

# Holloway Park, London

## Construction Monitoring Non-Technical Summary

Client: London Square  
Ref: TN01-22405-R3  
Date: 11 December 2023  
Note by: Adam Bamford, BSc MIOA DipIOA, Principal Acoustics Consultant

### 1. INTRODUCTION

1.1 Cass Allen are instructed by London Square to carry out monitoring throughout the demolition and construction works for the above site. This non-technical note sets out the proposed monitoring strategy.

### 2. MONITORING METHODOLOGY

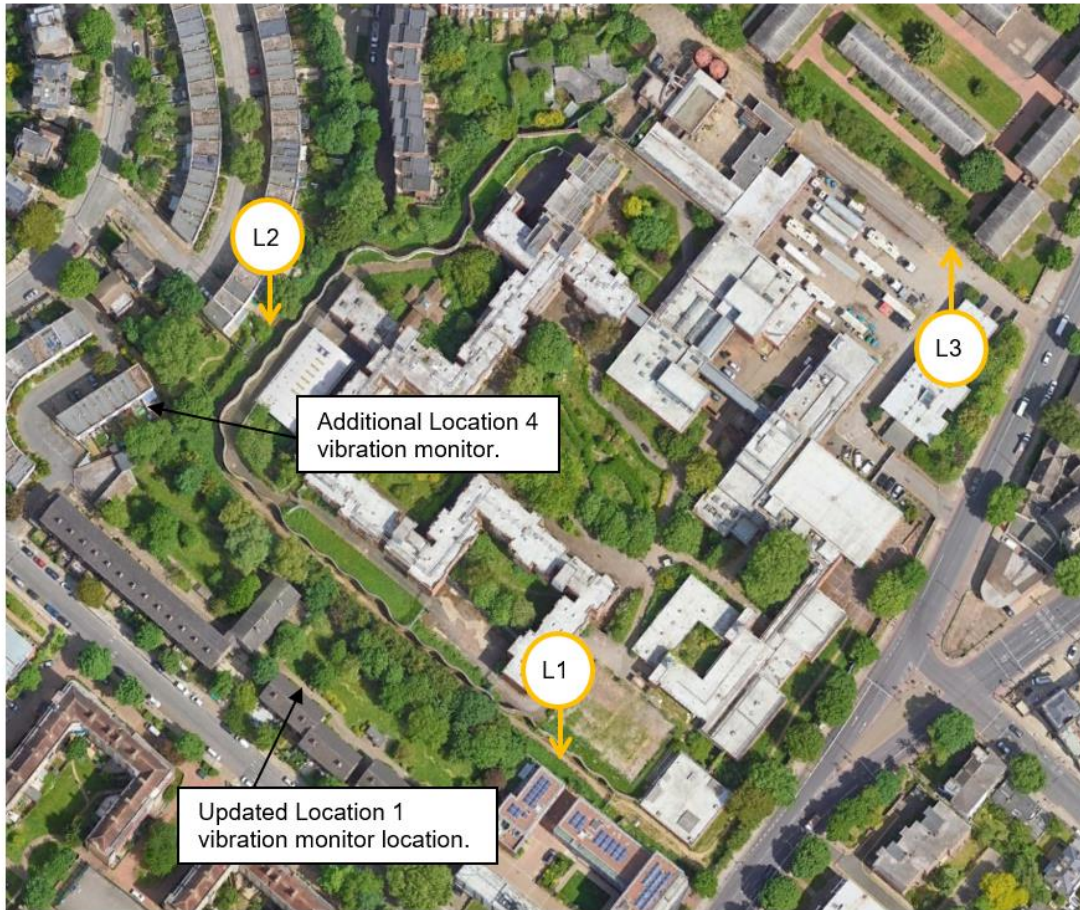
2.1 The monitoring is being carried out in accordance with the Construction Environmental Management Plan prepared for the Holloway Park development (a copy of which can be found on the Holloway Park Community Website within the planning documents, alternatively this can be found on the London Borough of Islington's website under planning ref: P2021/3273/FUL) and has been discussed and agreed with the Environmental Health Department at Islington Council.

2.2 Sensitive monitoring units have been installed at multiple locations both within the site, as well as two vibration monitors offsite, to record for the presence of dust, noise and vibration while demolition and construction takes place. The monitoring installations can be summarised as follows:

- An initial installation was carried out on 21<sup>st</sup> October 2022. This comprised the installation of the dust, noise and vibration monitor at Location 1 and the vibration monitor at Location 2 (refer to Figure 1 on page 4).
- A further installation was carried out on 8<sup>th</sup> November 2022 which included the installation of the dust and noise units at Location 2 (refer to Figure 1).
- A further installation was carried out on 28<sup>th</sup> June 2023 which included the installation of dust, noise and vibration units at Location 3.

- Finally, a further vibration monitoring unit was installed on 23<sup>rd</sup> August 2023 within the boundary of one of the dwellings at Trecastle Way following a residents' request (this is Location 4).
- 2.3 A plan showing the monitoring locations are shown in Figure 1 and in-situ photographs of the monitoring installations are provided in Attachment 1 at the end of this note. These locations were discussed with the project team prior to installation and were advised by Cass Allen.
- 2.4 On 8<sup>th</sup> June 2023, the vibration monitor installed at Location 1 was relocated to the facade of the residential property. This was undertaken with the project Environmental Health Officer at Islington Council and a member of the Residents Association present. The monitor was relocated to accurately record vibration levels relevant to nearby residential receptors.
- 2.5 The monitoring units comprise real-time continuous unattended dust, noise and vibration measurements at fixed location(s). The monitoring devices can be relocated should this be deemed necessary as the works progress across the large site. Attended monitoring would only be carried out upon request from the Contractor or by the Local Planning Authority following receipt of validated complaints.
- 2.6 The monitors are currently powered by external batteries that will be replaced at regular intervals by site personnel to maintain operation. The monitoring devices will be connected to 110V site power in due course once this is installed.
- 2.7 Monitoring reports showing time-history graphs of the recorded levels are being prepared by Cass Allen and will be made available for download from the Holloway Park Community website.

**Figure 1 – Construction monitoring locations**



### 3. LIMITS

3.1 Table 1 below summarises the dust, noise and vibration limits that have been agreed with an Environmental Health Officer at Islington Council and adopted throughout the demolition phase of the works. All of the monitoring systems have been configured to send alerts to designed persons (the Contractor, London Square, the project Environmental Health Officer and Cass Allen) in the event of any exceedances of the agreed levels.

**Table 1 Adopted Construction Monitoring Limits at Nearby Sensitive Receptors**

Monitoring Equipment	Limit	Reference Periods
Dust	190 $\mu\text{g m}^{-3}$ 60-minute mean for PM10 <sup>1</sup> concentrations	0800-1800hrs on weekdays (Monday through Friday) 0800-1300hrs on Saturdays

<sup>1</sup> Particulate matter, also known as particle pollution or PM, is a term that describes extremely small solid particles and liquid droplets suspended in air. PM10 are particles with a diameter of 10 micrometres or less.

Monitoring Equipment	Limit	Reference Periods
Noise	75 dB LAeq,T <sup>2</sup> (daily noise limit)	0800-1800hrs on weekdays (Monday through Friday)
	78 dB LAeq,1hour (hourly noise limit)	0800-1300hrs on Saturdays
Vibration	1 mms <sup>-1</sup> PPV <sup>3</sup> at residential receptors	0800-1800hrs on weekdays (Monday through Friday)
	3 mms <sup>-1</sup> PPV at non-residential receptors	0800-1300hrs on Saturdays

**NOTE 1:** Any works outside of the normal operational hours (0800-1800 hours Monday to Friday and 0800-1300 Saturdays) will be subject to prior approval with Islington Council, unless they are emergency works

**NOTE 2:** The vibration limits apply at and within buildings of sensitive receptors. It is not possible to predict attenuation (or amplification) between monitoring and receptor positions without measuring the transfer function during the construction activity. The assumption will be made that approximately the same level will occur at monitoring and receptor positions, unless it can be modified where a transfer function has been established by measurement

- 3.2 If there are any exceedances of the above limits due to construction activities, then the Contractor will review working practices.

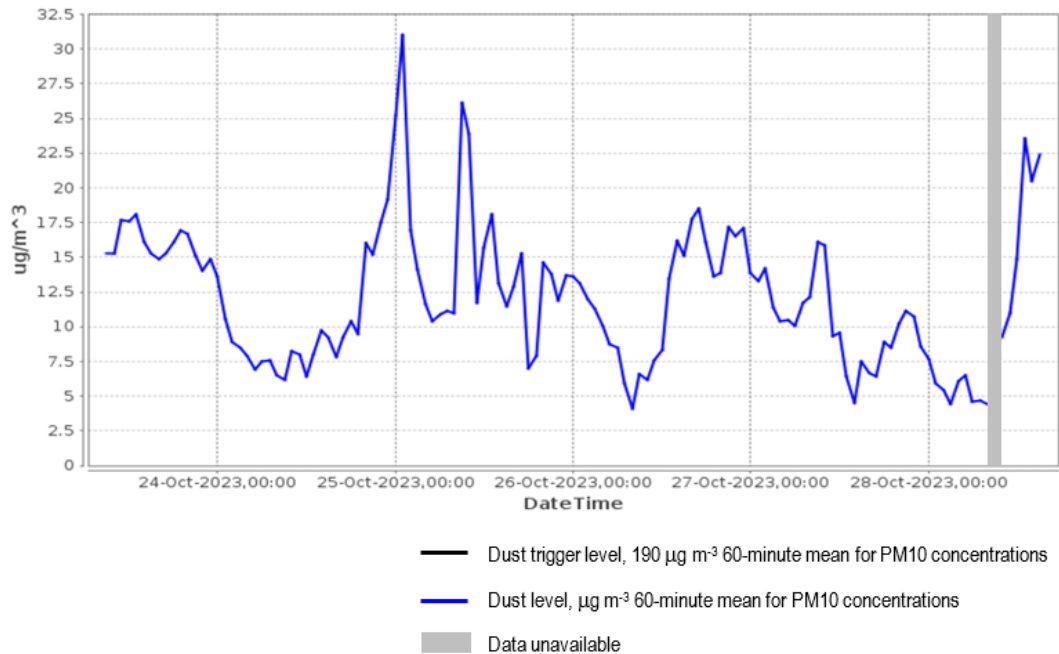
## 4. UNDERSTANDING THE MONITORING DATA

- 4.1 Figures 2, 3 and 4 below show examples of the dust, noise and vibration monitoring data that will be provided on the Holloway Park Community website and describes how this information can be interpreted.

<sup>2</sup> Equivalent Continuous Sound Pressure Level, or Leq/LAeq represents the decibel 'average' of a sound source over a given time as a single number.

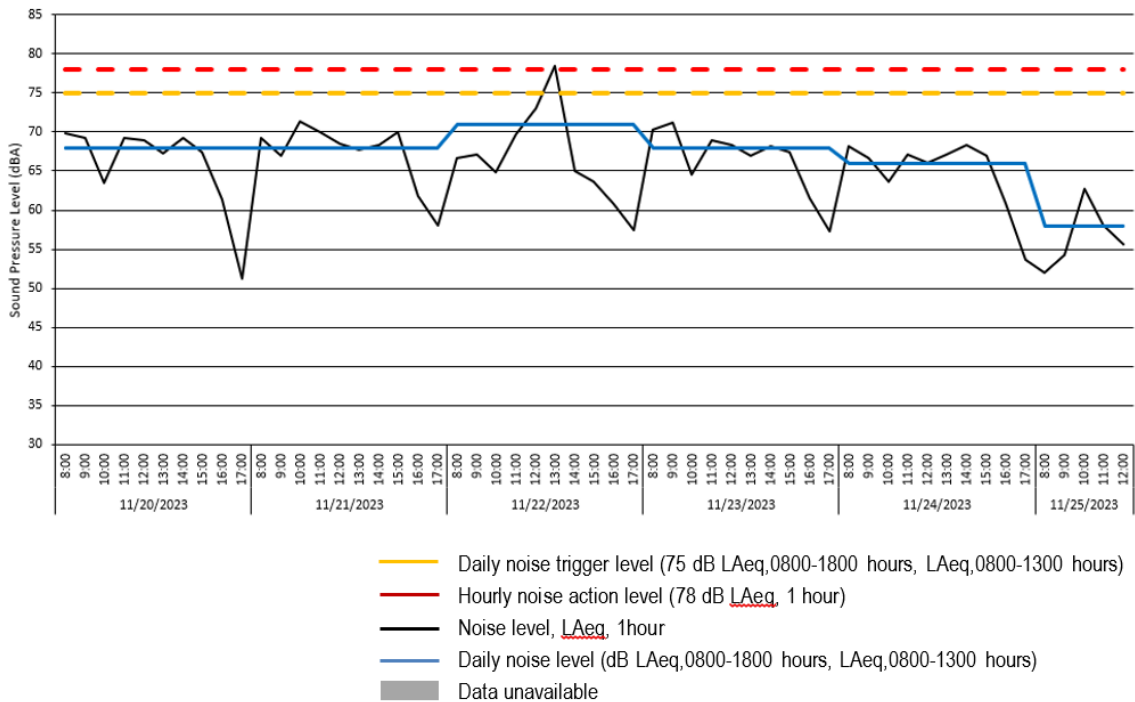
<sup>3</sup> Peak particle velocity is a widely used metric used to evaluate the magnitude and severity of the possible inconvenience to people and damage to adjacent structures and the environment. It is likely that a vibration level of 1 mm/s in residential environments will cause complaint; but can be tolerated if prior warning and explanation has been given to residents. This is based on advice given in a nationally recognised document (BS5228-2).

**Figure 2 – Example graph of dust monitoring at Holloway Park**



- 4.2 The vertical axis shows the measured dust emissions (PM10) measured in micrograms per cubic meter.
- 4.3 The horizontal axis shows the date and time of the measurements.
- 4.4 The blue coloured line shows the variation of PM10 concentrations over the recorded period.
- 4.5 The dust trigger limit would be denoted by a solid black line on the graph, if applicable. In the above example, the dust concentrations are so low they are well below the dust limit and therefore the dust limit is not shown. If there are any exceedances above the dust limit, then the project team will endeavour to explain what caused the exceedance(s) and what mitigation/management measures were taken onsite to reduce the exceedances.
- 4.6 Any gaps in the measured data will be denoted by a solid vertical shaded grey area as show in the figure above. Gaps in data will usually be caused by either power outages or a loss in mobile signal.

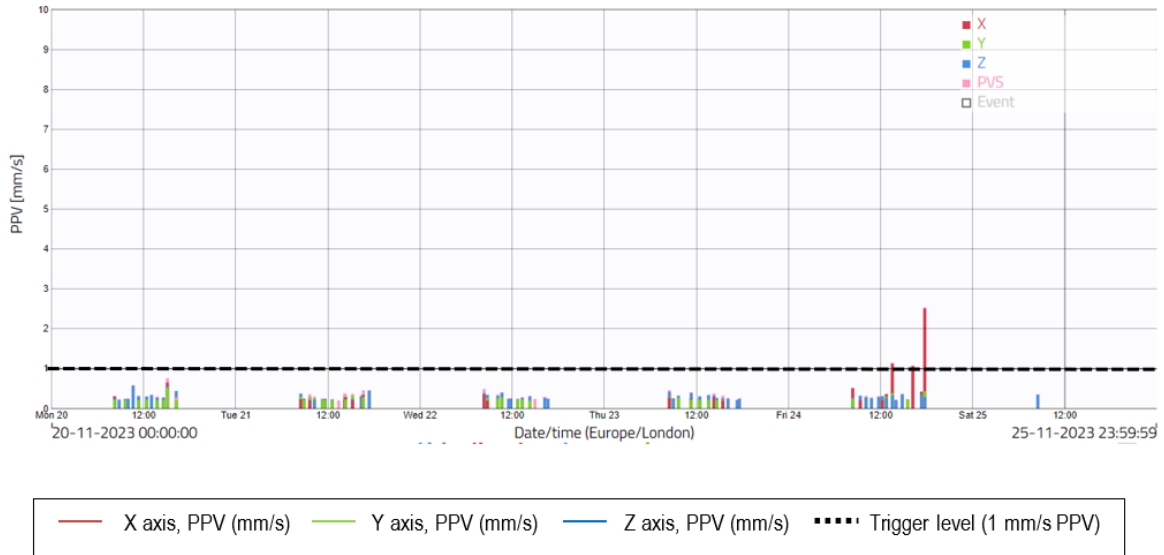
**Figure 3 – Example graph of noise monitoring from Holloway Park**



- 4.7 The vertical axis shows the measured noise levels (dB LAeq).
- 4.8 The horizontal axis shows the date and time of the measurements.
- 4.9 The solid blue line shows the daily measured noise level. For weekdays, this is a 10 hour value between 0800 and 1800 hours. For Saturdays, this is a 5 hour value between 0800 and 1300 hours.
- 4.10 The yellow dashed line shows the daily noise limit. In the example above there are no occasions where the blue line has gone above the yellow dashed line which means there were no exceedances of the daily noise limit.
- 4.11 The solid black line shows the hourly measured noise levels throughout the monitoring period.
- 4.12 The red dashed line shows the hourly noise limit. In the example above there is one occasion where the black line has gone above the red dashed line which means there was one exceedance of the hourly noise limit which occurred at 1300 hours on 22/11/2023.
- 4.13 If there are any exceedances above the project noise limits, then the project team will endeavour to explain what caused the exceedance(s) and what mitigation/management measures were taken onsite to reduce the exceedance(s).

4.14 Any gaps in the measured data will be denoted by a solid vertical shaded grey area as show in the figure above. Gaps in data will usually be caused by either power outages or a loss in mobile signal.

**Figure 4 – Example graph of vibration monitoring from Holloway Park**



4.15 The vertical axis shows the vibration (Peak Particle Velocity, PPV) measured in millimetres per second.

4.16 The horizontal axis shows the date and time of the measurements.

4.17 The solid red, green and blue lines show the measured horizontal and vertical PPV.

4.18 The black dashed line shows the vibration limit. In the example above there were exceedances of the vibration limit that occurred on Friday 24<sup>th</sup> November.

4.19 Any gaps in the measured data will be denoted by a solid vertical shaded grey area as show in the figure above. Gaps in data will usually be caused by either power outages or a loss in mobile signal.

4.20 It should be noted that the weekly vibration summary graph will be compressed as data is recorded every minute onsite and this cannot be shown completely on a single graph at a weekly resolution.

Attachment 1 – Insitu photographs of the monitoring locations

**Location 1 – Dust and Noise – southern boundary facing residential uses on Dalmeny Avenue**





**Location 1 – Vibration – offsite – attached to facade of one of the residential flats within Dalmeny Avenue facing the development**



**Location 2 – Dust, Noise and Vibration – northern boundary facing residential uses on Penderyn Way**



**Location 3 – Dust, Noise and Vibration – north eastern boundary facing residential uses within Holloway Estate**



Location 4 – Vibration – offsite – attached to rear garden fence of one of the dwellings on Treacastle Way

