

Able Acoustics

MR J HUSSAIN

24 LOWER STONE STREET, MAIDSTONE

ACOUSTIC ASSESSMENT

AUGUST 2021

Able Acoustics

MR J HUSSAIN

24 LOWER STONE STREET, MAIDSTONE

ACOUSTIC ASSESSMENT

AUGUST 2021

This report has been prepared by Able Acoustics Limited for Mr J Hussain in accordance with the terms of the proposal using all reasonable skill and care. The contents of this document must not be copied or reproduced in whole or in part without the written consent of Able Acoustics Limited.

Able Acoustics Limited accepts no responsibility for any data provided by other bodies or any liability arising from the use by persons other than the addressee of this report, of the data or the opinions contained herein.

| P1459/01 | August 2021 | Position | Signature |
|---------------------|------------------------------|--------------------------------------|------------------|
| <i>Prepared By:</i> | <i>Edward Crofton-Martin</i> | <i>Principal Acoustic Consultant</i> | |
| <i>Checked By:</i> | <i>Edward Crofton-Martin</i> | <i>Principal Acoustic Consultant</i> | |
| <i>Approved By:</i> | <i>Edward Crofton-Martin</i> | <i>Principal Acoustic Consultant</i> | |

Able Acoustics Limited
Unit 20, Connect 10
Foster Road
Ashford
Kent
TN24 0FE
England
www.ableacoustics.com
info@ableacoustics.com

CONTENTS

| | |
|--|----|
| 1. INTRODUCTION | 1 |
| 1.1 Introduction | 1 |
| 2. NOISE UNITS AND STANDARDS..... | 2 |
| 2.1 General..... | 2 |
| 2.2 Relevant Planning Condition | 3 |
| 2.3 Standards and Guidance | 3 |
| 3. SITE LAYOUT | 5 |
| 3.1 Overview..... | 5 |
| 4. MEASUREMENTS..... | 6 |
| 4.1 General..... | 6 |
| 4.2 Unattended Monitoring..... | 6 |
| 5. ASSESSMENT | 8 |
| 5.1 General..... | 8 |
| 5.2 Glazing and Ventilation Requirements | 8 |
| 6. CONCLUSIONS..... | 10 |
| 6.1 Suitability | 10 |
| 6.2 Summary of Conclusions | 10 |
| 7. REFERENCES | 11 |

FIGURES

APPENDIX A – Calibration Certificates

APPENDIX B – Measurement Results

APPENDIX C – Product Brochures for Acoustically Screened Ventilation Systems



1. INTRODUCTION

1.1 Introduction

- 1.1.1 Permission has been granted subject to condition to redevelop the site at: 24 Lower Stone Street, Maidstone, Kent, ME15 6LX, for the following proposal: *“Change of use of first floor restaurant and second floor storage area to 4no. flats”*.
- 1.1.2 Mr Hussain has commissioned Able Acoustics Ltd to carry out an acoustic assessment for the site and this report presents the monitoring undertaken, the results of the assessment and suitable suggestions for mitigation where applicable.

2. NOISE UNITS AND STANDARDS

2.1 General

2.1.1 The range of audible sound is from 0 dB to 140 dB and a range of typical levels is presented in Table 2.1 below. Noise is a subjective term and can be defined as unwanted sound.

Table 2.1 Typical Sound Levels

| Sound Pressure Level dB(A) | Source | Subjective Level |
|----------------------------|------------------------------------|-------------------|
| 130 - 140 | Jet (at 10m) | Threshold of pain |
| 120 – 130 | Pneumatic Drill (at 1m) | Extremely Loud |
| 110 – 120 | Loud Car Horn (at 1m) | Very Loud |
| 100 – 110 | Alarm Bell (at 1m) | Very Loud |
| 80 – 90 | Inside General Factory | Loud |
| 70 – 80 | Average Traffic (on street corner) | Loud |
| 60 – 70 | Conversational Speech | Moderate |
| 50 – 60 | Typical Business Offices | Moderate |
| 40 – 50 | Living-room Urban Area | Quiet |
| 30 – 40 | Library | Quiet |
| 20 – 30 | Bedroom (at night) | Very Quiet |
| 10 - 20 | Broadcasting Studio | Very Quiet |

2.1.2 For variable sound sources a difference of 3 dB(A) is just distinguishable. For road traffic or railway sound sources, a doubling of traffic flow will increase the overall noise by 3 dB(A). The "loudness" of a sound is a purely subjective parameter, but it is generally accepted that an increase/decrease of 10 dB(A) corresponds to a doubling/halving in perceived loudness.

2.1.3 The frequency response of the ear is usually taken to be about 20 Hz (number of oscillations per second) to 20 kHz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in importance by applying a weighting (filtering) circuit to the measuring instrument. The weighting which is most widely used and which correlates best with subjective response to sound is the dB(A) weighting. This is an internationally accepted standard for environmental sound measurements.

2.1.4 External sound levels are rarely steady, but rise and fall according to activities within an area at any given time. In an attempt to produce a figure that relates this variable sound level to subjective response, a number of indices have been developed. These include:

i) *L_{Aeq,T} Sound Level*

This is the "equivalent continuous A-weighted sound pressure level, in decibels", and is defined in British Standard BS 7445 [1] as the "value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time interval, T, has the same mean square sound pressure as a sound under consideration whose level varies with time".

It is a unit commonly used to describe sound attributable to construction and