

Didsbury High School Didsbury

Environmental Sound
Survey Report
1353/ESS1

15 January 2025

For:

Laurus Trust
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Environmental Sound Survey Report 1353/ESS1

Contents	Page
1.0 Introduction	1
2.0 Objectives	1
3.0 Site Description	1
4.0 Environmental Sound Survey	2
5.0 Results	4
6.0 Conclusions	5

Appendices

Time History Graph 1353/THG1

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1.0 Introduction

Lighthouse Acoustics has been appointed by Laurus Trust to undertake an environmental sound survey at Didsbury High School, Didsbury.

The survey methodology, results and requirements are presented in this report.

2.0 Objectives

To visit site to undertake a detailed environmental sound survey in order to establish existing environmental sound levels at the site.

To determine the highest $L_{Aeq,30min}$ environmental sound level incident upon the facades of the new extension during normal teaching hours for subsequent use in the assessment of external building fabric.

To determine the lowest representative $L_{A90,15min}$ background sound levels at the nearest noise sensitive receptor for subsequent use in the assessment of atmospheric plant noise emissions

3.0 Site Description

The existing site comprises a detached 2/3/4 storey school building with playground and car park situated to the south east of the site.

The proposed new extension comprises a 1/2 storey extension to the south of the existing building.

The site is bound by offices to the north east, residential properties to the south east, woodland and Nell Lane to the south west and Princess Road (A5103) to the north west.

The site plan overleaf indicates the extent of the site and the surrounding environment.



Site plan indicating the extent of the site and the surrounding environment

4.0 Environmental Sound Survey

4.1 Measurements

Automated environmental sound measurements were undertaken from 14:00 hours on Monday 2 December 2024 to 14:00 hours on Tuesday 3 December 2024. During this period the L_{Amax} , L_{Aeq} and L_{A90} sound pressure levels were measured continuously over 15 minute periods.

4.2 Weather Conditions

At the start of the survey period there was a gentle north westerly breeze ($<5.0\text{m/s}$) and the sky was overcast. There was no rainfall and road surfaces were dry. The temperature was approximately 8°C .

At the end of the survey period there was a light southerly breeze ($<3.0\text{m/s}$) and the sky was scattered cloud. There was no rainfall and road surfaces were dry. The temperature was approximately 5°C .

Based on publicly available weather data for the survey period it is understood that weather conditions remained similar for the duration of the survey with no periods of significant rainfall or strong breezes. The weather conditions during the survey period are therefore considered to be suitable for undertaking measurements of sound levels.

4.3 Measurement Position

Environmental sound levels were measured at a single position on-site as described in the table below.

Position	Description
A	Microphone situated at 1 st floor roof level overlooking the west façade of the existing building adjacent to the proposed extension.

The measurement position is shown on the site plan below.



Site plan showing measurement position

Measurement Position A was selected in order to assess typical environmental sound levels representative of those incident upon the facades of the new extension. In addition, the measurement position may also be used in order to assess typical background sound levels representative of those at the nearest noise sensitive receptor.

4.4 Equipment

The following equipment was used to undertake the environmental sound survey.

Equipment	Manufacturer	Model	Serial No.	Calibration Date
Class 1 Sound Level Meter	Casella	633C	0721319	07/11/2023
Preamplifier	Casella	495	001446	07/11/2023
Microphone	Casella	251	1996	07/11/2023
Class 1 Sound Calibrator	Casella	120/1	3864878	31/10/2024
Environmental Noise Kit	Casella	6847	-	-
Microphone Extension Cable	Casella	C6717/5	-	-
Weather Protection System	Casella	6737	-	-

Field calibration checks were performed on the sound level meter prior to and on completion of the survey and were found to be within acceptable tolerance limits.

5.0 Results

5.1 Time History Graph

The results of the environmental sound survey are presented on Time History Graph 1353/THG1 enclosed at the rear of the report.

5.2 $L_{Aeq,T}$ Environmental Sound Levels

The highest $L_{Aeq,30min}$ environmental sound level during normal teaching hours (08:00 to 16:00) has been calculated from the measured $L_{Aeq,15min}$ environmental sound levels using the following formula:

$$L_{Aeq,T} = 10 \log_{10} \left(\frac{1}{N} \sum_i^N 10^{L_{Aeq,15min}i/10} \right)$$

The calculated highest $L_{Aeq,30min}$ environmental sound level during normal teaching hours (08:00 to 16:00) is presented in the table below.

Highest $L_{Aeq,30min}$ Environmental Sound Level (dB)
67

This level will subsequently be used in the assessment of external building fabric.

5.3 $L_{A90,T}$ Background Sound Levels

The lowest representative daytime, evening and night-time $L_{A90,15min}$ background sound levels measured during the survey period are detailed in the table below.

Lowest Representative $L_{A90,15min}$ Background Sound Levels (dB)		
Daytime (07:00 – 19:00 hours)	Evening (19:00 – 23:00 hours)	Night Time (23:00 – 07:00 hours)
58	55	39

These levels will subsequently be used in the assessment of atmospheric plant noise emissions.

5.4 Discussion of Sound Climate

At the start and end of the survey period the dominant sound source was noted to be frequent road traffic along Princess Road (A5103) and distant road traffic from the surrounding road network.

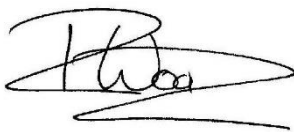
Whilst we are unable to comment on dominant sound sources or individual sound events during the survey period, based on the surrounding environment it is likely that road traffic remained the dominant sound source.

6.0 Conclusions

A detailed environmental sound survey has been undertaken in order to establish existing environmental sound levels at the site.

The highest $L_{Aeq,30min}$ environmental sound level incident upon the facades of the new extension during normal teaching hours has been determined for subsequent use in the assessment of external building fabric.

The lowest representative $L_{A90,15min}$ background sound levels at the nearest noise sensitive receptor have been determined for subsequent use in the assessment of atmospheric plant noise emissions.



Robin Wood
LIGHTHOUSE ACOUSTICS

Didsbury High School, Didsbury
Time History Graph - Monday 2 December 2024 to Tuesday 3 December 2024
 $L_{Amax,15min}$, $L_{Aeq,15min}$ & $L_{A90,15min}$ Noise Levels at Position A

