HS2

January 2025

Air Quality and Dust Monitoring Monthly Report – January 2025

London Borough of Ealing

Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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A report prepared by EWCs and MWCCs on behalf of HS2 Ltd.

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Monthly Summary

1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of air quality and dust monitoring undertaken in the London Borough of Ealing (LBE) during December 2024 and January 2025 respectively.

1.1.2 Figure 1 to Figure 3 in Appendix A present the current worksites together with air quality and dust monitoring locations.

1.1.3 This summary should be read in conjunction with the overview monitoring report available from www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2, which highlights: the applicable standards and guidance, as well as the air quality and dust monitoring methodologies to be implemented by nominated undertakers throughout construction.

1.1.4 The current worksites, as presented in Appendix A, Figure 1 to Figure 3, include:

Old Oak Common Depot (located in the London Borough of Hammersmith and Fulham)

- General Site - Concrete batching, materials management, and haulage.
- Public Realm – Coring, installing push-pulls, lifting precast, demolition of concrete piles.
- Station Box – Scaffolding, concrete Pours, steel fixing base, intermediate & ground floor formwork, excavating and waterproofing.
- Great Western Main line – Steel fixing, excavations, concreting, backfilling.
- Shared Accommodation Building – Drainage installations, fix reinforcement, pile recap backfill, Fibre Reinforced Concrete works.
- SAB East – Excavation of pile caps.
- Site haul roads and public roads adjacent to site - Cleaning with a road sweeper.
- Old Oak Common East – Piling.
- Old Oak Common Lane – Excavations, welding.

Victoria Road Crossover Box and Flat Iron Site

- Crossover Box construction;
- Tunnel Boring Machine preparation; and
- Materials management.

Willesden Euro Terminal

- Excavated material spoil management and onward removal by rail.

Atlas Road

- Materials management (tunnel boring machine arisings).

Green Park Way Vent Shaft

- Vent shaft construction and materials management.

Mandeville Road Vent Shaft

- Vent shaft construction and materials management.

Westgate Vent Shaft

- Vent shaft construction and materials management.

Further works, where monitoring did not take place, were also undertaken in LBE:

On Network Works

- Civil works; and
- OLE works.

1.1.5 Nineteen (19) dust monitors are installed around these worksites, where works are underway. These sites returned a medium to high dust risk rating.

1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from each dust monitor presented in Figure 4. All continuous dust monitoring is undertaken using indicative monitors. Despite being Environment Agency (MCERTS) certified, indicative monitors carry a higher level of uncertainty than reference monitors, and therefore cannot be strictly compared with Air Quality Standards for human health and the environment. The purpose of the monitoring undertaken is to ensure the effectiveness of the on-site mitigation.

1.1.7 The trigger level for PM_{10} concentrations of 190 µg/m^3, over a 1-hour period, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites – (October 2018)*' has been applied.

1.1.8 Details of the trigger alert investigations and remediations are presented in Appendix B, Table 2.

1.1.9 Data capture was below 90% for multiple monitors due to:

- AQ025 - the street lighting column on which the monitor installed has been without power since 3rd party utilities works were undertaken during October 2024.
- AQ042 - regular intermittent temporary power losses to the monitor, and subsequent continued power loss yet to be resolved.
- AQ039 - temporary loss of power to the monitor.
- AQ036 - power issues during this monitoring period.

1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO_2) is undertaken at six (6) locations around highways within the LBE as part of the management of air quality where significant effects occur as a result of the scheme.

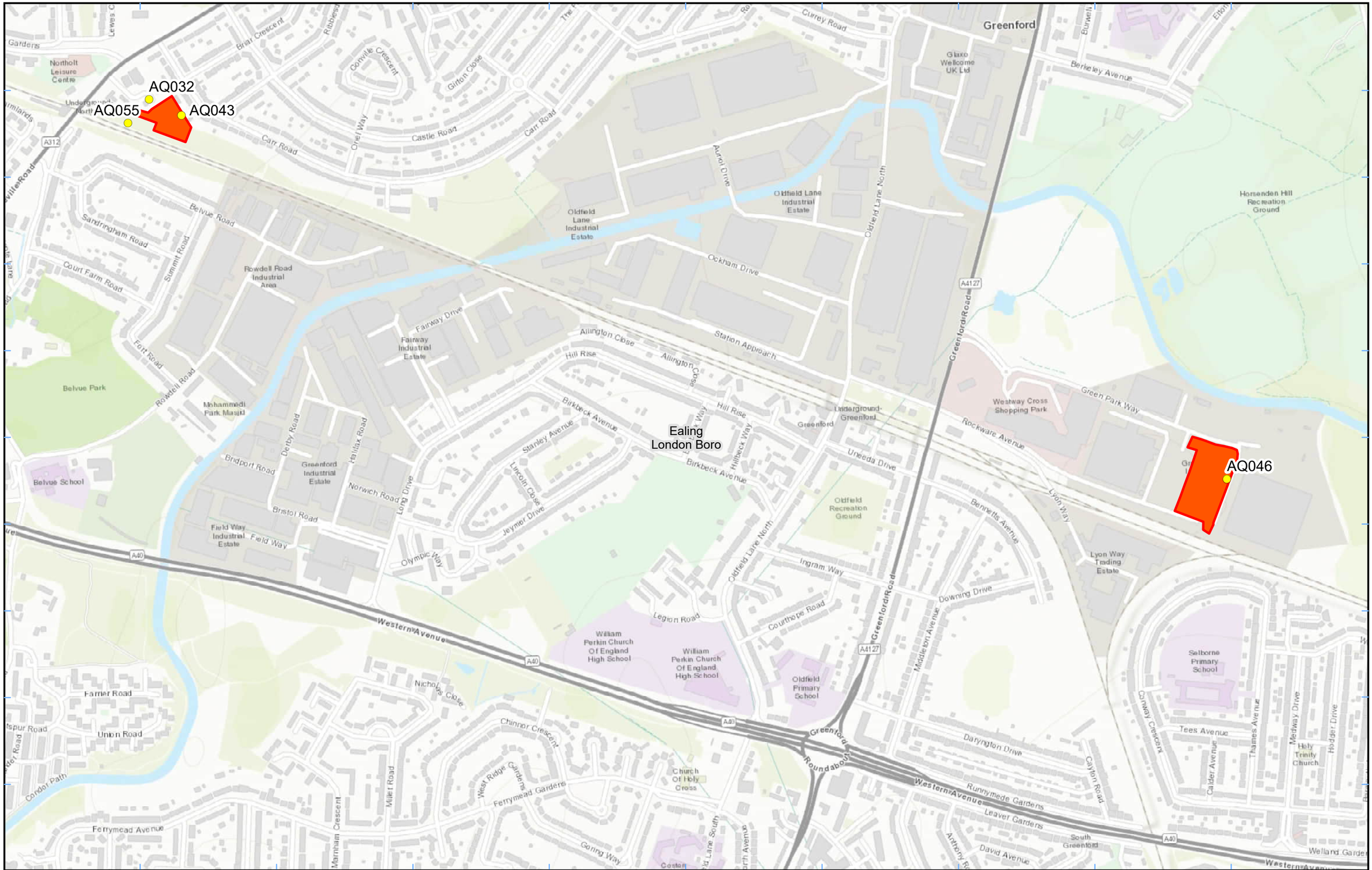
1.1.11 Diffusion tube monitoring results are as provided from the laboratory analysis, and therefore still require various analysis and adjustments to be undertaken. Final corrected results will be presented and described in the annual report. However, based on the results to date, no unexpected values were recorded during the monitoring period.

1.1.12 NO_2 monitoring locations and results are presented in Appendix C, Table 3, together with the 2024 running mean.

1.1.13 There were no (0) complaints received during the reporting period (January 2025).

Appendix A – Worksites and Monitoring Locations

Figures 1 to 3: Worksites and Monitoring Locations within the LBE



Legend

- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

Map Number

Map Name

Worksite & Monitoring Locations In LBE (Sheet 1)

London Borough of Ealing

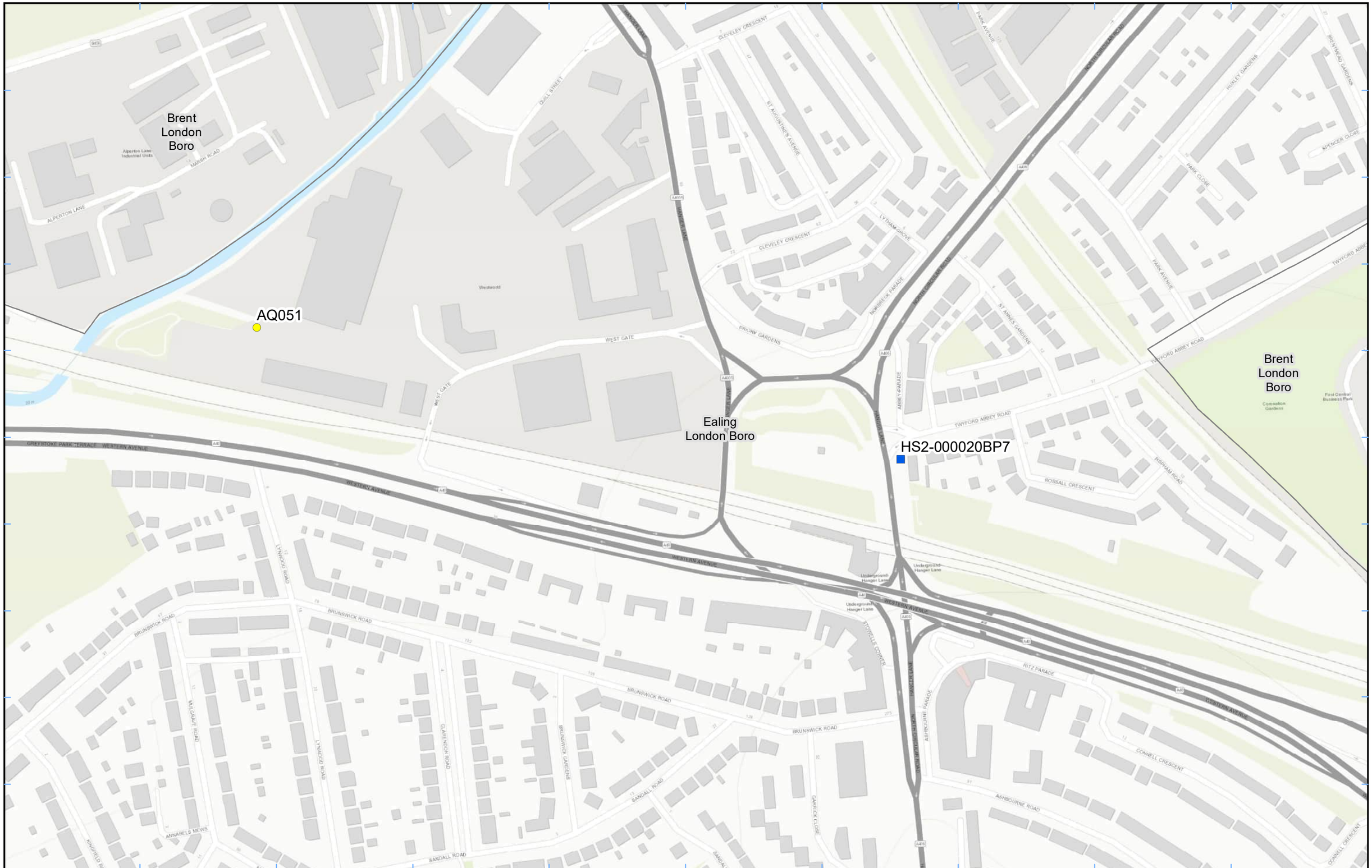
Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:7,000

0 70 140 210 280 Metres

Doc Number:

Date: 18/05/23



Legend

- Diffusion Tube
- District Borough Unitary Boundaries
- Dust Monitor

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Map Number

Map Name

Monitoring Locations
In LBE (Sheet 2)

London Borough of Ealing

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway,
Birmingham B4 6GA.

Scale at A3: 1:3,000

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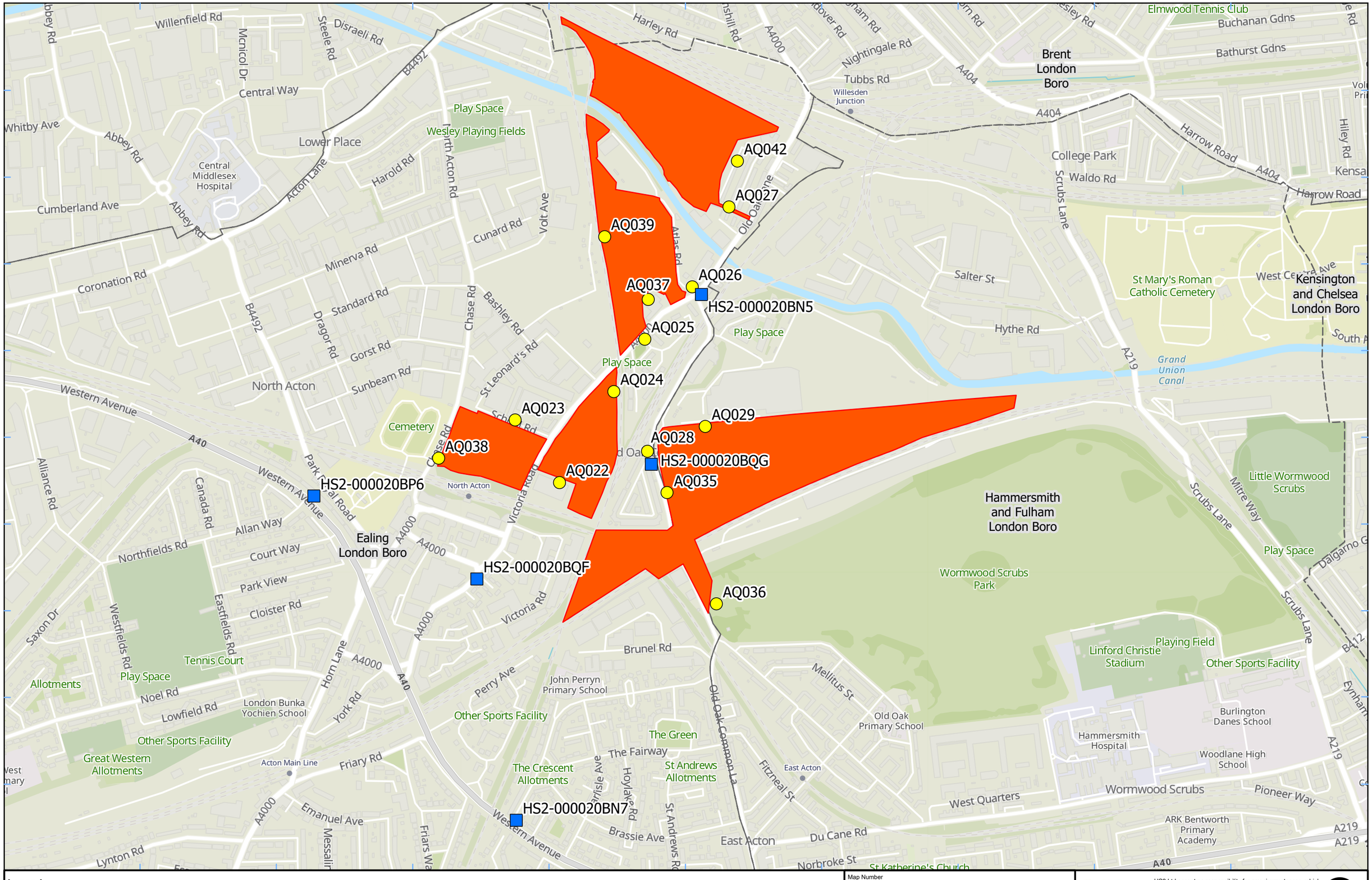

Legend

- Dust Monitor
- Diffusion Tube
- Worksite
- District Borough Unitary Boundaries

Map Number

Map Name

Worksite and Monitoring Locations In LBE (Sheet 3)

London Borough of Ealing

Scale at A3: 1:9,000

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Metres

Doc Number:

Date: 06/02/25

Appendix B – Dust Monitoring Results

Table 1: Dust Monitoring Locations and Results

Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM_{10} concentration ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1-hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
AQ022	521072, 181985	Boden House	M	Yes	N	16.8	0.8	517.5	4	100.0
AQ023	520956, 182149	School Road	M	Yes	N	12.7	0.9	56.0	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	11.7	0.7	54.8	0	100.0
AQ025	521295, 182360	Victoria Road	M	Yes	N	0.0	0.0	0.0	0	0.0
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	13.7	0.8	80.8	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	12.1	0.7	56.5	0	100.0
AQ028	521302, 182067	Wells House Road	M	Yes	N	10.7	0.6	42.6	0	100.0
AQ029	521453, 182132	Old Oak Common	H	Yes	N	12.4	0.8	246.7	1	98.5
AQ032	513402, 184536	Badminton Close	M	Yes	N	10.0	0.4	98.2	0	100.0
AQ035	521353, 181959	Old Oak Common	H	Yes	N	12.1	0.9	59.8	0	99.6
AQ036	521482, 181668	UTX South – Triangle Site	M	Yes	N	11.7	0.7	84.9	0	89.1
AQ037	521304, 182464	Atlas Road	M	Yes	N	14.1	0.9	65.0	0	100.0

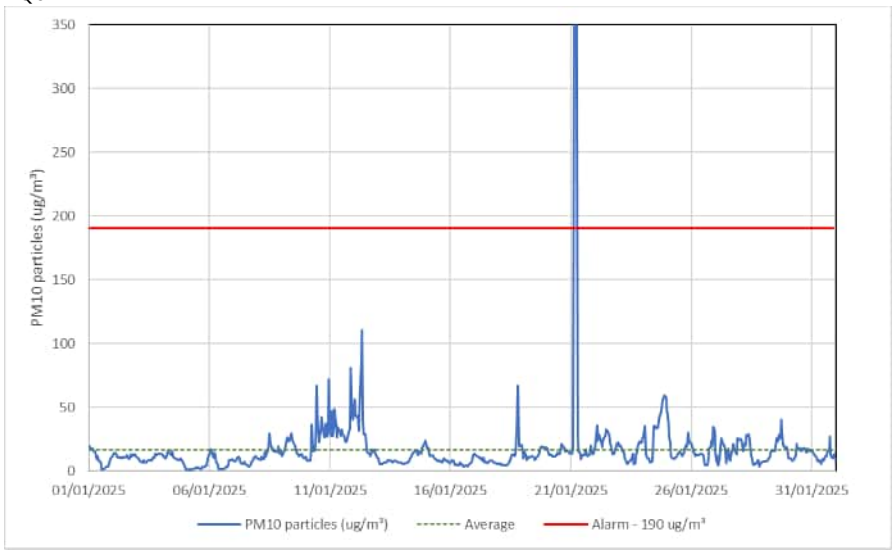
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM_{10} concentration ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1-hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
AQ038	520756, 182049	Chase Road	M	Yes	N	12.6	1.3	50.6	0	100.0
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	11.0	2.0	58.6	0	53.2
AQ042	521537, 182826	Stephenson Road	M	Yes	N	15.1	0.9	106.1	0	52.2
AQ043	513468, 184504	Mandeville Road	M	Yes	N	11.1	0.7	54.7	0	100.0
AQ046	515593, 183764	Green Park Way	M	Yes	N	9.8	0.5	48.6	0	100.0
AQ051	517976, 182823	Westgate	M	Yes	N	13.2	1.0	53.9	0	100.0
AQ055	513359, 184488	Mandeville Road 2	M	Yes	N	10.5	0.5	43.5	0	100.0

Table 2: Summary of exceedances during period (January 2025)

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ022	21/01/2025 02:01 – 03:00; 210.8 µg/m^3 03:01 – 04:00; 363.1 µg/m^3 04:01 – 05:00; 517.5 µg/m^3 05:01 – 06:00; 291.0 µg/m^3	AQ022 is located on the car park roof of Boden House. The trigger was caused damp conditions / rain during the night which can sometimes cause the monitors to give high readings/ false triggers.	N/A
AQ029	12/01/2025 08:01 – 09:00; 246.7 µg/m^3	Excavation works around the site boundary near to neighbouring properties on Wells House Road were in progress at the time of the exceedance. Upon investigation it was not dusty work as the UKPN work site was virgin soil and moist, and it was unlikely to have produced dust which had the potential to trigger the monitor. Instead, the exceedance was likely due to the misty weather conditions in the morning of the exceedance or activities on neighbouring properties along Wells House Road in the vicinity of the monitor.	UKPN will continue with briefs to undertake dust suppression during excavation works and not idling the machinery if not in use for excavation activities.

Figure 4: Construction dust 1-hour mean indicative PM_{10} concentration for all dust monitors

AQ022



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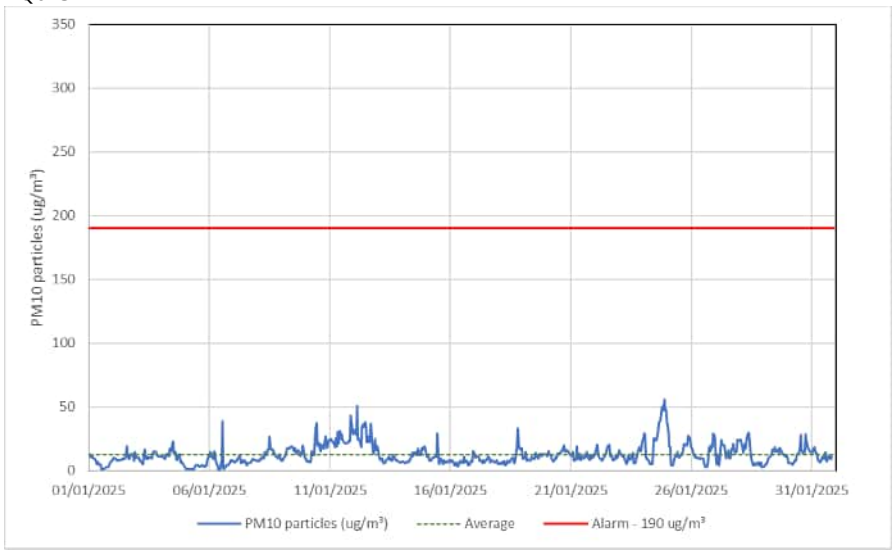

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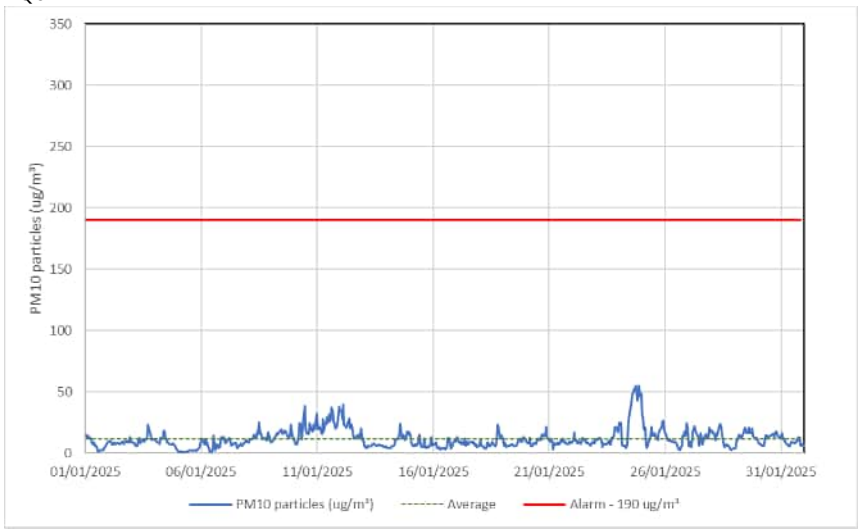

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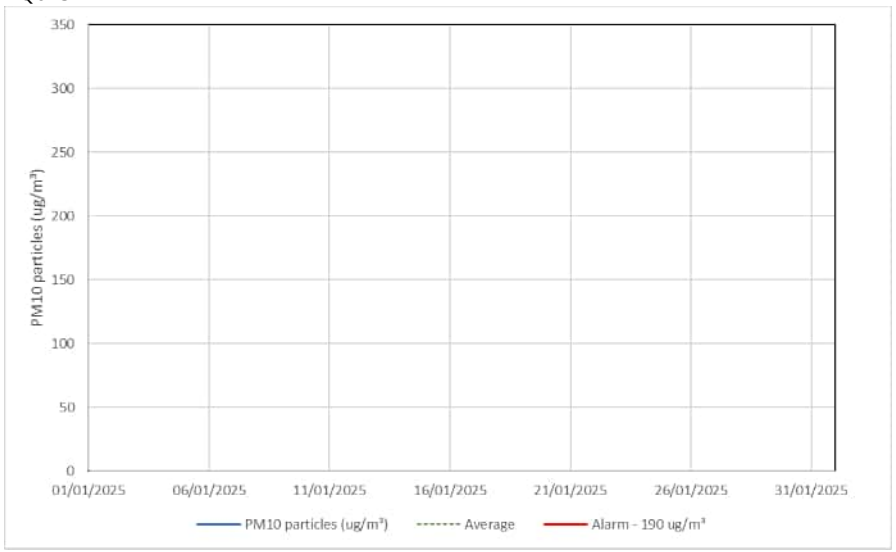

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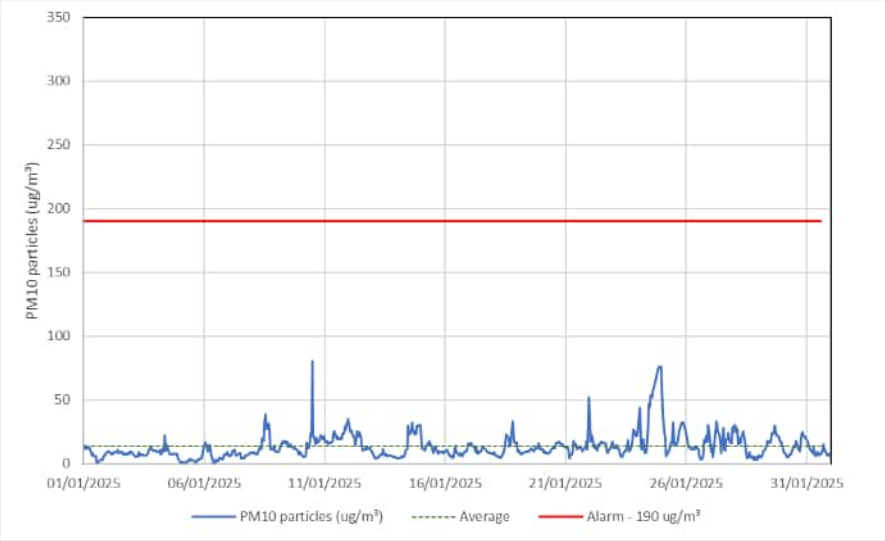

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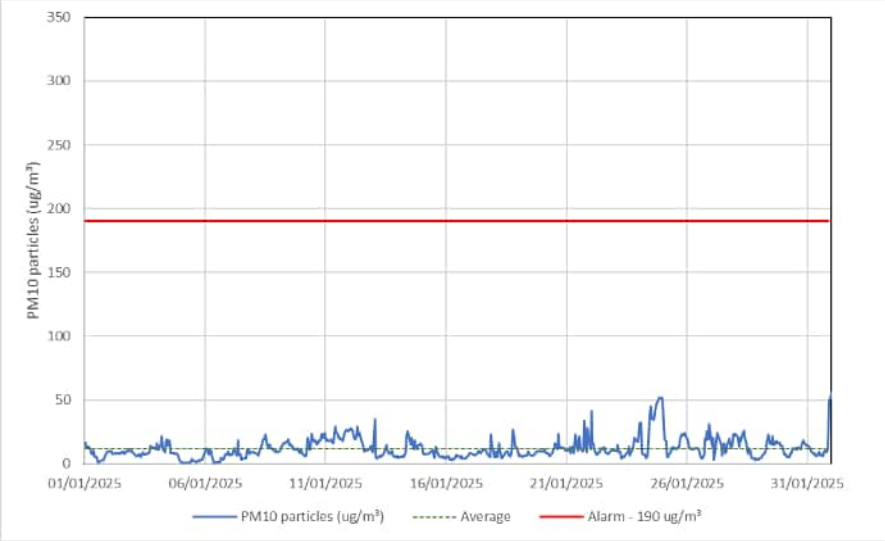

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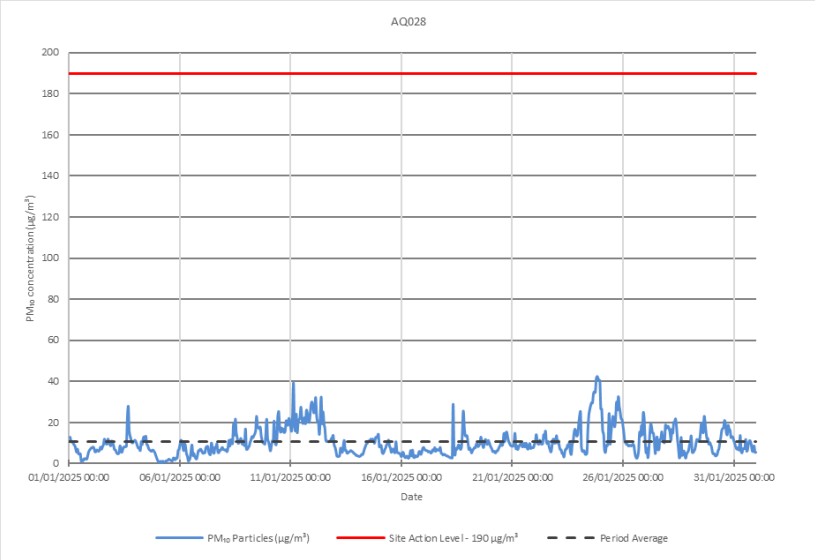

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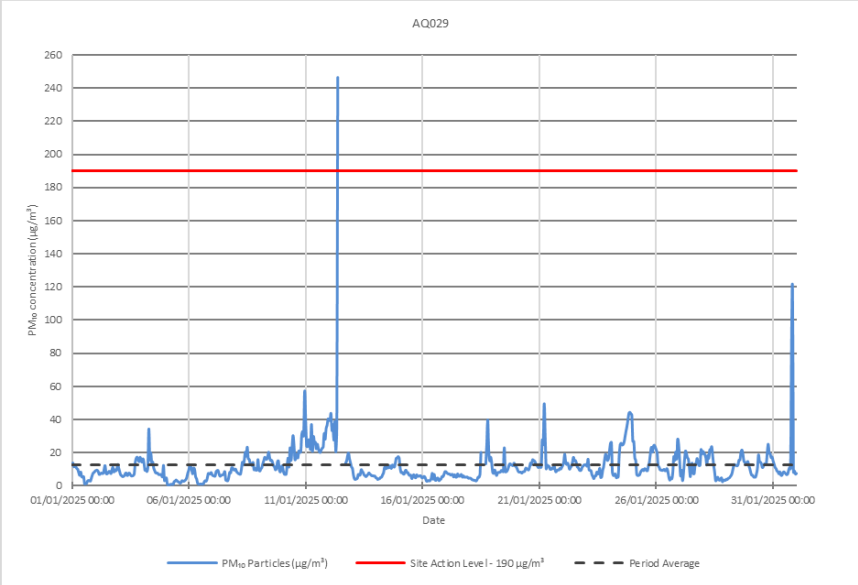

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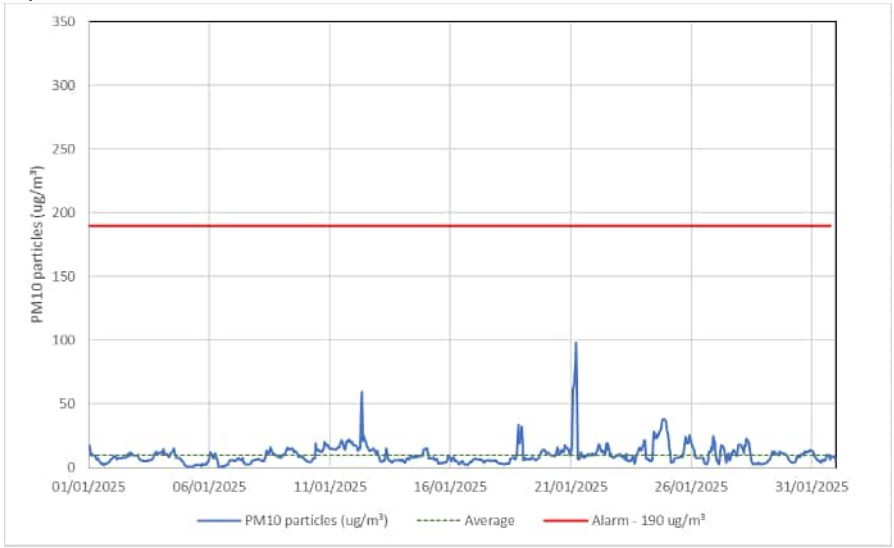

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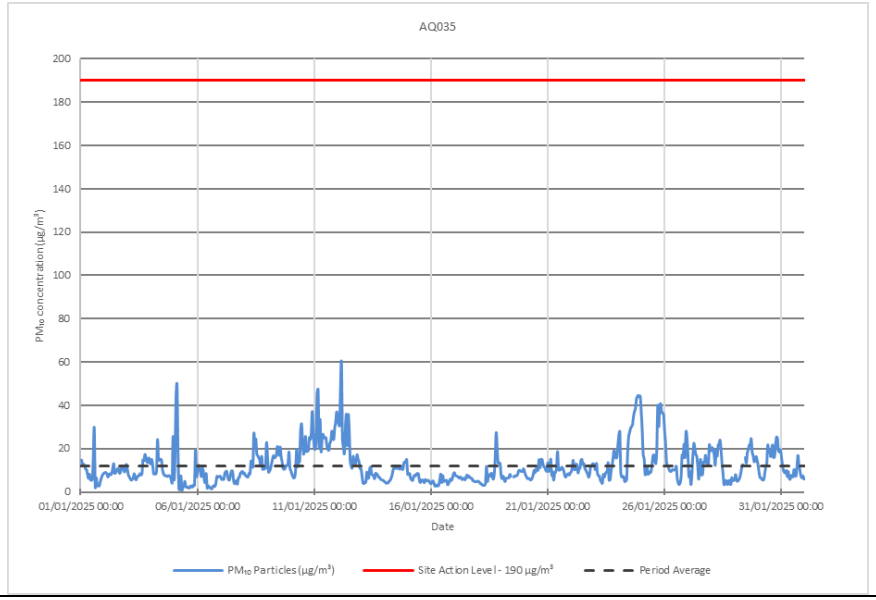

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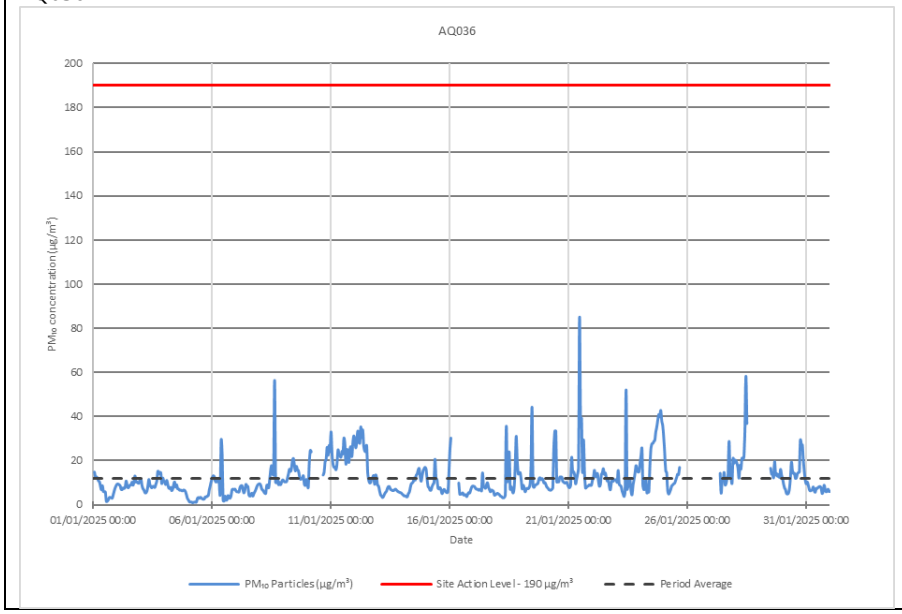

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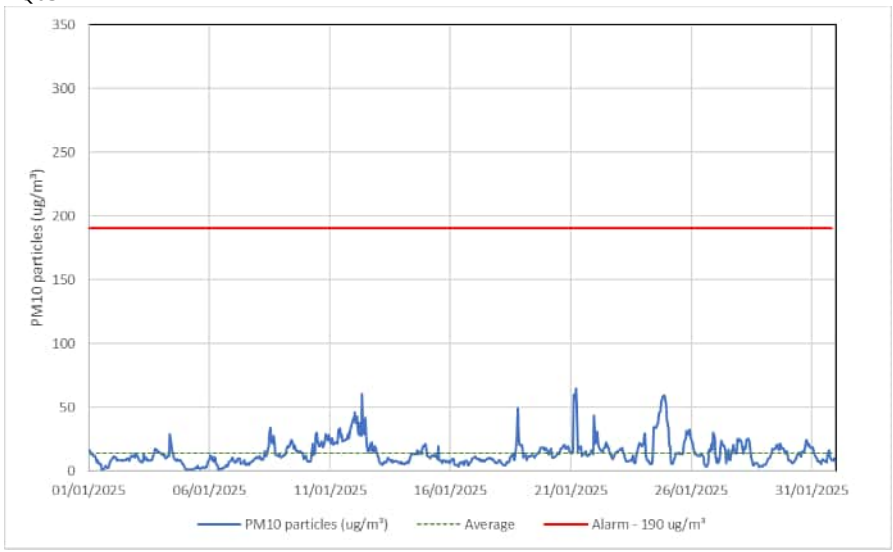

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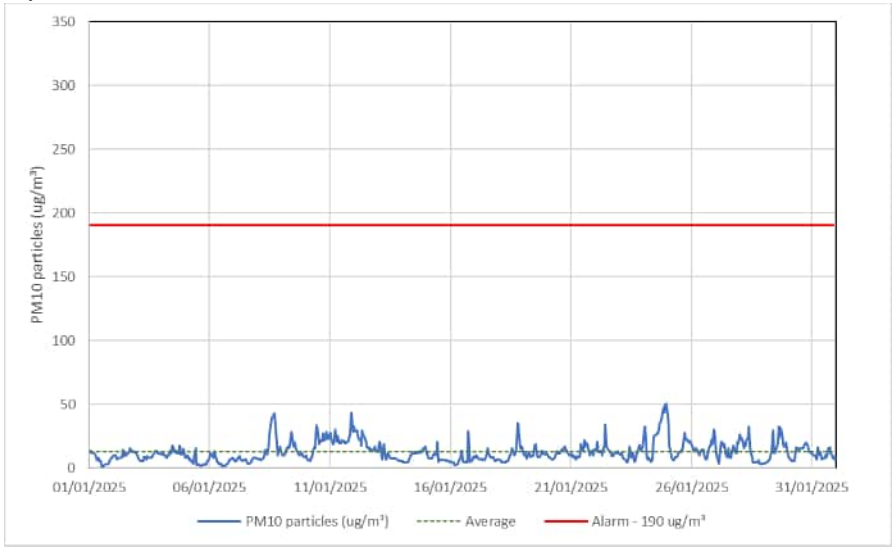

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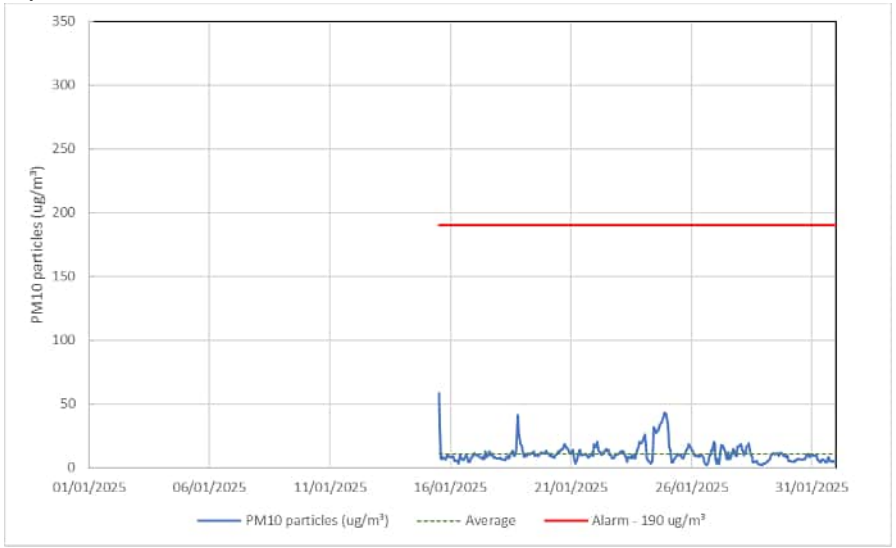

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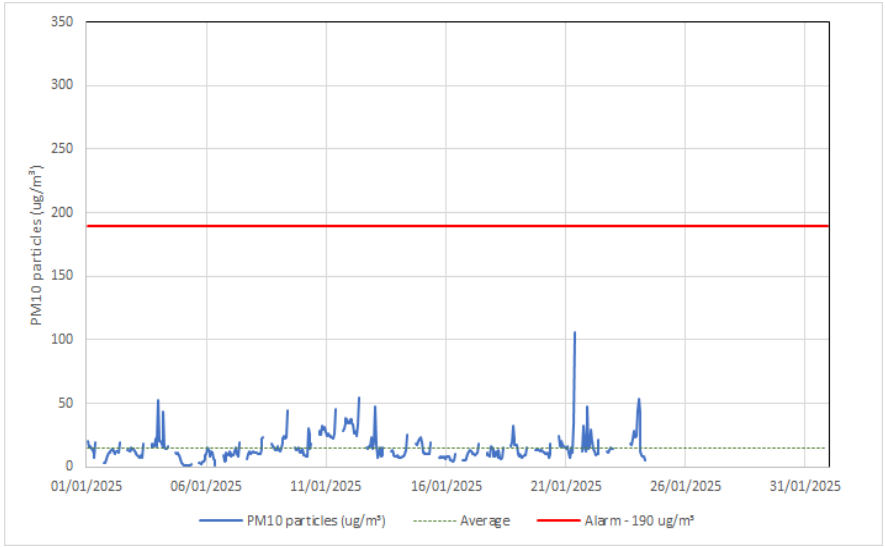

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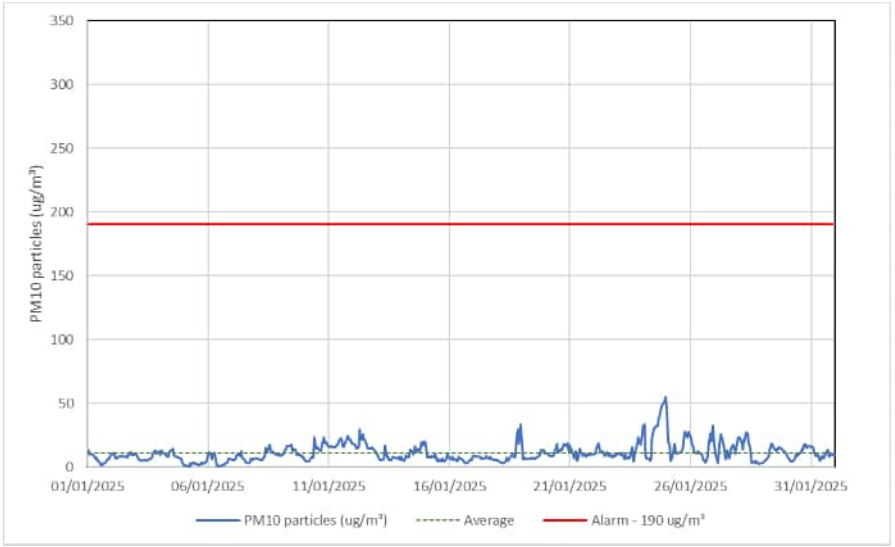

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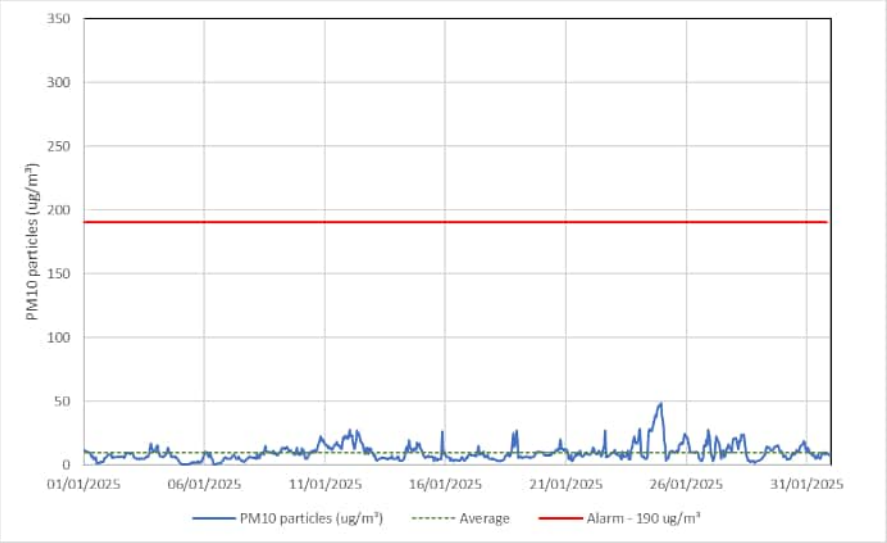

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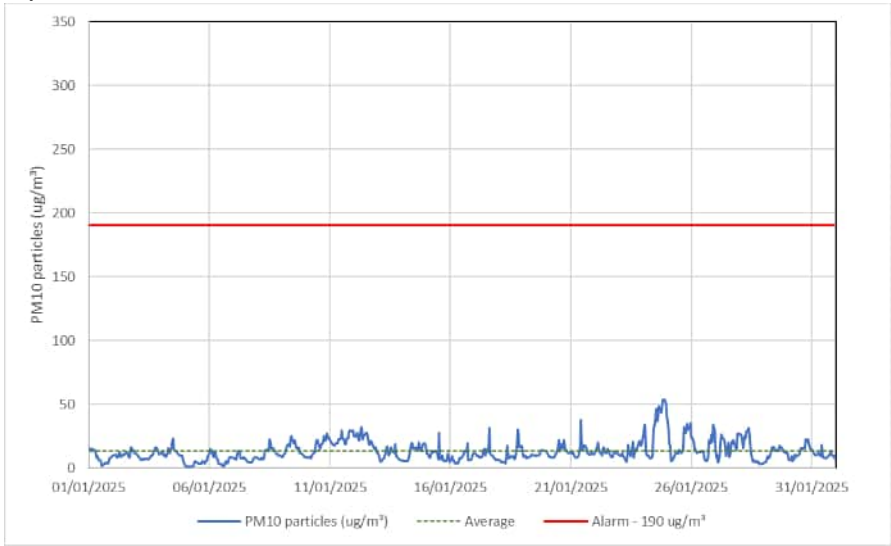

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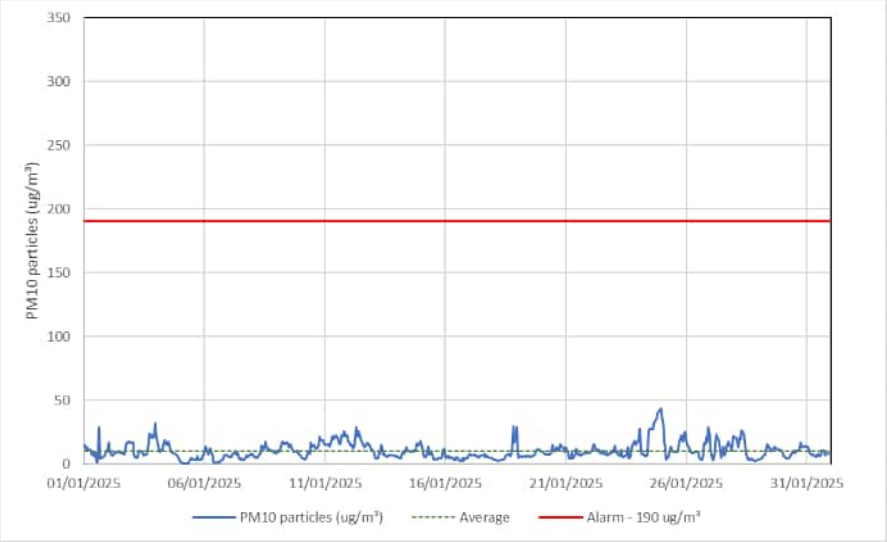

Appendix C – Air Quality Monitoring Results

Table 3: NO_2 monitoring locations around highways, NO_2 concentrations and monthly monitoring results with running mean for 2024 (µg/m^3)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean[1][2]
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	55	46	43	35	40	40	40	40	44	46	34	43	42
HS2-000020BN7	The Approach street sign	520959, 181102	41	35	40	31	35	35	32	33	30	39	40	38	36
HS2-000020BQF	Conway Drive sign post	520856, 181733	48	46	40	39	46	41	35	36	41	43	48	39	42
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	Tube Missing	Tube Missing	Tube Missing	Tube Missing	41	39	25	38	Tube Missing	Tube Missing	43	32	36
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	44	44	37	27	35	32	30	29	33	41	42	32	35

[1] Note: to aid interpretation and conform with best practice, the monthly measurements in this table are reported rounded to the nearest whole number. The annual mean presented here is calculated based on laboratory data to 4 significant figures, rounded to a whole number, and therefore may differ slightly to a mean derived from averaging the rounded monthly measurements in the table.
[2] The annual mean for diffusion tubes presented in the table above still require various analysis and adjustments to be undertaken before comparison to the Air Quality Objectives. The final corrected annual mean will be presented in the HS2 Annual Air Quality Report.

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean[12]
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyratory roadside automatic monitoring station	518537, 182708	56	52	52	50	56	55	49	51	46	51	40	43	50