cass allen

Architectural & Environmental Acousticians
Noise & Vibration Engineers

Holloway Park, London

Construction Monitoring Report

Client:	London Square
Ref:	CM51-22405-R0
Date:	31 October 2023
Note by:	Adam Bamford, BSc MIOA DipIOA, Principal Acoustics Consultant

1. INTRODUCTION

1.1 This Technical Note sets out results of the construction monitoring being carried out at the above between Monday 23rd October and Saturday 28th October 2023. The monitoring is being carried out in accordance with the methodology set out in the Cass Allen response (reference LR03-22405-R0 dated 27 October 2023) to a S60 warning letter issued to Downwell Demolition Ltd.

2. WEEKLY ACTIVITIES

2.1 The following activities have been carried out onsite this week:

Downwell

- Exposing Block D piles.
- Engineer plotting Block D piles.
- Removing Block D piles down to 2m with muncher attachment.
- Exposing Block 1 piles.
- Engineer plotting Block 1 piles.
- Removing Block 1 piles down to 2m with muncher attachment.
- Backfilling excavations.
- Loading skips.

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- Processing concrete with hydraulic muncher.
- Crushing arisings to 6f2 with crusher.
- Breaking slab at Block 1 ***within noisy periods.***
- Breaking slab at Block 1 Sports hall ***within noisy periods.***
- Removing Block 2 foundations with bucket attachments.
- Removing Block 2 foundations with Breaker attachment ***within noisy periods.***

Horizon

- Watch and brief attendance with Downwell.
- Ground remediation.
- Attenuation tank dig.
- Loading lorries.
- Screening.

TAG

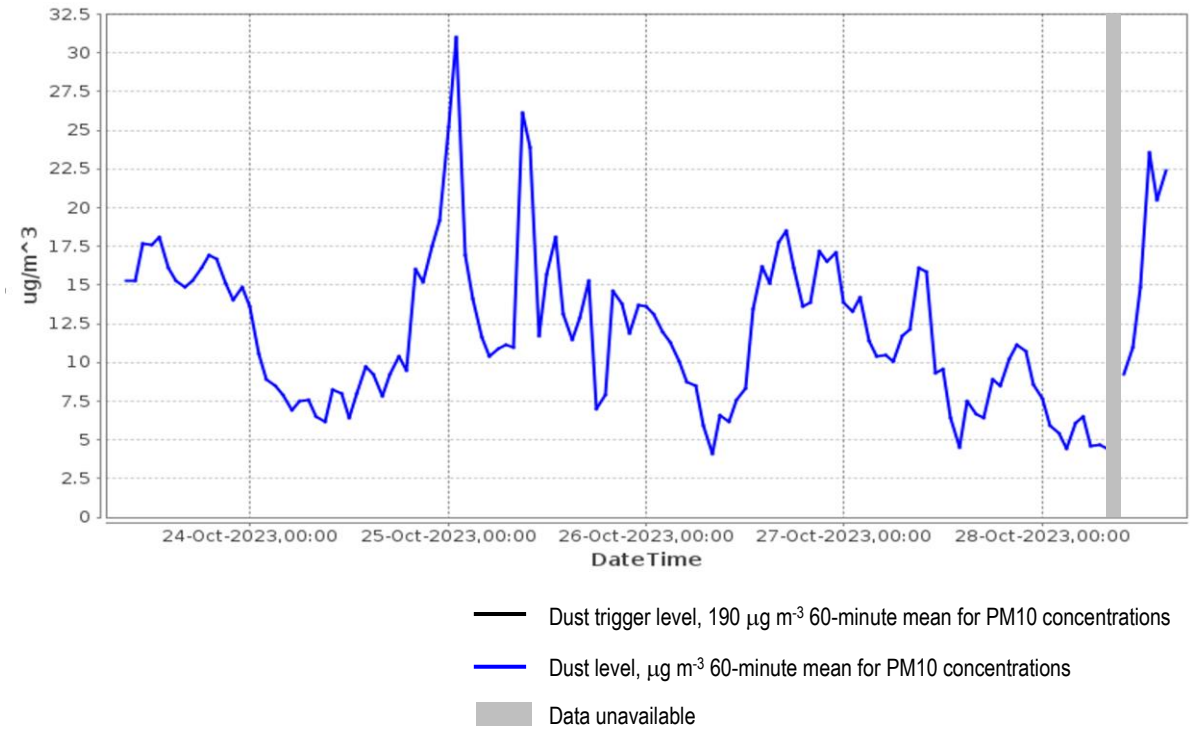
- Installing perimeter hoarding to site.

3. MONITORING DATA

3.1 This section sets out a summary of the monitoring data that has been recorded onsite

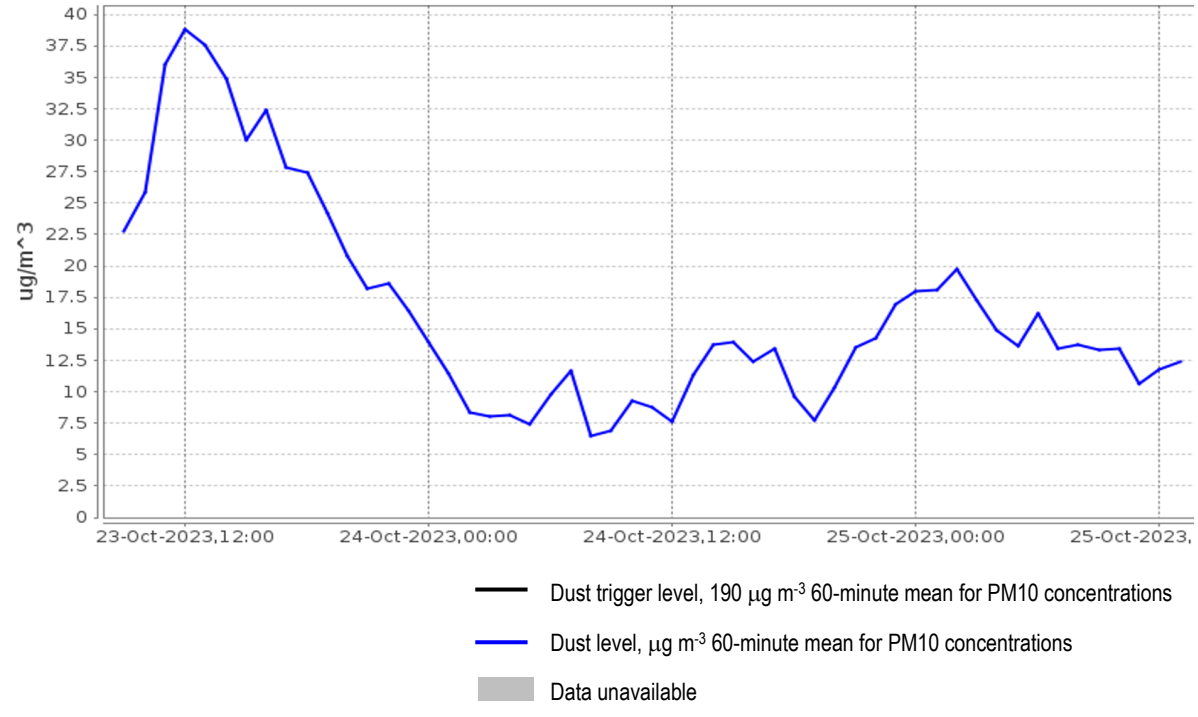
Dust Monitoring Results

Location 1



There was 96% data coverage at Location 1 for the monitoring period covered by this report.

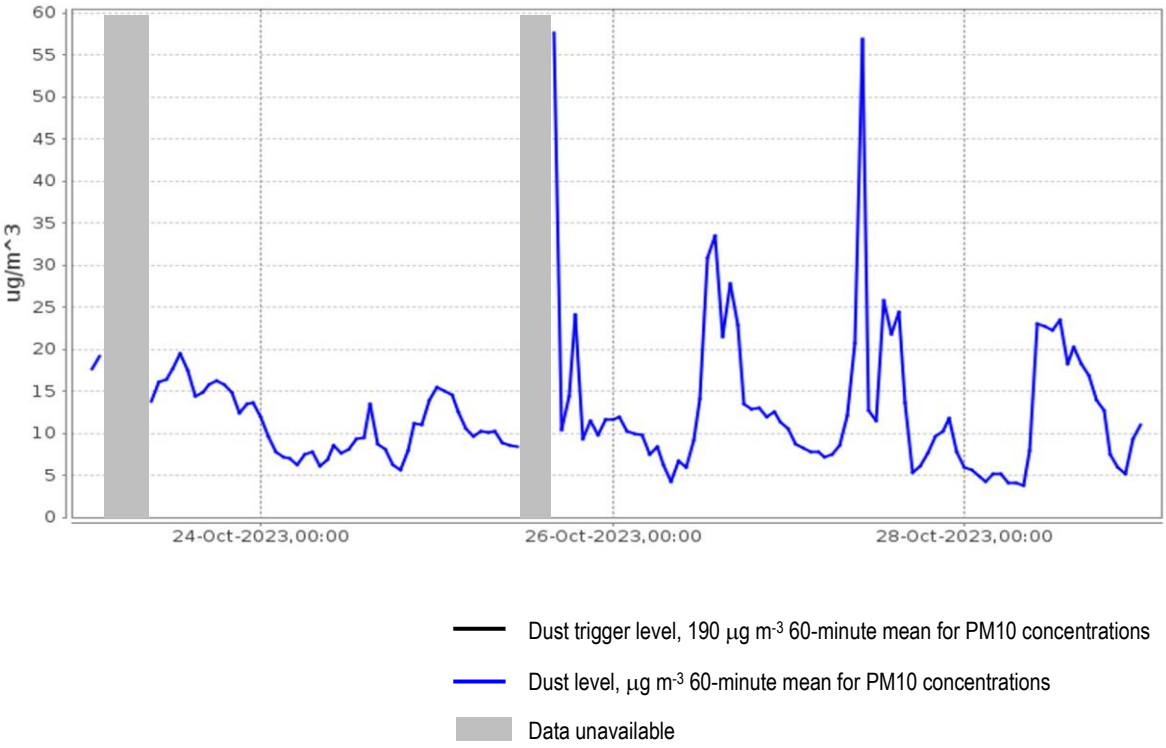
Location 2



There was 45% data coverage at Location 2 for the monitoring period covered by this report.

An unforeseen fault was reported by Cass Allen to the Environmental Health team during the site visit on 25th October and no data collection has occurred since this. The monitor will be sent off for its biennial laboratory calibration during the next site visit carried out by Cass Allen and this will fix the current issue connecting to the webserver/ platform.

Location 3



There was 91% data coverage at Location 3 for the monitoring period covered by this report.

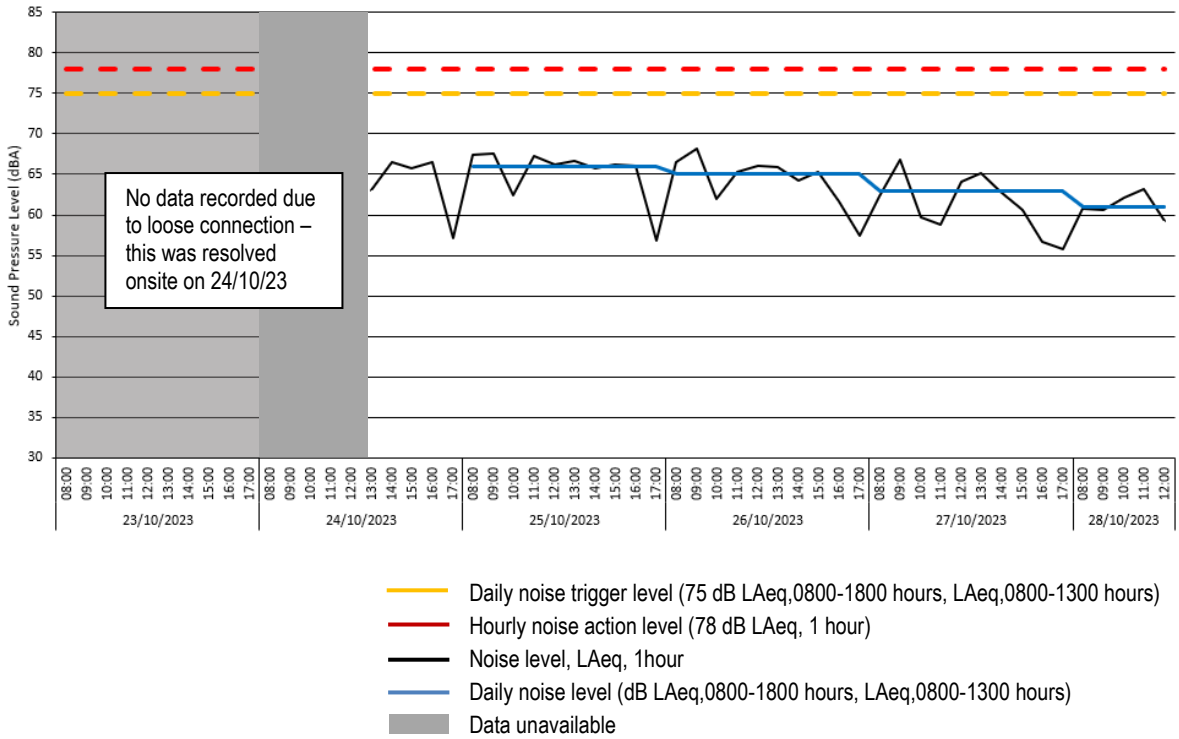
Noise Monitoring Results

Location 1 – Raw Data

Broadband Results

Date [YYYY-MM-DD]	Time [hh:mm:ss]	LAeq(60min) [dB]	LAeq(7hr) [dB]	LAeq(10hr) [dB]	LAeq(5hr) [dB]
2023-10-24	14:00:00	63.0	-.-	-.-	-.-
2023-10-24	15:00:00	66.5	-.-	-.-	-.-
2023-10-24	16:00:00	65.7	-.-	-.-	-.-
2023-10-24	17:00:00	66.5	-.-	-.-	-.-
2023-10-24	18:00:00	57.1	-.-	-.-	-.-
2023-10-25	09:00:00	67.4	-.-	-.-	-.-
2023-10-25	10:00:00	67.5	-.-	-.-	-.-
2023-10-25	11:00:00	62.5	-.-	-.-	-.-
2023-10-25	12:00:00	67.2	-.-	-.-	-.-
2023-10-25	13:00:00	66.2	-.-	-.-	-.-
2023-10-25	14:00:00	66.7	-.-	-.-	-.-
2023-10-25	15:00:00	65.7	-.-	-.-	-.-
2023-10-25	16:00:00	66.2	-.-	-.-	-.-
2023-10-25	17:00:00	66.0	-.-	-.-	-.-
2023-10-25	18:00:00	56.8	-.-	65.9	-.-
2023-10-26	09:00:00	66.5	-.-	-.-	-.-
2023-10-26	10:00:00	68.2	-.-	-.-	-.-
2023-10-26	11:00:00	62.0	-.-	-.-	-.-
2023-10-26	12:00:00	65.3	-.-	-.-	-.-
2023-10-26	13:00:00	66.0	-.-	-.-	-.-
2023-10-26	14:00:00	65.9	-.-	-.-	-.-
2023-10-26	15:00:00	64.2	-.-	-.-	-.-
2023-10-26	16:00:00	65.3	-.-	-.-	-.-
2023-10-26	17:00:00	61.6	-.-	-.-	-.-
2023-10-26	18:00:00	57.4	-.-	65.0	-.-
2023-10-27	09:00:00	62.3	-.-	-.-	-.-
2023-10-27	10:00:00	66.8	-.-	-.-	-.-
2023-10-27	11:00:00	59.7	-.-	-.-	-.-
2023-10-27	12:00:00	58.8	-.-	-.-	-.-
2023-10-27	13:00:00	64.1	-.-	-.-	-.-
2023-10-27	14:00:00	65.1	-.-	-.-	-.-
2023-10-27	15:00:00	62.8	-.-	-.-	-.-
2023-10-27	16:00:00	60.6	-.-	-.-	-.-
2023-10-27	17:00:00	56.7	-.-	-.-	-.-
2023-10-27	18:00:00	55.7	-.-	62.5	-.-
2023-10-28	09:00:00	60.7	-.-	-.-	-.-
2023-10-28	10:00:00	60.6	-.-	-.-	-.-
2023-10-28	11:00:00	62.1	-.-	-.-	-.-
2023-10-28	12:00:00	63.2	-.-	-.-	-.-
2023-10-28	13:00:00	59.2	-.-	-.-	61.4

Location 1 – Time History Data



Location 2

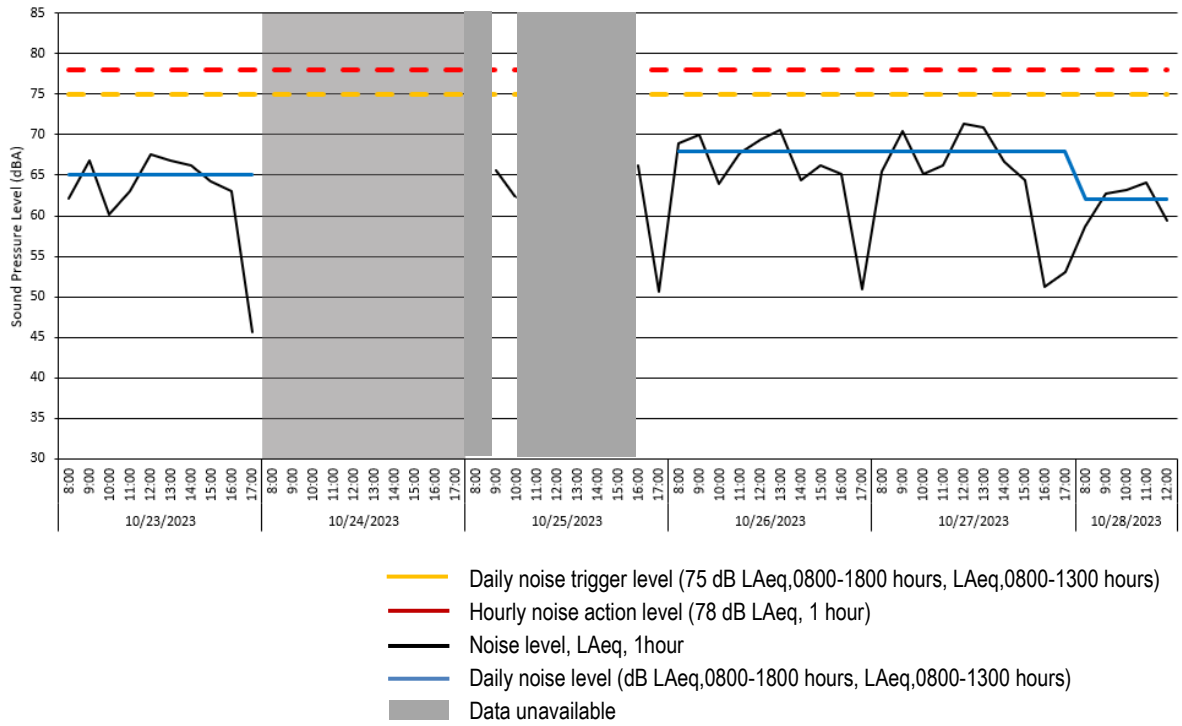
No data recorded at this location over the monitoring period. Cass Allen carried out a site visit on Wednesday 25th October and found that there was extensive water damage to the equipment and the equipment has been sent back to manufacturer for fault investigation/ repair/ replacement. It is our understanding that it will take around one working week to complete the repair or provide an alternative unit. Cass Allen notified LBI's Environmental Heath Officer of this damage by email.

Location 3 – Raw Data

Broadband Results

Date	Time	LAeq(60min)	LAeq(10hr)	LAeq(5hr)
[YYYY-MM-DD]	[hh:mm:ss]	[dB]	[dB]	[dB]
2023-10-22	18:00:00	-.-	50.8	-.-
2023-10-23	09:00:00	62.1	-.-	-.-
2023-10-23	10:00:00	66.8	-.-	-.-
2023-10-23	11:00:00	60.1	-.-	-.-
2023-10-23	12:00:00	63.0	-.-	-.-
2023-10-23	13:00:00	67.6	-.-	-.-
2023-10-23	14:00:00	66.8	-.-	-.-
2023-10-23	15:00:00	66.2	-.-	-.-
2023-10-23	16:00:00	64.3	-.-	-.-
2023-10-23	17:00:00	63.1	-.-	-.-
2023-10-23	18:00:00	45.6	64.6	-.-
2023-10-25	10:00:00	65.6	-.-	-.-
2023-10-25	11:00:00	62.3	-.-	-.-
2023-10-25	17:00:00	66.2	-.-	-.-
2023-10-25	18:00:00	50.6	-.-	-.-
2023-10-26	09:00:00	68.9	-.-	-.-
2023-10-26	10:00:00	70.0	-.-	-.-
2023-10-26	11:00:00	63.9	-.-	-.-
2023-10-26	12:00:00	67.8	-.-	-.-
2023-10-26	13:00:00	69.4	-.-	-.-
2023-10-26	14:00:00	70.6	-.-	-.-
2023-10-26	15:00:00	64.4	-.-	-.-
2023-10-26	16:00:00	66.2	-.-	-.-
2023-10-26	17:00:00	65.1	-.-	-.-
2023-10-26	18:00:00	50.9	67.6	-.-
2023-10-27	09:00:00	65.4	-.-	-.-
2023-10-27	10:00:00	70.5	-.-	-.-
2023-10-27	11:00:00	65.2	-.-	-.-
2023-10-27	12:00:00	66.2	-.-	-.-
2023-10-27	13:00:00	71.3	-.-	-.-
2023-10-27	14:00:00	70.9	-.-	-.-
2023-10-27	15:00:00	66.6	-.-	-.-
2023-10-27	16:00:00	64.4	-.-	-.-
2023-10-27	17:00:00	51.2	-.-	-.-
2023-10-27	18:00:00	53.1	67.5	-.-
2023-10-28	09:00:00	58.6	-.-	-.-
2023-10-28	10:00:00	62.7	-.-	-.-
2023-10-28	11:00:00	63.2	-.-	-.-
2023-10-28	12:00:00	64.1	-.-	-.-
2023-10-28	13:00:00	59.4	-.-	62.1

Location 3 – Time-history graph

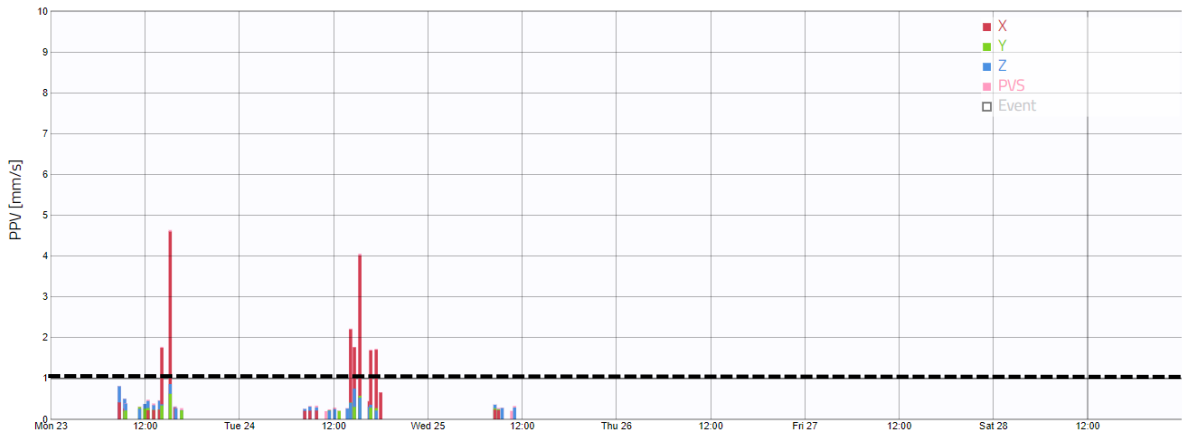


Vibration Monitoring Results

Location 1 – Raw data

Measuring point:	Period:	Order	Value	Date	Time
Holloway - L1	23/10/2023 to 28/10/2023	1	4.64	23/10/2023	15:10
		2	4.06	24/10/2023	15:19
Criteria mm/s PVS	Exceedances	3	2.22	24/10/2023	14:08
1.0	11	4	2.05	24/10/2023	14:34
		5	1.78	23/10/2023	14:07
		6	1.77	24/10/2023	14:37
		7	1.73	24/10/2023	17:24
		8	1.71	24/10/2023	16:42
		9	1.30	24/10/2023	17:20
		10	1.08	24/10/2023	15:07
		11	1.02	24/10/2023	15:22

Location 1 – Time-history graph

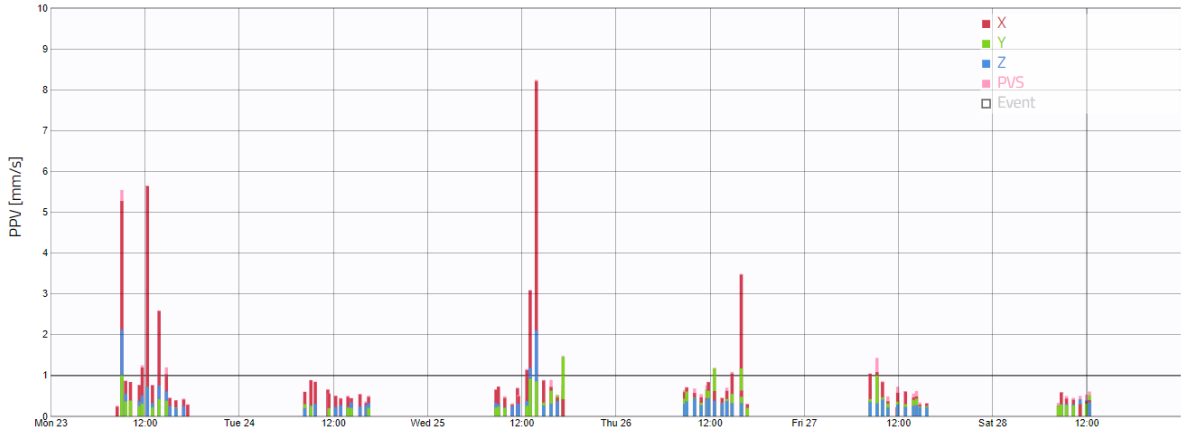


X axis, PPV (mm/s) Y axis, PPV (mm/s) Z axis, PPV (mm/s) Trigger level (1 mm/s PPV)

Location 2 – Raw data

Measuring point:	Period:	Order	Value	Date	Time	Order	Value	Date	Time
Holloway - L2	23/10/2023 to 28/10/2023	1	8.24	25/10/2023	13:51	17	1.37	23/10/2023	08:54
		2	5.64	23/10/2023	12:17	18	1.29	23/10/2023	09:03
Criteria mm/s PVS	Exceedances	3	5.55	23/10/2023	09:01	19	1.25	25/10/2023	14:02
1	31	4	3.49	26/10/2023	15:58	20	1.25	23/10/2023	11:37
		5	3.09	25/10/2023	13:03	21	1.20	23/10/2023	14:43
		6	2.76	25/10/2023	14:23	22	1.19	27/10/2023	09:29
		7	2.75	23/10/2023	08:59	23	1.19	26/10/2023	12:32
		8	2.60	23/10/2023	13:41	24	1.16	23/10/2023	09:03
		9	1.89	25/10/2023	14:04	25	1.16	25/10/2023	12:39
		10	1.85	25/10/2023	14:08	26	1.09	26/10/2023	14:47
		11	1.48	25/10/2023	17:15	27	1.06	23/10/2023	11:37
		12	1.44	23/10/2023	12:16	28	1.05	27/10/2023	08:23
		13	1.43	27/10/2023	09:16	29	1.03	27/10/2023	08:24
		14	1.43	25/10/2023	13:57	30	1.02	25/10/2023	13:55
		15	1.42	23/10/2023	08:41	31	1.00	23/10/2023	08:53
		16	1.41	26/10/2023	15:56				

Location 2 – Time-history graph

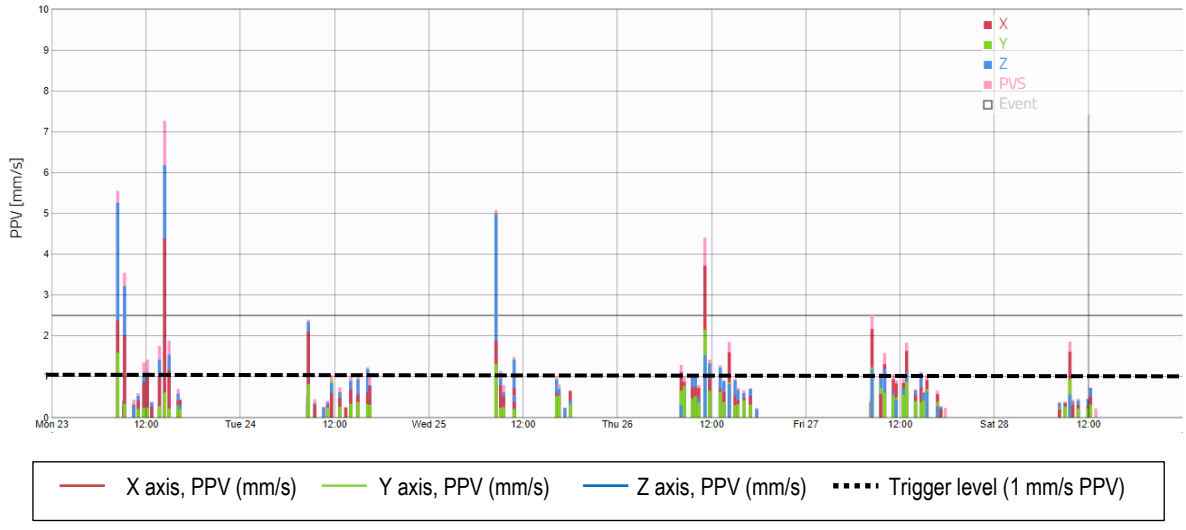


X axis, PPV (mm/s) Y axis, PPV (mm/s) Z axis, PPV (mm/s) Trigger level (1 mm/s PPV)

Location 3 – Raw data

Measuring point:	Period:	Order	Value	Date	Time	Order	Value	Date	Time
Holloway - L3	23/10/2023 to 28/10/2023	1	7.27	23/10/2023	14:21	34	1.29	26/10/2023	11:40
		2	6.74	23/10/2023	14:20	35	1.29	26/10/2023	08:07
Criteria mm/s PVS	Exceedances	3	5.55	23/10/2023	08:10	36	1.28	26/10/2023	13:05
1	66	4	5.08	25/10/2023	08:33	37	1.23	26/10/2023	11:25
		5	4.41	26/10/2023	11:08	38	1.23	24/10/2023	16:11
		6	3.76	23/10/2023	08:23	39	1.19	26/10/2023	12:45
		7	3.54	23/10/2023	09:14	40	1.19	26/10/2023	11:59
		8	3.10	25/10/2023	08:33	41	1.19	26/10/2023	13:06
		9	2.96	23/10/2023	09:13	42	1.18	27/10/2023	12:58
		10	2.50	27/10/2023	08:25	43	1.17	26/10/2023	11:53
		11	2.40	24/10/2023	08:40	44	1.17	23/10/2023	14:57
		12	2.37	23/10/2023	14:15	45	1.17	23/10/2023	14:53
		13	2.19	24/10/2023	08:38	46	1.15	25/10/2023	09:07
		14	2.07	23/10/2023	09:13	47	1.15	23/10/2023	14:54
		15	1.88	23/10/2023	14:56	48	1.14	26/10/2023	12:52
		16	1.86	28/10/2023	09:37	49	1.12	26/10/2023	11:36
		17	1.85	26/10/2023	14:14	50	1.11	27/10/2023	14:40
		18	1.83	27/10/2023	12:49	51	1.11	27/10/2023	12:43
		19	1.75	23/10/2023	13:41	52	1.10	26/10/2023	11:34
		20	1.68	23/10/2023	15:00	53	1.09	26/10/2023	12:53
		21	1.62	23/10/2023	14:56	54	1.09	27/10/2023	09:32
		22	1.58	27/10/2023	09:50	55	1.09	27/10/2023	08:53
		23	1.53	23/10/2023	13:54	56	1.08	26/10/2023	12:49
		24	1.48	25/10/2023	10:51	57	1.06	27/10/2023	11:08
		25	1.44	23/10/2023	14:02	58	1.06	24/10/2023	16:28
		26	1.44	23/10/2023	13:42	59	1.06	26/10/2023	09:55
		27	1.42	26/10/2023	11:44	60	1.04	27/10/2023	15:22
		28	1.42	23/10/2023	12:09	61	1.04	24/10/2023	11:36
		29	1.38	23/10/2023	13:41	62	1.04	24/10/2023	14:53
		30	1.37	23/10/2023	12:09	63	1.02	23/10/2023	09:09
		31	1.36	27/10/2023	08:27	64	1.01	23/10/2023	14:53
		32	1.35	23/10/2023	11:43	65	1.00	25/10/2023	16:15
		33	1.31	23/10/2023	12:06	66	1.00	26/10/2023	08:30

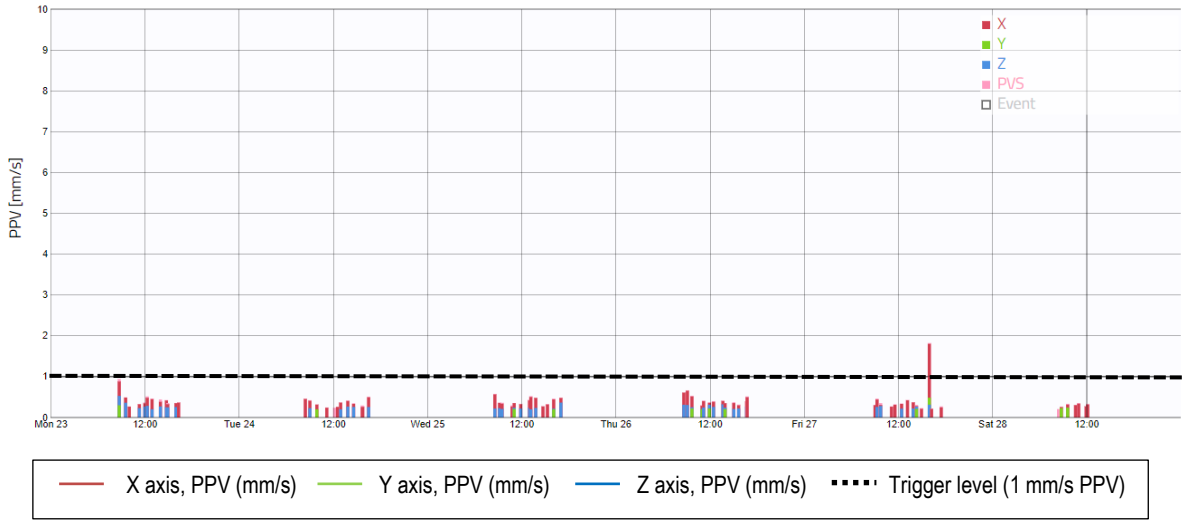
Location 3 – Time-history graph



Location 4 – Raw data

Measuring point:	Period:	Order	Value	Date	Time
Holloway - L4	23/10/2023 to 28/10/2023	1	1.82	27/10/2023	15:55
		2	0.94	23/10/2023	08:41
Criteria mm/s PVS	Exceedances	3	0.67	26/10/2023	09:06
1	1	4	0.62	23/10/2023	08:38
		5	0.61	26/10/2023	08:57

Location 4 – Time-history graph



4. DISCUSSION OF RESULTS AND BPM

4.1 There were no recorded exceedances of the dust trigger level at Location 1, Location 2, or Location 3 during the monitoring period.

4.2 Similarly, there were no recorded exceedances of the noise trigger level at any of the monitoring locations during the monitoring period.

4.3 With regards to vibration, there were:

- 11 exceedances of the vibration trigger level of 1 mm/s PPV at Location 1
- 31 exceedances of the vibration trigger level of 1 mm/s PPV at Location 2
- 66 exceedances of the vibration trigger level of 1 mm/s PPV at Location 3. It is worth noting however that these would be reduced to 10 exceedances if the revised onsite trigger level of 2.5 mm/s PPV was adopted as recommended by us following our attended offsite vibration monitoring as set out in TN02-22405-R) dated 20 September 2023. Of those 10 exceedances, 7 of them occurred when batteries were being changed by site operatives.

- 1 exceedance of the vibration trigger level of 1 mm/s PPV at Location 4

4.4 The following information has been provided by Downwell in relation to the above exceedances:

Location 1 – Dalmeny Ave Estate

Early exceedances would be due to the changing of the batteries and the others will all be non-construction related alerts - No active works carried out week commencing 23/10/23 in this area.

Location 2 – Northern site boundary – opposite Penderyn Way

Text, text

Early exceedances would be due to the changing of the batteries and the others will all be non-construction related alerts - No active works carried out week commencing 23/10/23 in this area.

We did have the hoarders Tag working here but the works were working away form the monitor. Also we had the investigation to the loss of power.

Location 3 – Eastern site boundary (opposite Chambers Rd Estate)

Early exceedances would be due to the changing of the batteries and the others will all be vehicles using the haul road as well as the collection of plant when being delivered - No active works carried out week commencing 23/10/23 in this area.

The alerts for between 3:30pm and 4:15pm were Horizon repairing the haul road with fresh crush as the lorries had worn down the original layers.

Location 4 – Rear garden of Trecastle Way

No alerts - No active works carried out week commencing 23/10/23 in this area.