

# Sainsbury's Local, 204-206 West End Lane Environmental Noise Survey

Report 10/2080/R1 // Revision 1





## Sainsbury's Local, 204-206 West End Lane

# Environmental Noise Survey

Report 10/2080/R1 // Revision 1

## Sainsbury's Supermarkets Ltd

33 Holborn London EC1 N 2HT

lssue

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Prepared by

Checked by

Andy Emery

Neil Jarman



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#### Attachments

#### 10/2080/F1

Site Plan Showing Noise Survey Measurement Position

#### 10/2080/TH01

Time History Graph Showing Unattended Noise Survey Results

#### **Glossary of Acoustic Terms**



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#### 1 Introduction

- 1.1 It is proposed to convert an existing retail premises at 204-206 West End Lane, West Hampstead, London into a Sainsbury's Local Store. The development will include the installation of mechanical services plant items.
- 1.2 Cole Jarman have been appointed to conduct a background noise survey in order to establish plant noise limits at the nearest noise sensitive properties. As some plant will operate 24 hours per day and some daytime and evenings only different noise limits will be required to reflect this.
- 1.3 This report presents the results of the background noise survey and sets plant noise limits to which the unit should adhere, having regard to relevant local authority planning guidance.

#### 2 Site Description

- 2.1 The site is located to the east side of West End Lane, as shown on the attached site plan 10/2080/F1.
- 2.2 The building currently has a convenience store on the ground floor, with flats on the floors above.
- 2.3 The site is bounded to the west by West End Lane, to the south by another building of commercial use on the ground floor with residences above, and to the east by houses on the south side of Fawley Road. The site is bounded to the north by Fawley Road; across which lie houses.
- 2.4 Plant associated with the proposed store would be located in a light well to the north of the building on Fawley road, or discharge along the north façade facing Fawley Road.
- 2.5 The nearest residential windows to the proposed plant location are those on the first floor flats directly above the store facing the side or the rear. These windows however are well screened from the proposed plant location by the edge of the building, so the residential windows most exposed to noise from the plant items are on the houses across Fawley Road.

#### 3 Environmental Noise Survey

#### 3.1 Methodology and Instrumentation

3.1.1 Unattended noise measurements were carried out between 18h00 on May 19<sup>th</sup> and 10h00 on May 20<sup>th</sup>, in order to quantify background noise level at the quietest points in the day to set plant noise emission limits.



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- 3.1.2 Measurements were carried out at a single position MP1, located to the rear of the building on the boundary with Fawley Road. This was taken as being representative of the nearest noise sensitive properties to where the new plant will be located or terminate.
- 3.1.3 The measurement position is shown on the attached site plan 10/2080/F1. The microphone was located in a free field position at 5m above ground level; this is approximately 1m above roof level.
- 3.1.4 Measurements of the L<sub>Amax</sub>, L<sub>Aeq</sub> and L<sub>A90</sub> indices were made over 10 minute periods during each of the surveying hours (see the Glossary of Acoustic Terms for an explanation of the noise units used).
- 3.1.5 Noise measurements were made the equipment listed in table T1 below.

Manufacturer	Туре	
Norsonic	118	
Norsonic	1251	
	<b>Manufacturer</b> Norsonic Norsonic	ManufacturerTypeNorsonic118Norsonic1251

T1 Equipment used during unattended noise survey.

- 3.1.6 The microphone was fitted with a weatherproof windshield and was calibrated before and after the survey to ensure an acceptable level of accuracy was maintained. No significant drift was noted to have occurred.
- 3.1.7 The weather conditions during the survey period were observed to be mild and dry, with a clear sky and a light breeze.

#### 3.2 Results

- 3.2.1 The results of the unattended noise surveys are presented in the attached time history graph 10/2080/TH01.
- 3.2.2 The background noise climate was observed to be controlled by traffic on nearby roads.

#### 4 Plant Noise Limits

- 4.1 In order to minimise the risk of creating a community noise disturbance, it is recommended that any proposed plant be designed such that it does not elevate the existing noise climate by more than 1dB(A) at any nearby noise sensitive residential locations.
- 4.2 This is in line with the planning policy defined in Camden's UDP (June 2006). Policy SD8 (part A) 'Disturbance from plant and machinery' states:



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"The Council will only grant planning permission for plant or machinery, including ventilation or air handling equipment, if it can be operated without causing a loss to local amenity and does not exceed the thresholds set out in Appendix 1 - Noise and Vibration (Table E)."

- 4.3 Table E states the requirement of 5dB(A) below the background  $L_{A90}$  at 1m from the external façade of noise sensitive premises. It further mentions that noise that has a distinguishable discrete continuous note (whine, hiss, screech, hum) should be assessed to 10dB(A) below the  $L_{A90}$ .
- 4.4 Taking account of this and the noise survey results the recommended plant noise limits are shown in the table below, covering the respective proposed plant operating hours.

Location	Noise Emission Limit, dB		
	Daytime (0700-2300 only)	Night time (24-hour)	
Residential premises on Fawley Road	42	36	

T2 Plant noise emission limits at the nearest residential properties.

4.5 Noise limits are to apply to the combined effect of all plant running during the relevant time period, at a position 1m from the nearest noise sensitive window. Plant that has a distinctive tonal or intermittent nature shall be subject to a further 5dB(A) penalty.

#### 5 Conclusions

- 5.1 The existing retail premises at 204-206 West End Lane, West Hampstead, London into a Sainsbury's Local Store. The development will include the installation of mechanical services plant items.
- 5.2 This report details an environmental noise survey conducted at the site and provides plant noise limits at the nearest residential receivers to comply with the local planning authorities requirements.

End of Section



Title: Site Plan Showing Noise Survey Measurement Positions

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# Figure 10/2080/F1

- Project: Sainsbury's Local, 204-206 West End Lane
- Date: 24 May 2010 Revision:
- Scale: Not to scale

Cole Jarman Limited t +44 (0)1932 829007 f +44 (0)1932 829003

John Cree House, 24B High Street, Addlestone, Surrey KT15 1TN e info@colejarman.com  $\,w$  www.colejarman.com





Sound Level, dB



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#### 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<sub>Amax</sub>:

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, measured using the "fast" sound level meter response.

#### L<sub>A10</sub> & L<sub>A90</sub>:

If non-steady noise is to be described, it is necessary to know both its level and degree of fluctuation. The LAn 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 dBL<sub>An</sub> are sometimes written using the alternative expression dB(A)Ln.

#### $L_{\text{AX}},\,L_{\text{AE}} \text{ or SEL}$

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).