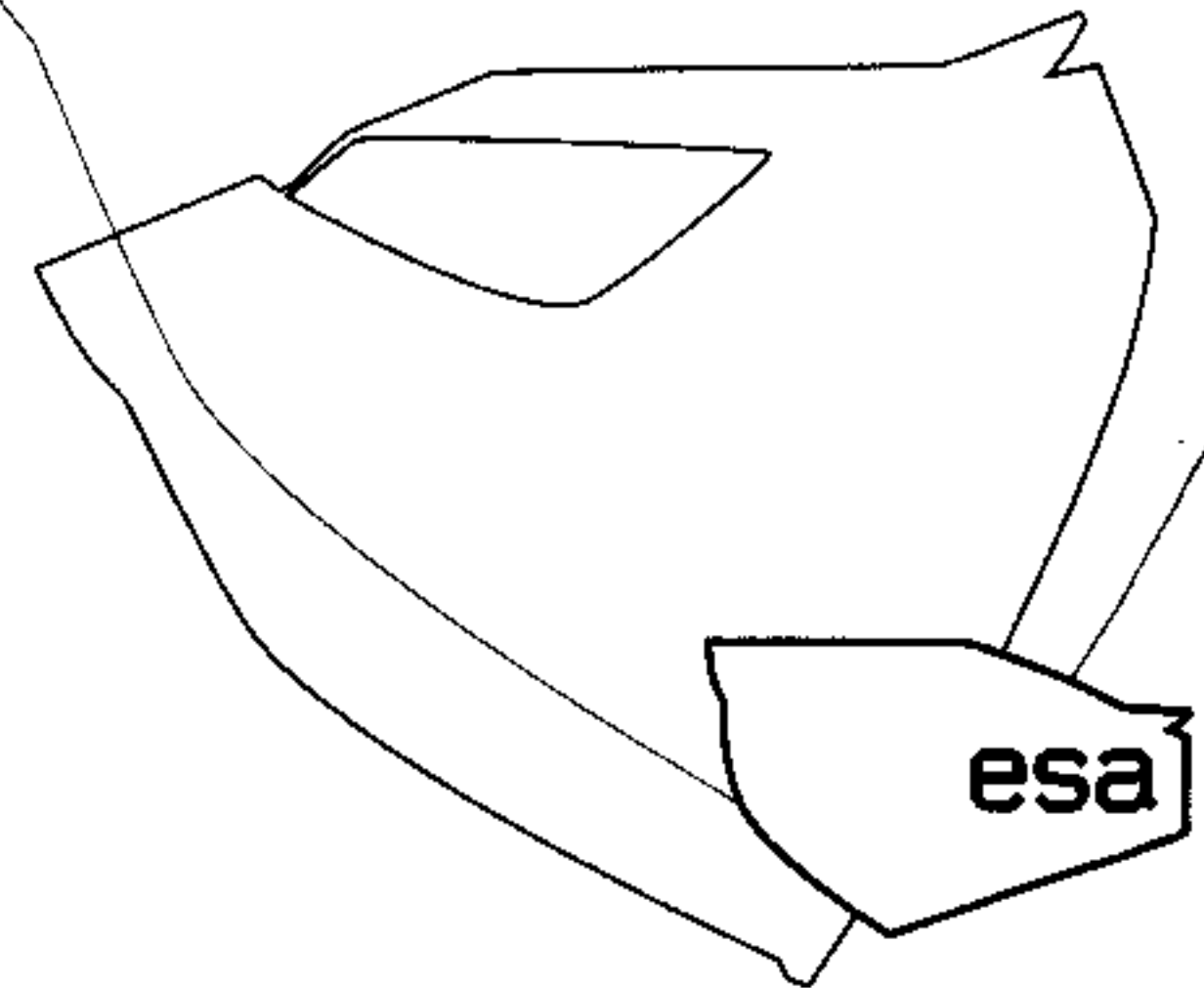
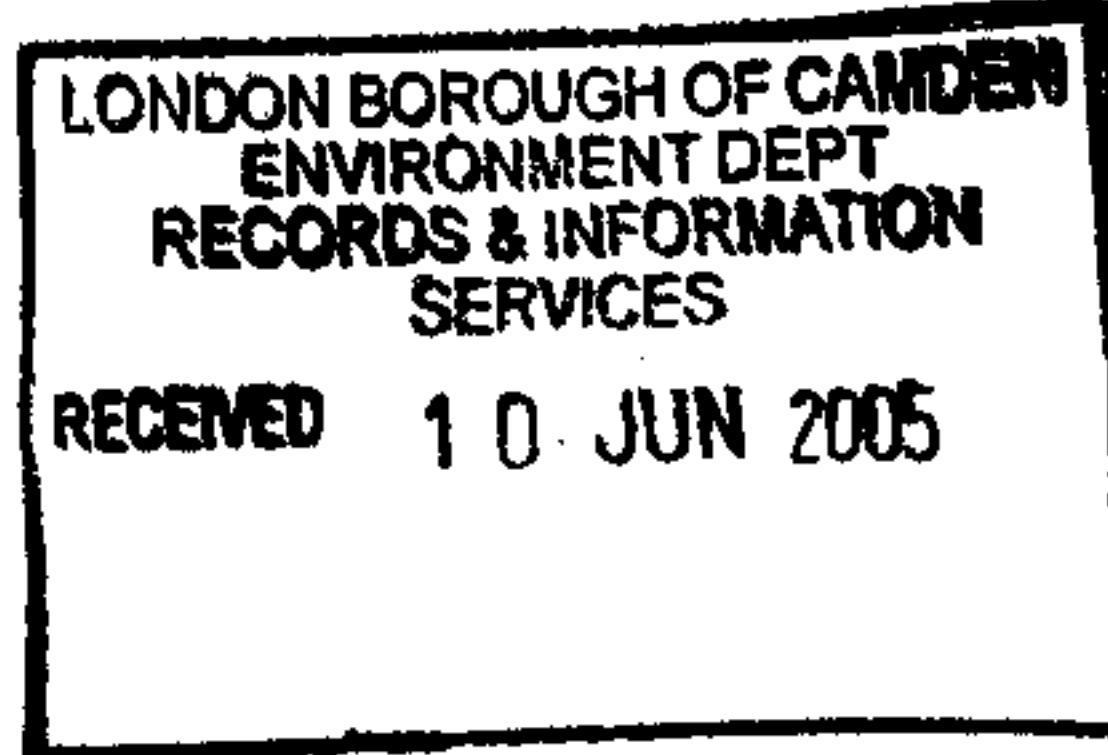


DAC/RS/04124/A2.1/003

9 June 2005

(I) 1/6

Hugh Miller Esq
Development Control Planning Services
London Borough of Camden
Town Hall
Argyle Street
London
WC1H 9JE



Dear Mr Miller

**TOWN AND COUNTRY PLANNING ACTS 1990 (AS AMENDED)
LAND TO THE REAR OF 125/133 CAMDEN HIGH STREET, FACING ARLINGTON
ROAD, LONDON NW1 7JR**

I refer to your correspondence to our clients dated 20 May 2005 in respect of additional information required to complete the planning application.

1 Please find enclosed an acoustic survey and report outlining the impact of the existing supermarket and office plant facilities on the proposed residential units.

As you will note the results of the survey compare satisfactorily with the recommended internal noise levels for residential rooms.

I would also draw to your attention that there is limited fenestration to this frontage and that this generally serves kitchens and circulation space.

I trust this information enables the application to be registered and processed.

Yours sincerely

A handwritten signature in black ink, appearing to read "David A Collins".

DAVID A COLLINS

Enc

cc B Kitcherside Chart Plan
K Wylde ESA

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Acoustic Consultancy Report

Plant noise impact assessment

Report Prepared For

ESA limited

Arlington Road

Date

7th June 2005

Report Reference

52296/E1a1CR

Prepared By

Lee Cunningham Partnership

Author M J Croft

Checked P Cockram BSc. AMIOA

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Appendices

Appendix A Site Plan

Appendix B Measurement Data

Glossary of Terms

1.0 Introduction

The London Borough of Camden has requested an environmental survey be conducted to assess the impact of existing plant noise on a proposed new residential development on Arlington Road, Camden. Lee Cunningham Partnership has been commissioned to carry out a survey and advise on the impact of plant noise on the residential dwellings.

The assessment of the survey data will take into consideration the guidance, principles and recommendations contained in the following documents:

- **BS 4142:1997** "Method for rating industrial noise affecting mixed industrial and residential areas"
- **BS 8233:1999** "Sound insulation and noise reduction for buildings"

2.0 Site Description

The site for the proposed development is currently a car park. Somerfield Supermarket bounds the northern side of the car park. This façade incorporates a plant room. On the east side of the car park is a listed tram shed which is used as an office. On the western boundary there is a modern office building. Arlington Road bounds the site to the south, where a wall approximately 2m high runs for around half the length of the boundary. The other sections of the southern boundary are closed off with wire fencing and an electronic gateway. A layout drawing of the site is shown in Appendix A.

3.0 Survey

The survey has been carried out generally in accordance with the guidance set out in BS4142:1997.

3.1 Measuring Equipment

Sound pressure level measurements were obtained using the following instrumentation complying with the Type 1 specification of IEC 651(1979) Amend.1 and IEC 804(1985) Amend 2:

- Brüel & Kjær Type 2260 Sound Level Analyser
- Brüel & Kjær Type 4189 ½" microphone

Calibration checks were made prior to and after completion of measurements using a Brüel & Kjær Type 4231 calibrator complying with Class 1 of IEC 942 (1988), calibration level 94.0 dB, ± 0.3 dB, @ 1.0 kHz. All acoustic instrumentation carried current manufacturer's certificates of conformance.

3.2 Measurements

The noise monitoring commenced at approximately 00:00 hours and continued until approximately 03:00 hours on 03, June 2005.

The site plan contained in Appendix A identifies the measurement position MP1 which is at the location of the proposed north façade of the development. The measurement position was partially screened from Arlington Road by a wall approximately 2 metres in height. The weather conditions during the survey were calm and dry.

3.3 Noise sources

The dominant noise sources at the site were road traffic on Arlington Road, and mechanical plant. Traffic on Arlington Road was generally light at the beginning of the survey and became increasingly sporadic during the course of the survey.

Plant noise remained constant throughout the survey from an extract fan serving the tram shed to the east, and ventilation noise from the Somerfield plant room.

No information is available on the operation times of plant serving Somerfield supermarket or tram shed. It is assumed that the noise levels measured during the survey are representative of noise levels throughout the night.

4.0 Results

Typical noise levels measured through the course of the survey are as follows:

Table 1: Measured noise levels

Measurement Position	L _{A10}	L _{A90}	L _{Aeq}	L _{Amax}
MP1	47 to 60 dB	42 to 45 dB	47 to 57 dB	56 to 74 dB

The measurement position was partially screened from Arlington road and hence traffic noise will have influenced L_{Aeq} measurements. As plant noise was continuous in nature L_{A90} measurements are taken to provide the best representation of plant noise levels and will be used to assess its impact on the residential development. Hence levels of 42 to 45 dBA are taken as applicable to the operation of the plant. L_{A10} and L_{Amax} measurements are taken to be representative of traffic noise at the site.

5.0 Assessment

Noise breaking into residential rooms will be dictated by the level of noise outside the façade and the sound insulation performance of elements making up the façade. Noise levels breaking into rooms should not exceed the recommended internal noise levels set out in BS8233: 1999.

5.1 BS 8233:1999: "Sound insulation and noise reduction for buildings – Code of practice"

BS 8233:1999 provides recommended indoor ambient noise levels in occupied spaces, these are as follows:

Criterion	Typical situations	Design range L _{Aeq,T} dB	
		Good	Reasonable
Reasonable speech or telephone communications	Kitchen	50	55
	Toilet	45	55
Reasonable resting/sleeping conditions	Living rooms	30	40
	Bedrooms ^a	30	35
^a For a reasonable standard in bedrooms at night, individual noise events (measured with F time-weighting) should not normally exceed 45 dB L _{Amax}			

5.2 Façade construction

It is assumed that the proposed building will have masonry walls and double glazed windows. The typical sound insulation performance of these is as follows:

- 110mm brick – R_w 45 dB
- Double glazing consisting of 6mm glass, 12mm air gap and 6mm glass – R_w 33 dB

Typically glazing will be the weakest element in terms of sound insulation. However it is necessary to consider that windows maybe partially open to provide ventilation. BS8233: 1999 indicates that a partially open window will reduce noise level by around 10 to 15 dB.

5.3 Plant noise break in

The north and west façades of the development will be subject to plant noise. As indicated in the survey section of this report levels of 42 to 45 dB are applicable to the operation of plant.

Predicted levels of plant noise breaking into the façades have been predicted with windows closed and open. The façade sound insulation performance is just based on that of the windows as these are the weakest elements in the façade.

Table 2: Break in noise to residential rooms

Façade element	Plant noise level	Attenuation	Resultant internal noise level	Recommended internal level for bedrooms at night
Closed windows	45 dB	-33	12 dB	35 dB
Open windows	45 dB	-10	35 dB	35 dB

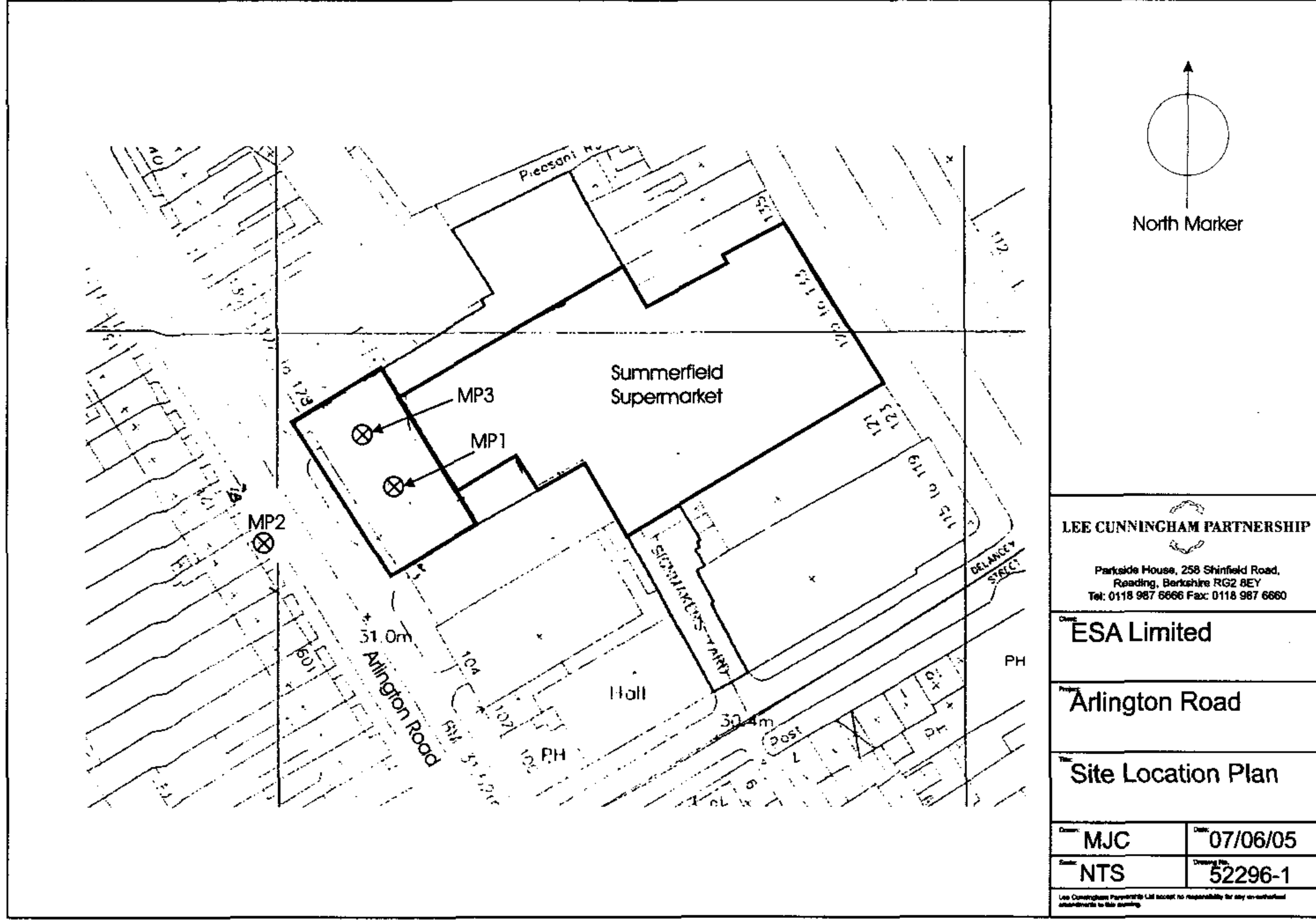
The results summarised in table 2 indicate that plant noise breaking into residential will meet with the recommendations of BS8233: 1999.

6.0 Conclusions

An Environmental noise surveys have been undertaken to determine the noise levels resulting from plant at a site on Arlington Road, Camden. A residential development is proposed for the site, plant noise will impinge on it façade. Calculations have been made to determine the level of plant noise breaking in through facades of the development into residential rooms. The results of these have then been compared to the recommended internal noise levels for residential room as set out in BS8233: 1999.

Calculations indicate that with levels of noise breaking into residential rooms at night with windows open and closed with be 12 and 35 dB respectively. These levels meet with the recommendations of BS8233: 1999.

Appendix A Site Plan



Client: ESA limited
Project: Arlington Road

Reference: 52296/E1a1CR
Date: 7th June 2005

Appendix B Measurement Data

Glossary of Terms

Decibel (dB) : A unit of level derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is $20\mu\text{Pa}$, for sound power level the reference is 10^{-12} Watts. The threshold of normal hearing is approximately 0 dB and the threshold of pain is in the region of 130 dB.

dB(A) : This is a decibel unit to which an "A" weighting has been applied. The "A" weighting has been derived (from empirical subjective research) to represent the reduced response of the human ear at low frequencies over the audible range.

L₁₀ : This statistical value is the noise level in dB that is exceeded for ten percent of the measurement period. (Commonly used to assess road traffic noise)

L₉₀ : This statistical value is the noise level in dB that is exceeded for ninety percent of the measurement period. (Commonly used to describe the background noise level).

L_{eq} : Defined as the equivalent continuous noise level. The L_{eq} is the mean average sound energy taken over the sample period and equates the real time fluctuating noise climate over the measurement period to a steady continuous noise level. (Commonly used to describe the ambient noise level).

L_{max} : The maximum sound pressure level for a single event as recorded on the "fast" sound level meter response (unless otherwise stated). The L_{max} is used to assess occasional loud impulsive noises.

Rating Level : The noise level of an industrial noise source which includes an adjustment for the character of noise. Used in BS4142:1997.

LEE CUNNINGHAM PARTNERSHIP

Client: ESA LTD
Project: Arlington Road

File: 52296
Date: 06-Jun-2005

Environmental Noise Level Measurements									
Survey date: 03-Jun-2005 from 00:09 to 03:00					Page: 1 of 3				

Run 001-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	66	60	51	47	47	44	36	28	52	Start Time:	00:09:30
L ₁₀	68	62	54	50	50	46	37	26	55	End Time:	00:14:30
L ₉₀	59	52	45	41	40	33	23	14	45	Comments:	
L _{max}	83	77	67	60	65	61	54	49	67		

Run 002-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	64	60	52	49	48	44	37	30	53	Start Time:	00:14:30
L ₁₀	68	61	55	52	52	46	38	27	56	End Time:	00:19:30
L ₉₀	58	52	45	42	40	35	25	15	45	Comments:	
L _{max}	77	75	68	63	62	60	55	50	67		

Run 003-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	69	61	56	53	53	49	43	38	57	Start Time:	00:20:58
L ₁₀	73	66	59	57	56	51	44	35	60	End Time:	00:25:58
L ₉₀	58	49	44	41	40	36	26	15	45	Comments:	
L _{max}	84	75	74	70	69	67	65	64	74		

Run 004-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	66	64	53	48	46	43	36	30	53	Start Time:	00:26:55
L ₁₀	66	60	54	51	50	48	40	32	56	End Time:	00:31:55
L ₉₀	57	50	43	41	39	32	21	12	44	Comments:	
L _{max}	84	84	70	63	58	59	53	48	70		

Run 011-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	61	56	47	44	44	38	29	19	48	Start Time:	01:00:12
L ₁₀	63	56	50	47	46	41	32	22	50	End Time:	01:05:12
L ₉₀	56	51	43	40	39	32	22	13	44	Comments:	
L _{max}	72	77	62	54	57	53	46	37	63		

Run 012-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	65	56	50	48	47	43	35	27	51	Start Time:	01:05:12
L ₁₀	68	58	54	52	51	47	38	30	55	End Time:	01:10:12
L ₉₀	58	52	44	41	40	33	23	13	45	Comments:	
L _{max}	79	74	63	60	58	56	51	46	62		

Run 013-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	61	54	47	45	45	39	30	18	49	Start Time:	01:10:12
L ₁₀	64	56	50	48	48	43	33	20	52	End Time:	01:15:12
L ₉₀	57	50	43	40	38	32	21	12	43	Comments:	
L _{max}	72	66	62	62	62	56	50	39	64		

Run 014-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	63	57	47	44	43	38	29	17	48	Start Time:	01:15:12
L ₁₀	66	58	49	47	46	41	32	20	51	End Time:	01:20:12
L ₉₀	57	50	43	40	39	32	22	12	44	Comments:	
L _{max}	79	73	60	61	54	50	44	33	60		

LEE CUNNINGHAM PARTNERSHIP

Client: ESA LTD
Project: Arlington Road

File: 52296
Date: 06-Jun-2005

Environmental Noise Level Measurements

Survey date: 03-Jun-2005 from 00:09 to 03:00

Page: 2 of 3

Run 015-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	62	55	48	45	45	39	32	24	49	Start Time:	01:20:12
L ₁₀	65	57	52	49	48	43	34	23	53	End Time:	01:25:12
L ₉₀	57	51	44	40	39	33	22	13	44	Comments:	
L _{max}	78	69	60	57	58	53	51	49	60		

Run 016-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	61	54	46	44	43	37	29	22	47	Start Time:	01:25:12
L ₁₀	63	56	48	46	46	40	32	24	50	End Time:	01:30:12
L ₉₀	56	50	43	40	39	32	22	13	43	Comments:	
L _{max}	75	71	62	56	56	54	49	43	61		

Run 022-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	60	57	50	50	50	45	37	28	53	Start Time:	01:59:17
L ₁₀	64	59	52	51	51	47	38	27	56	End Time:	02:04:17
L ₉₀	55	50	43	42	38	33	23	14	44	Comments:	
L _{max}	75	74	67	70	70	64	57	51	71		

Run 023-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	60	53	47	47	44	38	29	21	48	Start Time:	02:04:17
L ₁₀	63	56	49	48	47	41	31	19	51	End Time:	02:09:17
L ₉₀	55	48	42	41	37	31	20	12	42	Comments:	
L _{max}	74	68	61	66	57	52	45	42	65		

Run 024-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	67	58	51	49	47	43	37	28	52	Start Time:	01:09:17
L ₁₀	70	61	54	52	51	47	40	30	56	End Time:	02:14:17
L ₉₀	56	50	43	41	38	32	22	13	43	Comments:	
L _{max}	83	76	67	65	62	59	54	48	66		

Run 025-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	61	57	46	43	41	37	26	16	47	Start Time:	02:14:17
L ₁₀	63	56	48	44	43	39	29	19	49	End Time:	02:19:17
L ₉₀	55	49	42	41	37	31	20	12	43	Comments:	
L _{max}	77	77	60	52	54	54	43	34	62		

Run 026-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	63	57	50	48	46	43	35	27	51	Start Time:	02:19:17
L ₁₀	65	58	52	49	47	43	35	26	53	End Time:	02:24:17
L ₉₀	55	49	42	41	36	31	21	13	42	Comments:	
L _{max}	82	77	69	65	65	62	54	47	69		

Run 027-01	63	125	250	500	1k	2k	4k	8k	A	Position:	position 1
L _{eq}	59	52	45	43	40	35	26	16	45	Start Time:	02:24:17
L ₁₀	61	54	47	45	42	38	29	19	47	End Time:	02:29:17
L ₉₀	55	49	42	41	36	31	20	12	43	Comments:	
L _{max}	69	61	59	52	52	48	42	28	56		



LEE CUNNINGHAM PARTNERSHIP

Client: ESA LTD
Project: Arlington Road

File: 52296
Date: 06-Jun-2005

Environmental Noise Level Measurements

Survey date: 03-Jun-2005 from 00:09 to 03:00

Page: 3 of 3

For information

Sound level meter Bruel & Kjaer type 2260 serial number 2217577 compliant with Type 1 specification of IEC 651 (1979) amendment 1 & IEC 804 (1985) amendment 2.
Microphone: Bruel & Kjaer 4189 serial number 21744779.
Calibrator: Bruel & Kjaer 4231 compliant with Class 1 of IEC 942 (1988).
Calibration Level: Level of 93.9 dB +/-0.3dB at 1kHz Sensitivity: -25.3 dB
Calibration Time: 03-Jun-2005 at 00:00

Notes:

- a) The manufacturers calibration and validation certificates are current and are available on request.
- b) 63 to 8k are octave band centre frequencies in Hz.
- c) All measurements are sound pressure levels in dB (reference 2×10^{-5} Pa).



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schedule of areas

project	Arlington Road 04124	date	09 May 2005	schedule no.	002 Area Schedule
client	Picasso Investments (Camden) Ltd	prepared by	TK	authorised by	KW

Existing/proposed building areas based on drawing numbers:

04124_P_0_A, 04124_P_1_A, 04124_P_2_A, 04124_P_3_A

Floor		Internal Gross (m ² /ft ²)	
Ground Floor			
Flat A	1 Bedroom Flat	50.0sqm / 538sqft	
Flat B	1 Bedroom Flat	54.5sqm / 586sqft	
First Floor			
Flat A	1 Bedroom Flat	55.0sqm / 592sqft	
Flat B	1 Studio Flat	37.2sqm / 401sqft	
Flat C	1 Bedroom Flat	54.5sqm / 590sqft	
Second Floor			
Flat A	1 Bedroom Flat	55.0sqm / 592sqft	
Flat B	1 Studio Flat	37.2sqm / 401sqft	
Flat C	1 Bedroom Flat	61.3sqm / 660sqft	
Third Floor			
Flat A	1 Bedroom Flat	47.9sqm / 515sqft	
Flat B	2 Bedroom Flat	81.7sqm / 880sqft	
Total	10 Flats	534.3sqm / 575sqft	
Cycle spaces	6		

Notes

- 1 Areas subject to Quantity Surveyor's confirmation.
- 2 These areas are measured at 1500 mm above finished floor level to face to finish.
- 3 These areas are approximate, calculated from scaled drawings.