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51 FAIRFAX ROAD, LONDON

ACOUSTIC COMMISSIONING REPORT

Report **12150-AC-01**

Prepared on 30 June 2017

Issued For:

Delicatessen

51 Fairfax Road

London

NW6 4EL

committed to CSCS Platinum award

ISO 17025

ISO 9001

Institute of Acoustics sponsoring organisation

Contents

1.0 INTRODUCTION

Clement Acoustics has been commissioned by Delicatessen, to undertake an assessment of an installed extract fan at 51 Fairfax Road, London. A previously undertaken background noise survey will be used to compare measured noise emissions with criteria set in agreement with the planning requirements of the London Borough of Camden.

This report presents the measurements taken at the installed plant and propagation calculations. The report also presents the measurements taken at the nearest noise sensitive receptor.

2.0 SITE DESCRIPTION

As part of recent development works, an extractor fan has been installed with the fan itself located inside. The proposed use is commercial to service the kitchen. The duct run is installed on the 1st floor flat roof and the duct run will run up the building and will terminate at roof level.

The nearest noise sensitive receivers have identified as the 2nd floor residential flat closest to the point at which the ducting is external.

3.0 NOISE EMISSIONS CRITERIA

3.1 Procedure

An environmental noise survey has previously been undertaken on site at planning stage, prior to the condenser unit being installed. The survey was undertaken with the survey methodology detailed in Clement Acoustics Ltd report 12150-NIA-01.

Based on the measured noise levels and local authority requirements, noise emissions criteria were set as shown in Table 3.1.

	Proposed Noise Emissions Criteria [10 dB below minimum background noise level]
Operating Hours	33 dB(A)

Table 3.1: Set noise emissions criteria

It should be noted the criterion is based on achieving a level 15dB below the minimum background noise level, as required for compliance with the London Borough of Camden.

4.0 DISCUSSION

4.1 Installation

The plant installation comprises the following condenser unit:

- 1 No. Helios Gigabox 500/4 extract fan

The above unit has been installed within the building and the silencer has been fitted externally to reduce noise emissions at the flue. In addition to this cladding has been installed around the ducting before the silencer to reduce noise levels. A site visit was undertaken in order to take manual measurements of the installed unit, such that noise emissions could be measured and assessed. The measurements were carried out by Andrew Thomas AMIOA.

Measurements were taken in single octave bands between 63Hz and 8kHz and each measurement lasted a minimum of 30 seconds. Short durations were taken in order to exclude background noises as far as reasonably possible.

Measurements were undertaken on 30 June 2017 at approximately 11:00.

The unit was set to operating duty whilst measurements of the plant were obtained.

In order to assess the duct work breakout, measurements were undertaken at 1m from the duct work, approximately 1.5m above the 1st floor flat roof. Measurements were also undertaken at 1m from the nearest residential window which is located a floor above on the 2nd floor.

	Sound Pressure Level (dB) in each Frequency Band								
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	dB(A)
Background (with plant switched off)	55.7	51.2	44.9	39.7	36.7	32.9	25.3	18	43.2
Measured at 1m from Louvre of Enclosure	57.6	58.3	44.9	40	37.3	31.8	24.4	16.1	45.4
Measured at 1m from Louvre of Enclosure *With Background Subtracted*	53.1	57.4	44.9	28.2	28.4	26.4	18	13.5	43
Calculated to the nearest residential receiver 4m away *[2nd Floor]*	41.1	45.4	32.9	16.2	16.4	14.4	6.0	1.5	31

Table 4.1: Measured ambient and specific noise levels

Measurements were also taken with the plant on and off at the closest receiving position on the 3rd floor, at a distance of approximately 4m from the unit, with the plant off and in operation. Measurements are shown below in Table 4.2.

	Sound Pressure Level (dB) in each Frequency Band								
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	dB(A)
Background (with plant switched off) at 5th floor receiver	55.7	51.2	44.9	39.7	36.7	32.9	25.3	18	43.2
Plant in operation at 5th floor receiver	59.9	53.8	42.6	40.4	36.5	31	25.2	20.4	43.5

Table 4.2: Plant measured on and off at closest receiver

4.2 Noise Impact Assessment for Receiver

With reference to the criteria stated in Section 3.0 and Table 4.1, measurements indicate that the requirements of the Local Authority should be met.

Measurements were also taken with the plant on and off at the closest receiving position on the 2nd floor, 4m away. As shown in Table 4.2, the overall noise level at the receiver was not increased

which indicates that the noise levels of the plant was a minimum of 10dB below the background noise level.

5.0 CONCLUSION

A noise impact assessment has been undertaken for an installed extractor fan at 51 Fairfax Road, London. A previously undertaken noise survey was used to set criteria for noise emissions in accordance with the requirements of the London Borough of Camden.

Manual measurements were then undertaken of the installed plant unit in order to calculate noise levels at residential windows due to the plant installation.

Measurements and calculations show that noise emissions from the condenser meet the requirements of the Local Authority provided the operation duty is not exceeded.

Report by	Checked by
Andrew Thomas AMIOA	**Duncan Martin MIOA**