.

L_{max} : L_{max} is the maximum sound pressure level recorded over the period stated. L_{max} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the L_{eq} noise level.