

## **Noise and Dust Monitoring Report**

**Project Ref.:** 20543

**Period:** 01 January 2023 to 28 January 2024

**Site Address:**

100 Gray's Inn Road, London

**For:**

Erith Contractors Ltd

Erith House,

Queen Street

Erith

DA8 1RP

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Date	Document No./Revision version	Comments
30 January 2024	20239.SummaryReport202401	Noise/vibration/dust data – report generated

## Introduction:

Environmental Sensors Ltd. has been appointed by Erith Contractors Ltd. to undertake noise/dust monitoring at the 100 Gray's Inn Road, London.

This monitoring report presents data for the period from 01 January 2023 to 28 January 2024 and it is marked as 20543.SummaryReport202401.

## Monitoring Locations:

Noise and dust monitors have been installed on site as per site-plan attached below.



Figure 1 Indicative Site Plan (ref. Google Maps)

The locations have been marked as:

- L1: Site Courtyard
- L2: Clerkenwell Rd
- L3: Gray's Inn Rd

## Equipment:

The following equipment has been used during the survey:

- 3No. Convergence Instruments Class 1 noise data loggers
- 1No. PM10 monitors



In Location 1 there have been installed noise and dust monitoring station, while in Location 2 and Location 3 a noise monitoring station only.

On 26 January 2024 additional monitoring stations have been installed on site and currently there are

- 4No. Convergence Instruments Class 1 noise data loggers
- 4No. PM10 monitors (3x MCERTS MetOne ES405 and 1x MCERTS Airly PM10 monitor)

The new monitoring layout is presented in Figure 2 below.



Figure 2 Indicative Site Plan as of 26 January 2024 (ref. Google Maps)

Thresholds and Alerts:

Noise and dust alerts trigger levels have been agreed and presented below.

**Noise Trigger Levels:**

**Location 1 and 4**

	Receiver of Alert	Trigger level and integration period	
RED	Steven.Gillam@erith.com	78dB LAeq 1 hour	75dB LAeq 10 hours (Monday – Friday)
		75dB LAeq 1 hour	72dB LAeq 5 hours (Saturday)

**Location 2 & Location 3**

	Receiver of Alert	Trigger level and integration period	
RED	Steven.Gillam@erith.com	83dB LAeq 1 hour	82dB LAeq 10 hours (Monday – Friday)
		78dB LAeq 1 hour	75dB LAeq 5 hours (Saturday)

**Dust Trigger Levels (PM10):**

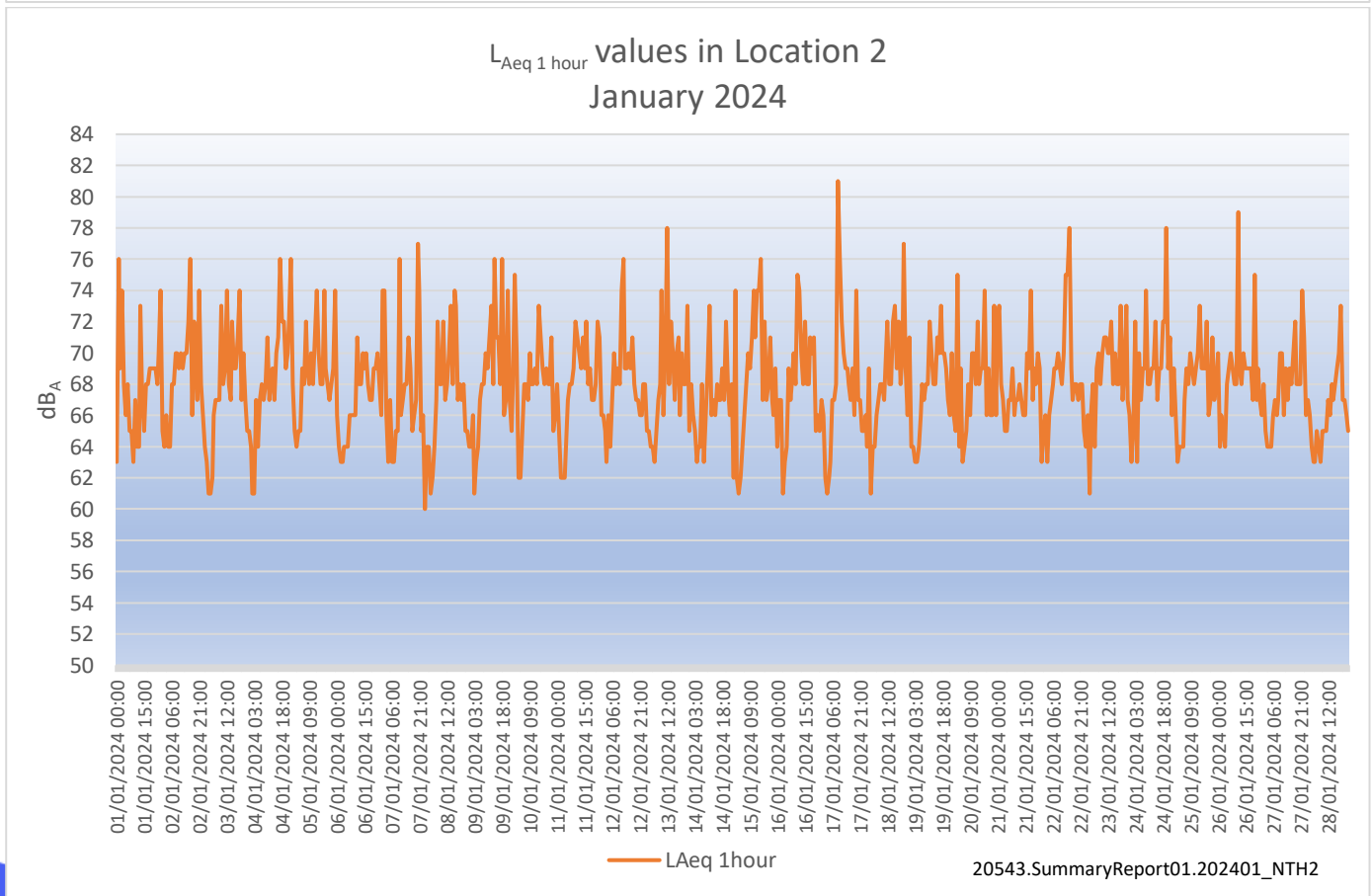
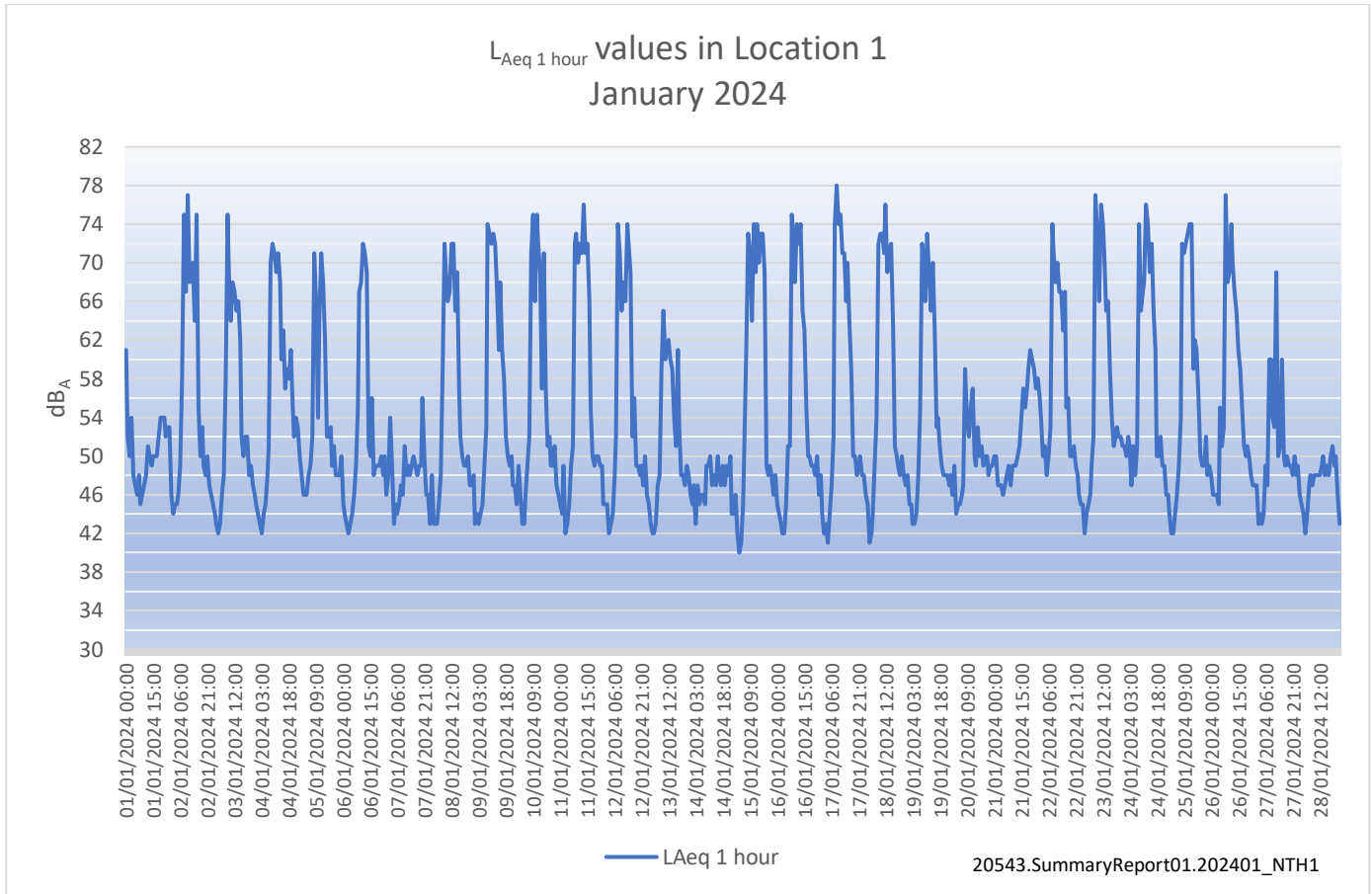
	Receiver of Alert	Trigger level and integration period
RED	Steven.Gillam@erith.com	190 ug/m3 1hour

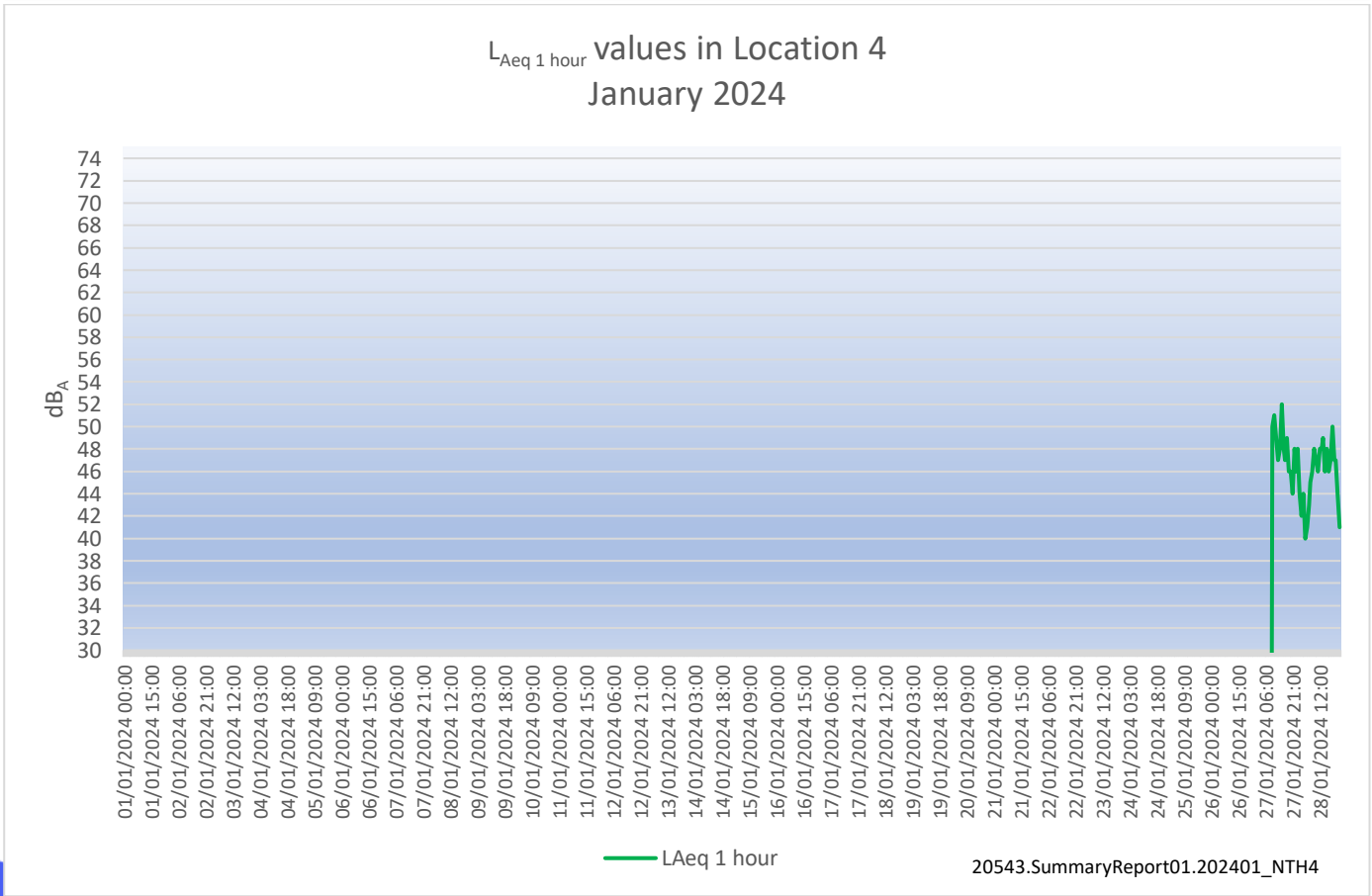
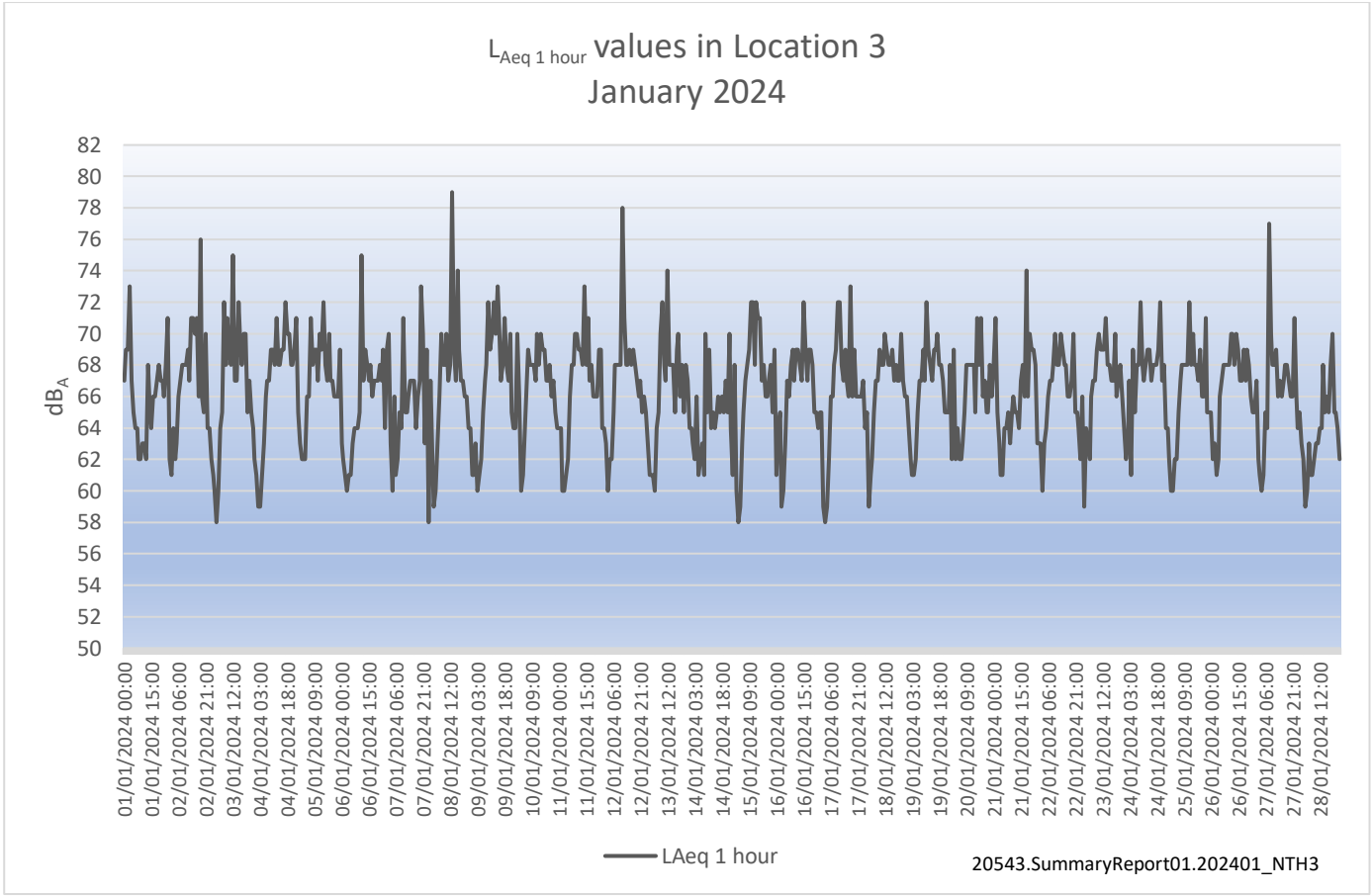
Monitoring Results:

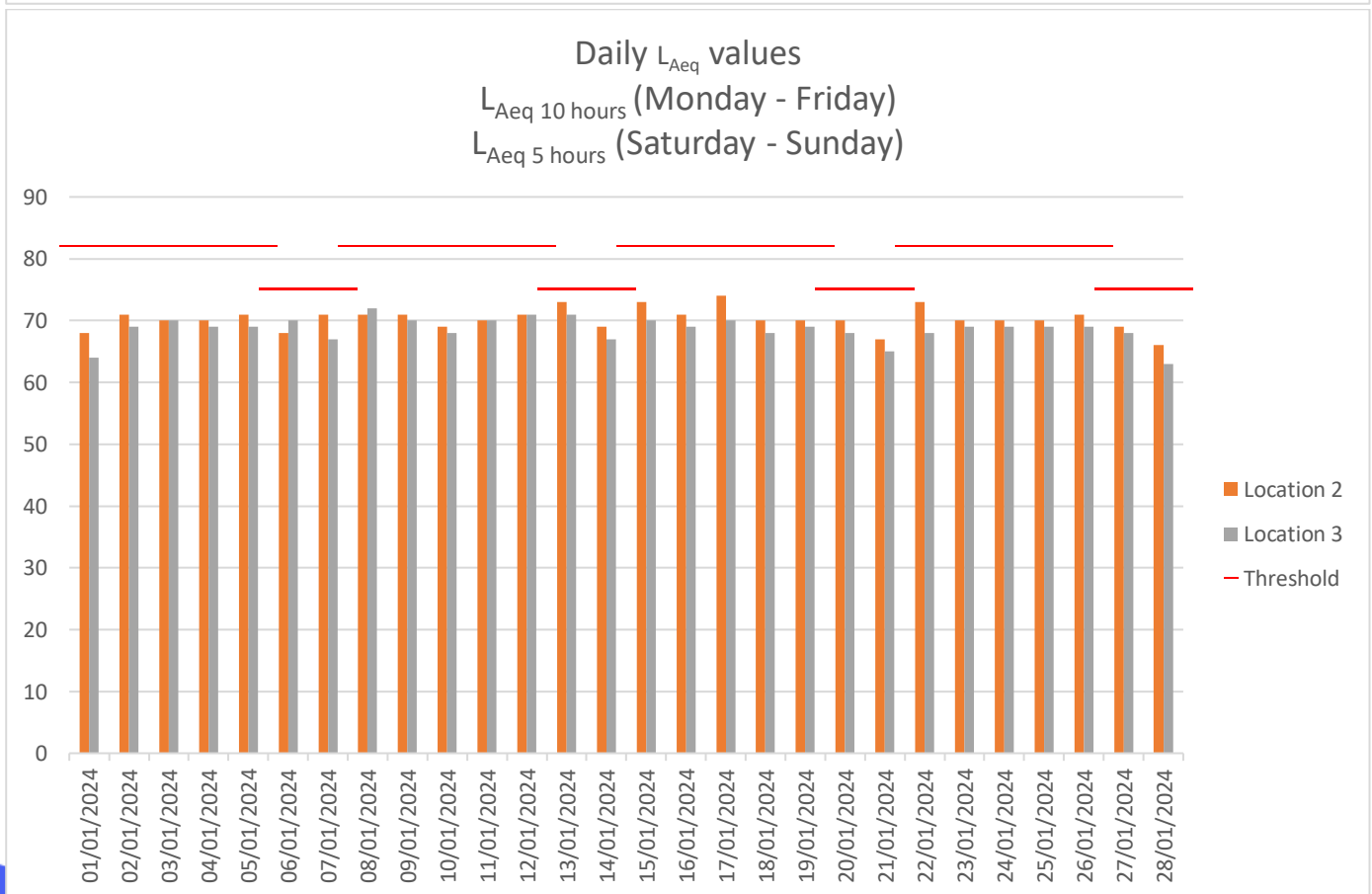
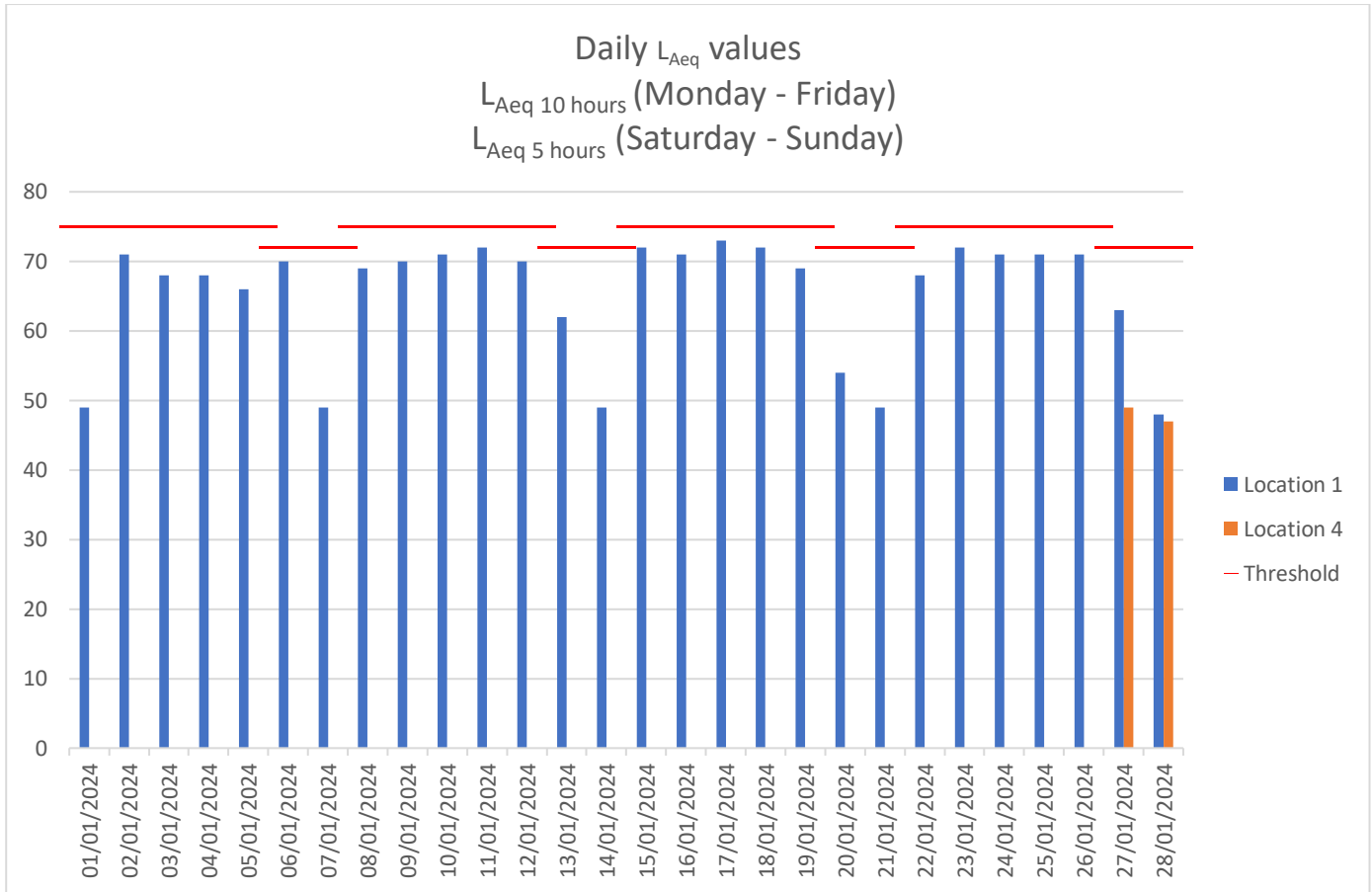
Noise Survey

Noise monitoring results for the period between 01 January 2023 and 28 January 2024 have been present in Figures: 20543.SummaryReport202401.YYYYMM\_NTHx where YYYYMM represents year and month of the monitoring period while 'x' – monitoring location.

Monitoring results have been also compared against agreed criteria of maximum daily allowed level of LAeq 10h 08:00 – 18:00 Monday – Friday and LAeq 5h 09:00 – 14:00 on Saturday. These values have been presented in graphical version below.









It is expected that some attenuation of the construction noise will be provided due to the distance to closest sensitive receptors. The actual value will differ depending on location of noise source and the receiver. As the monitoring stations are located at the site boundary the difference between the level recorded at the monitoring station and the level at the façade of the receiver will also depend on the distance between the source and the monitoring station.

The noise levels from the point source reduce by 6dB by doubling the distance as per equation:

$$Lp_{R2} = Lp_{R1} - 20 \cdot \text{Log}_{10} \left( \frac{R2}{R1} \right)$$

The distance between monitoring station in Location 1 and closest sensitive receiver's façade is at least 10m while the distance between the source and the monitoring station is approx. 10m.

The distance in Location 2 and Location 3 is approx. 20 m. from the monitoring station and the receiver.

Table 1 presents the calculated attenuation of sound due to the distance between microphone (monitoring location) and receiver with consideration of the distance separating the sound source and the monitoring location.

Distance source to microphone	Distance in meters between monitoring location and receiver													
	5	6	7	8	9	10	12	14	16	18	20	25	30	35
	Attenuation of sound due to distance													
5m	6	6.8	7.6	8.3	8.9	9.5	10.6	11.6	12.5	13.3	14	15.6	16.9	18.1
10m	3.5	4.1	4.6	5.1	5.6	6	6.8	7.6	8.3	8.9	9.5	10.9	12	13.1
15m	2.5	2.9	3.3	3.7	4.1	4.4	5.1	5.7	6.3	6.8	7.4	8.5	9.5	10.5
20m	1.9	2.3	2.6	2.9	3.2	3.5	4.1	4.6	5.1	5.6	6	7	8	8.8
25m	1.6	1.9	2.1	2.4	2.7	2.9	3.4	3.9	4.3	4.7	5.1	6	6.8	7.6
30m	1.3	1.6	1.8	2.1	2.3	2.5	2.9	3.3	3.7	4.1	4.4	5.3	6	6.7
35m	1.2	1.4	1.6	1.8	2	2.2	2.6	2.9	3.3	3.6	3.9	4.7	5.4	6

Table 1 The relation of sound reduction to distance of the source and receiver towards monitoring position

The highlighted columns represent the specific site worst case scenario where receivers are around 10m and 20m away from the site.

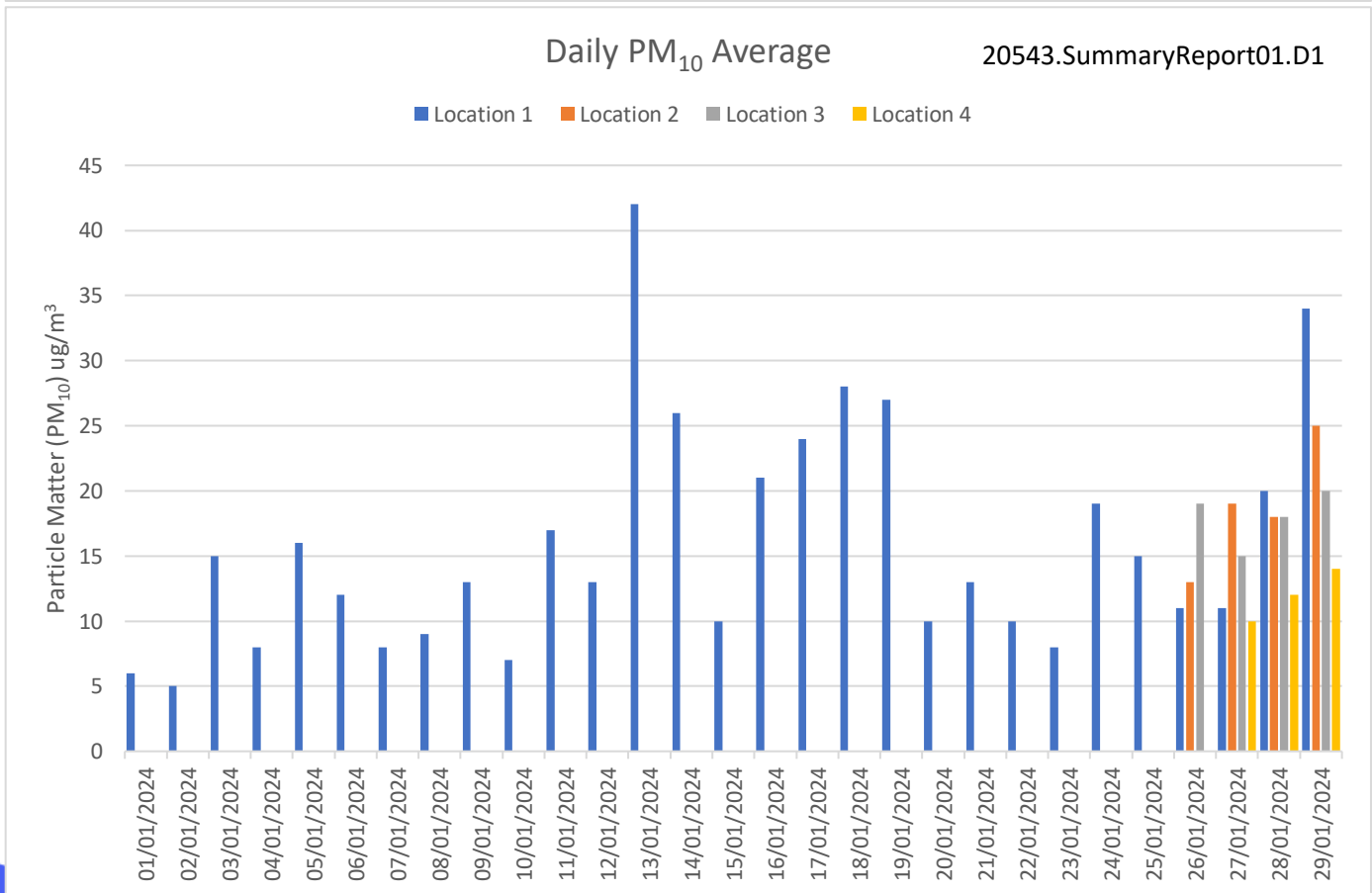
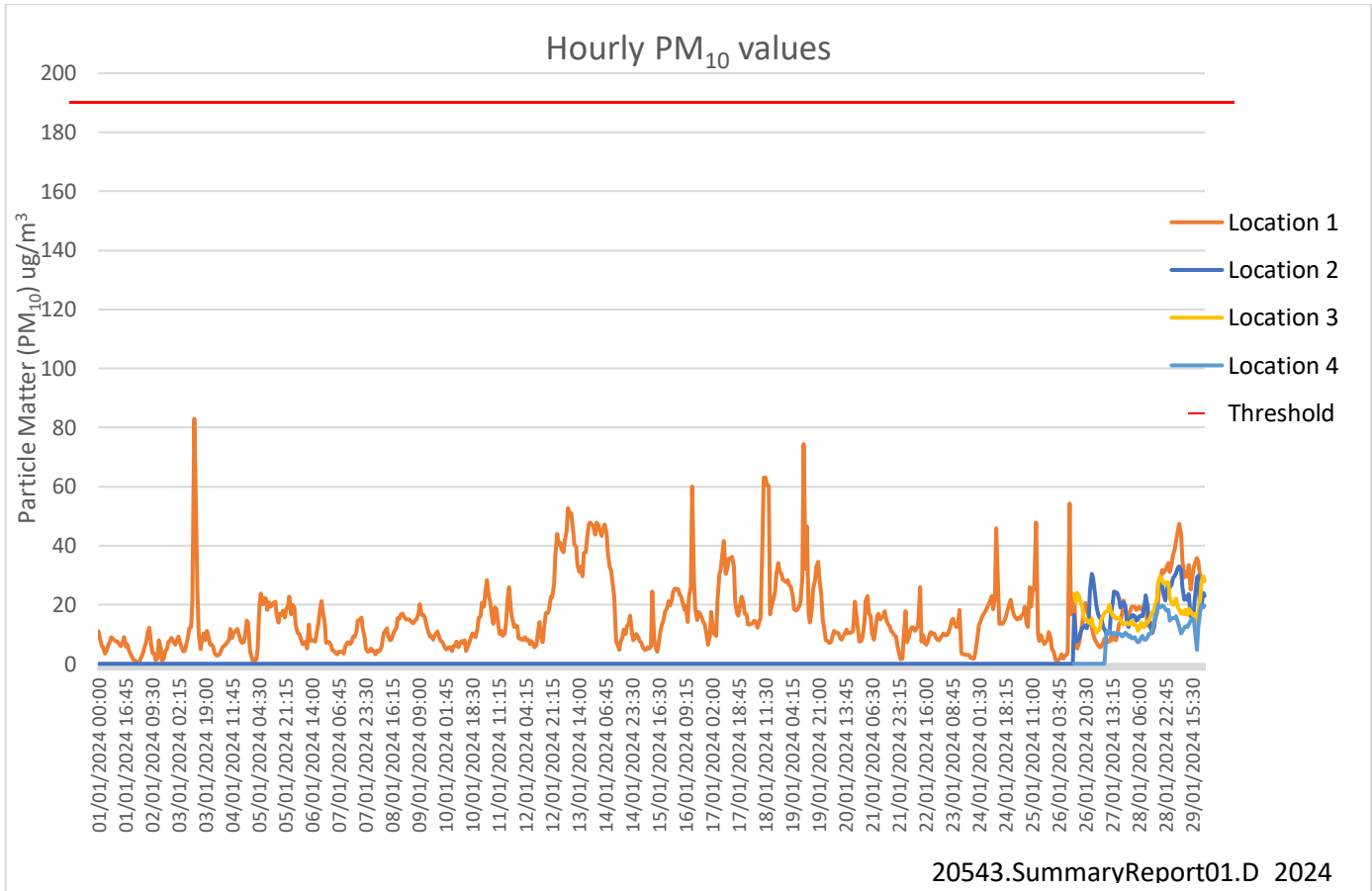
## Dust Survey

Dust monitoring summary results for the period between 01 January 2023 and 28 January 2024 have been presented in Figures:

- 20543.SummaryReport202401.D\_YYYYMM\_hourly with summary 1 hour averages, where MMM represents the year and MM month of the reporting data.
- 20543.SummaryReport202401.D1\_Daily with summary 1 hour averages.

PM10 values were compared against the action threshold level of 190 ug/m<sup>3</sup> 1hour average.

Additional criterion of 150 ug/m<sup>3</sup> 15-minut average was set as a preventive pre-action trigger. No specific action is required to be undertaken on 15 min exceedances. This level has also been provided for easier comparison with other data sources.



A summary of PM10 values has been present in the table below.

Date	Max (µg/m3)				Min (µg/m3)				Average (µg/m3)				Number of Exceedance ≥ 190 µg/m3(1 Hour Mean)				Number of Exceedance ≥ 150 µg/m3(Trigger Level)				Number of Exceedance ≥ 250 µg/m3(Action Level)				Data Capture					
	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4		
01/01/2024	15				0				6				0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%
02/01/2024	14				0				5				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
03/01/2024	129				4				15				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
04/01/2024	16				2				8				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
05/01/2024	29				0				16				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
06/01/2024	34				4				12				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
07/01/2024	17				3				8				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
08/01/2024	18				3				9				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
09/01/2024	25				7				13				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
10/01/2024	16				4				7				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
11/01/2024	32				6				17				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
12/01/2024	33				4				12				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
13/01/2024	55				29				42				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
14/01/2024	49				4				27				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
15/01/2024	40				3				10				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
16/01/2024	87				8				21				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
17/01/2024	43				5				24				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	
18/01/2024	88				12				28				0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0%	0%	0%	

Date	Max (µg/m3)				Min (µg/m3)				Average (µg/m3)				Number of Exceedance ≥ 190 µg/m3(1 Hour Mean)				Number of Exceedance ≥ 150 µg/m3(Trigger Level)				Number of Exceedance ≥ 250 µg/m3(Action Level)				Data Capture							
	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4	Location 1	Location 2	Location 3	Location 4				
19/01/2024	143				13				27				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0 %	0 %	0 %
20/01/2024	22				7				11				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0 %	0 %	0 %	
21/01/2024	25				3				13				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0 %	0 %	0 %	
22/01/2024	49				1				10				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0 %	0 %	0 %	
23/01/2024	43				1				8				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0 %	0 %	0 %	
24/01/2024	61				3				18				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0 %	0 %	0 %	
25/01/2024	88				6				16				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	0 %	0 %	0 %	
26/01/2024	182	24	26		0	7	13		11	12	19		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	100 %	43 %	43 %	0 %	
27/01/2024	23	32	22	15	5	9	10	8	11	19	15	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	58 %	
28/01/2024	33	29	30	23	9	10	11	7	19	18	18	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
29/01/2024	50	34	30	23	23	16	8	4	34	25	20	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100 %	100 %	100 %	100 %	
30/01/2024																																
31/01/2024																																

## List of alerts and actions undertaken.

### Noise Red Trigger

No exceedances recorded.

### Dust Action Level

No exceedances recorded.