HS2

March 2025

Air Quality and Dust Monitoring Monthly Report – March 2025

London Borough of Ealing

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Department for Transport

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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 February and March 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.
- Urban Realm – Core drilling, installing push-pull props, breaking concrete slab.
- Station Box – Steel fixing, excavation, concrete pours, backfilling, breaking out, cutting concrete, formwork erection, striking.
- Great Western Main line – Steel fixing, excavation, shuttering and concrete.
- Shared Accommodation Building – Shuttering, steel fixing.
- Site haul roads and public roads adjacent to site – Cleaning with a road sweeper.
- Old Oak Common East – Welding, excavation, Installing trench boxes, trial holes.
- Old Oak Common Lane – Welding, excavation, installing trench boxes, trial holes.

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;
- Tunnel Boring Machine removal; and
- Materials management.

Mandeville Road Vent Shaft

- Vent shaft construction; and
- Materials management.

Westgate Vent Shaft

- Vent shaft and headhouse 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 2, 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 3.

1.1.9 Data capture was below 90% for multiple monitors. AQ025 was due to the street lighting column on which the monitor installed has been without power since 3rd party utilities works were undertaken during October 2024. Data Capture for monitor AQ039 was below 90% due to a fault with the monitor.

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 4, together with the 2025 running mean.

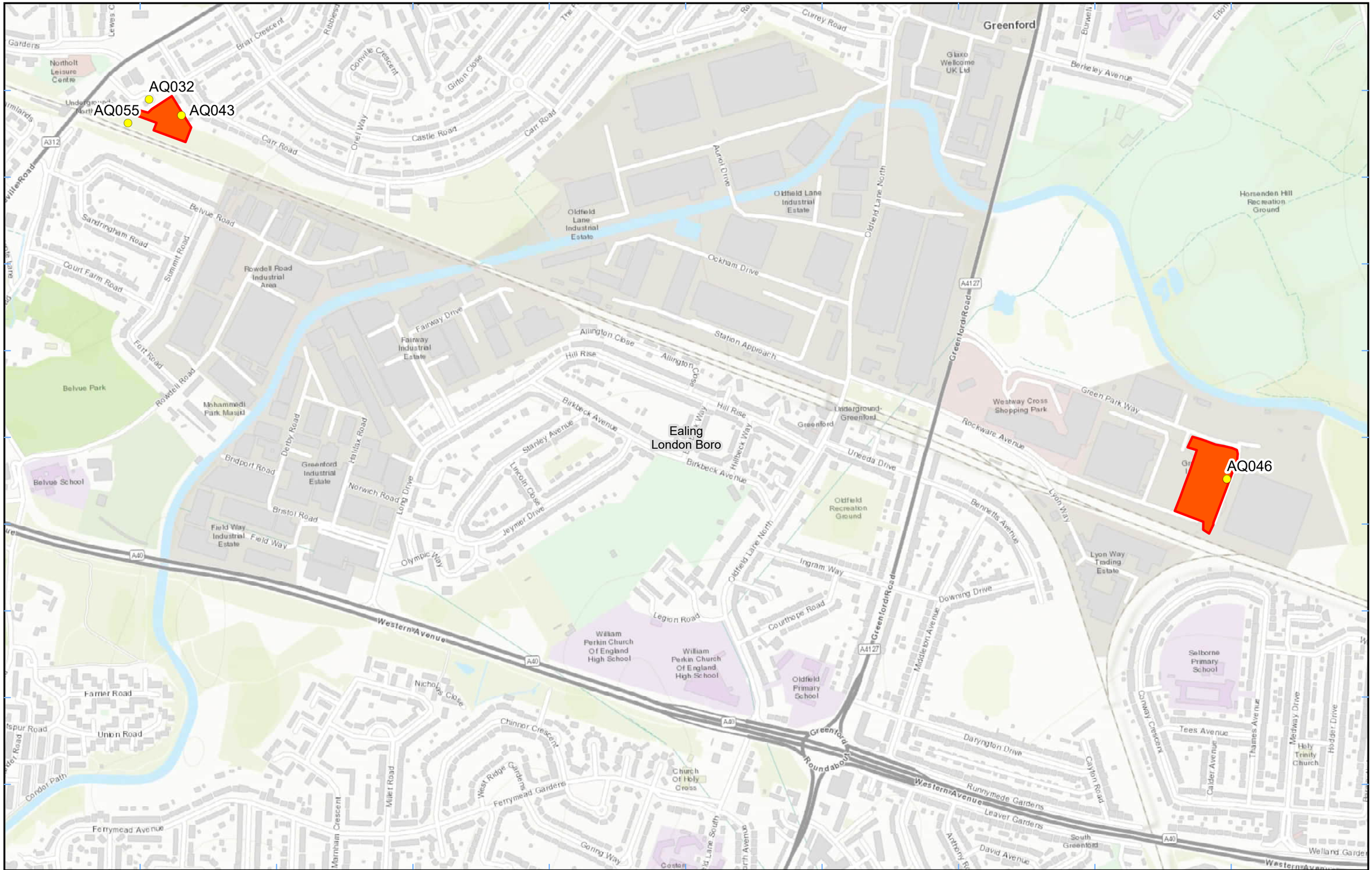
1.1.13 Table 1 provides a summary of the complaint information relating to dust or air quality received during the reporting period, together with the findings of any related investigations.

Table 1: Summary of complaints received during March 2025

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-25-46203-C	N/A	Dust on property/vehicle.	All mitigation measures are in place to reduce dust in the area, including water suppression. Additional measures are in place during drier weather. Monitors checked and are below permitted thresholds. Resident has been updated.

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

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

Worksite & Monitoring Locations In LBE (Sheet 1)

London Borough of Ealing

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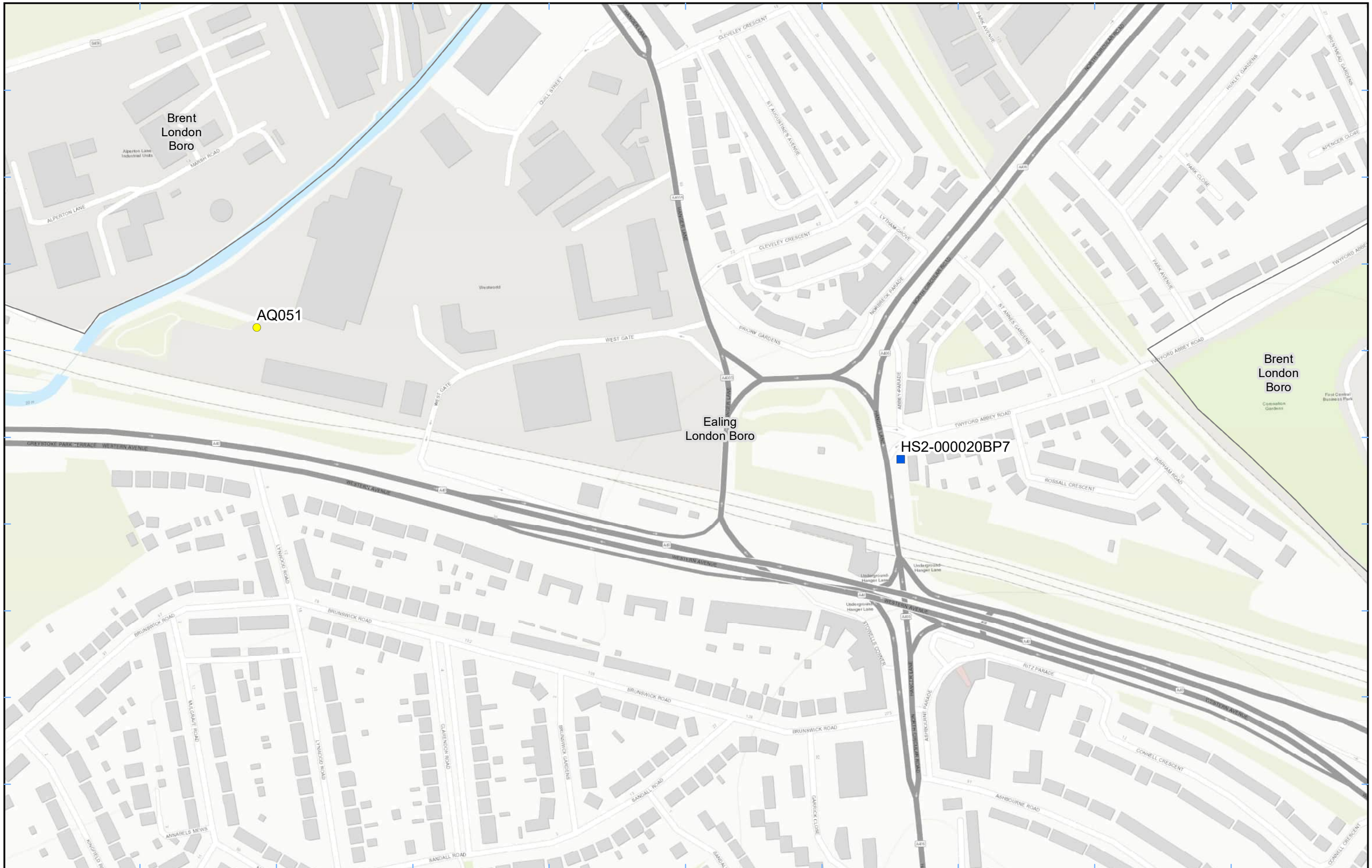

Legend

- 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)

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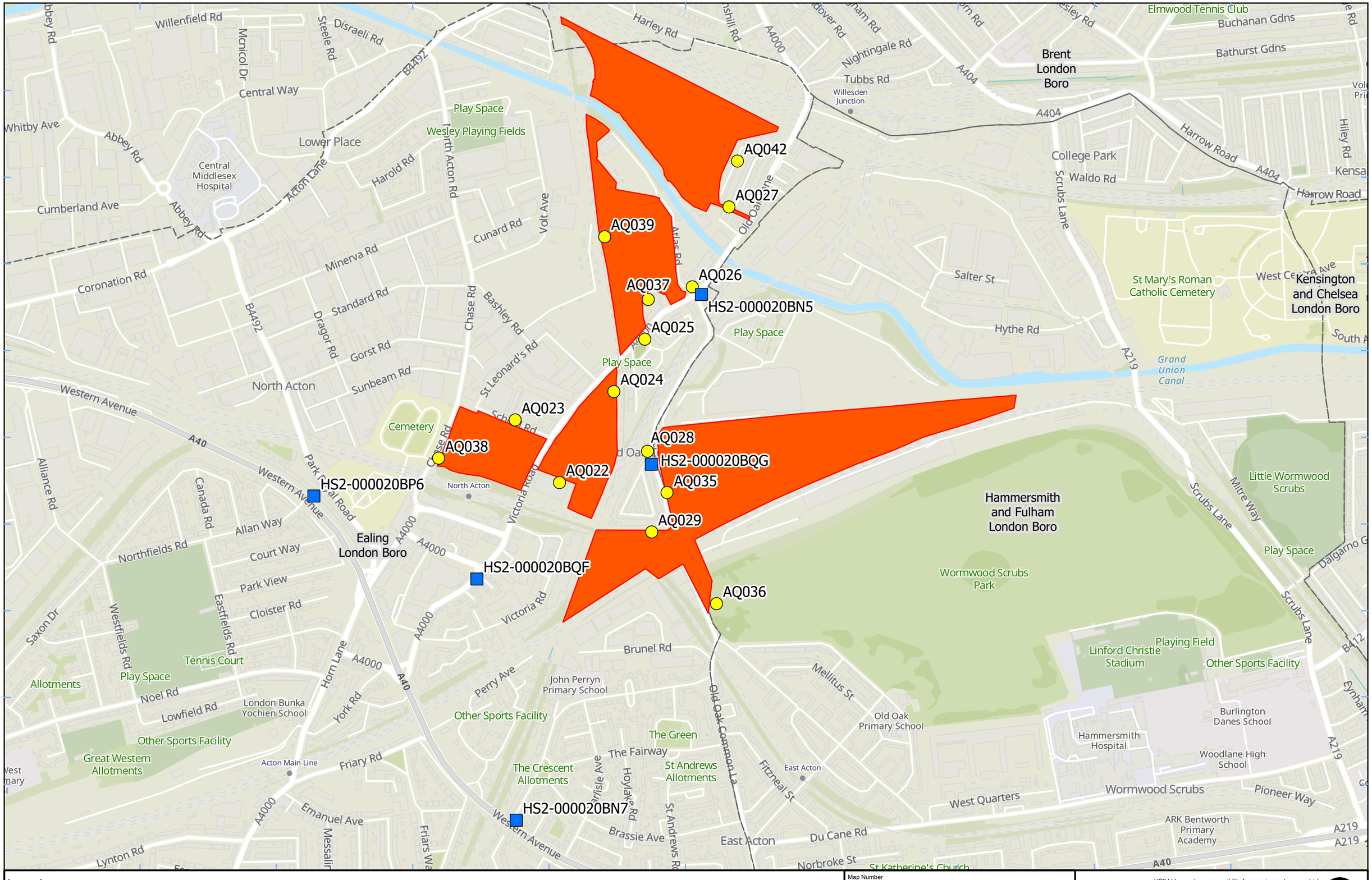

Legend

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

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Map Number

Map Name

Worksite and Monitoring Locations In LBE (Sheet 3)

London Borough of Ealing

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Doc Number:

Date: 06/02/25

Appendix B – Dust Monitoring Results

Table 2: 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	29.5	2.5	2304.5	5	99.9
AQ023	520956, 182149	School Road	M	Yes	N	18.7	1.7	66.1	0	99.9
AQ024	521214, 182223	Braitrim House	M	Yes	N	18.6	2.5	145.9	0	99.9
AQ025	521295, 182360	Victoria Road	M	Yes	N	-	-	-	-	-
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	30.8	2.9	224.6	2	99.9
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	30.1	3.0	274.1	5	99.9
AQ028	521302, 182067	Wells House Road	M	Yes	N	20.2	2.0	102.8	0	100.0
AQ029	521453, 182132	Old Oak Common	H	Yes	N	19.7	2.2	112.5	0	99.9
AQ032	513402, 184536	Badminton Close	M	Yes	N	13.5	1.3	117.8	0	99.9
AQ035	521353, 181959	Old Oak Common	H	Yes	N	21.8	2.3	175.5	0	100.0
AQ036	521482, 181668	UTX South – Triangle Site	M	Yes	N	22.5	2.1	2160.6	3	97.0
AQ037	521304, 182464	Atlas Road	M	Yes	N	31.3	3.1	210.8	1	99.9

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	27.0	2.4	109.3	0	99.9
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	7.3	3.0	22.4	0	6.9
AQ042	521537, 182826	Stephenson Road	M	Yes	N	27.8	1.9	6336.2	2	97.0
AQ043	513468, 184504	Mandeville Road	M	Yes	N	15.2	1.6	64.2	0	99.9
AQ046	515593, 183764	Green Park Way	M	Yes	N	15.6	1.6	62.8	0	99.9
AQ051	517976, 182823	Westgate	M	Yes	N	21.2	1.9	148.3	0	99.5
AQ055	513359, 184488	Mandeville Road 2	M	Yes	N	13.6	1.6	56.8	0	99.9

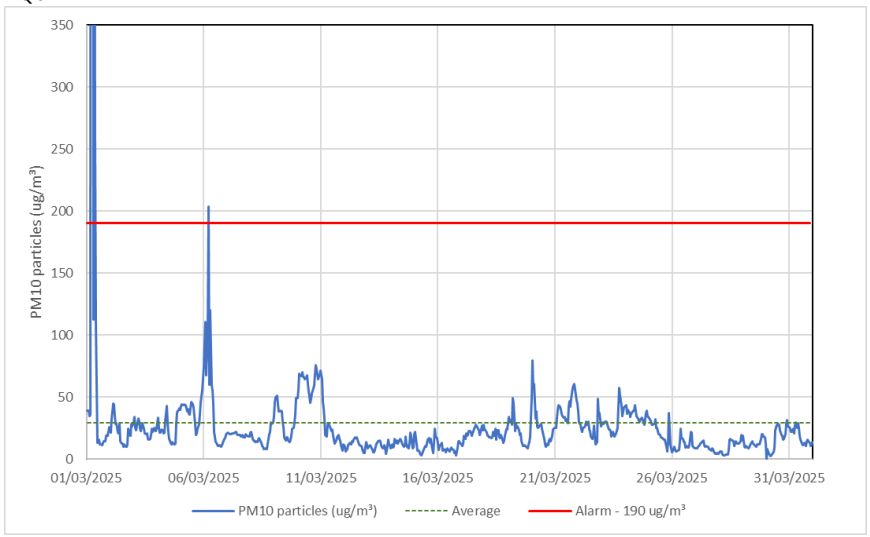
Table 3: Summary of exceedances during period (March 2025)

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ022	01/03/2025 04:01 – 05:00; 1511.6 µg/m^3 05:01 – 06:00; 2304.5 µg/m^3 07:01 – 08:00; 647.8 µg/m^3 08:01 – 09:00; 256.2 µg/m^3 06/03/2025 04:01 – 05:00; 203.8 µg/m^3	The monitor was reading erratically during the early hours of the mornings and evidently affected by the cold, misty conditions resulting in spikes in data	n/a
AQ026	20/03/2025 22:01 – 23:00; 210.6 µg/m^3 23:01 – 00:00; 224.6 µg/m^3	The monitor was reading erratically during the early hours of the mornings and evidently affected by the cold, high humidity conditions resulting in spikes in data	n/a
AQ027	07/03/2025 22:01 – 23:00; 274.1 µg/m^3 20/03/2025 23:01 – 00:00; 256.3 µg/m^3 21/03/2025 22:01 – 23:00; 249.5 µg/m^3 22/03/2025 02:01 – 03:00; 256.8 µg/m^3 04:01 – 05:00; 205.4 µg/m^3	The monitor was reading erratically during the early hours of the mornings and evidently affected by the cold, high humidity conditions resulting in spikes in data	n/a
AQ042	01/03/2025 06:01 – 07:00; 249.2 µg/m^3 07:01 – 08:00; 6336.2 µg/m^3	The triggers were due to a loss of power to the monitor which had affected the monitor intermittently throughout the preceding month. As the power was lost during the misty morning the pump and the heater powered down and caused a false spike in data.	Faulty power supply to the monitor was subsequently checked and repaired.
AQ036	18/03/2025 18:01 – 19:00; 466.7 µg/m^3	There were no site related activities in the vicinity of the monitor at the time of this exceedance, with work in the area completed by approximately 18:00. CCTV was checked and confirmed no site activity at the time of the exceedance.	No further action taken.
	19/03/2025 06:01 – 07:00; 2160.6 µg/m^3	The alert came immediately after a period of disconnection from the monitor. The weather at the time was cold with high humidity and it is likely this alert was caused by moisture in the sampled airstream rather than any on-site cause.	No further action taken.

		There were no site activities at the time of the exceedance.	
	19/03/2025 10:01 – 11:00; 282.4 µg/m^3	OCU works include jet washing tunnel ducts and installing Thames Water main Barrow Hill. Manual sweeping of the road area was also being undertaken. UKPN works (approximately 20m north of the monitor) include backfilling and levelling a trench/duct route (plant in use was an excavator, dumper and wacker plate) in virgin ground in the vicinity of the exceedance. Traffic on Old Oak Common Lane is also identified as a potential cause, which is approximately 12m from the working area and point of the monitor location.	Work vans have been moved out of the area to allow enough space for the BBVS road sweeper and water truck through the area to manage dust on the road. A towable water bowser has been ordered to provide a water source for dust suppression in the area. OCU will ensure the site access way is unobstructed going forward. Manual sweeping will only be carried out when the road is wet/damp. All plant used on site are compliant with emission standards (Euro Stage IV). UKPN will continue with briefs to undertake dust suppression during excavation works and not idling the machinery if not in use for excavation activities. Site team reminded to be conscious of excavator works in proximity to receptors.
AQ037	20/03/2025 00:01 – 01:00; 210.8 µg/m^3	The monitor was reading erratically during the early hours of the mornings and evidently affected by the cold high humidity conditions resulting in spikes in data.	n/a

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

AQ022



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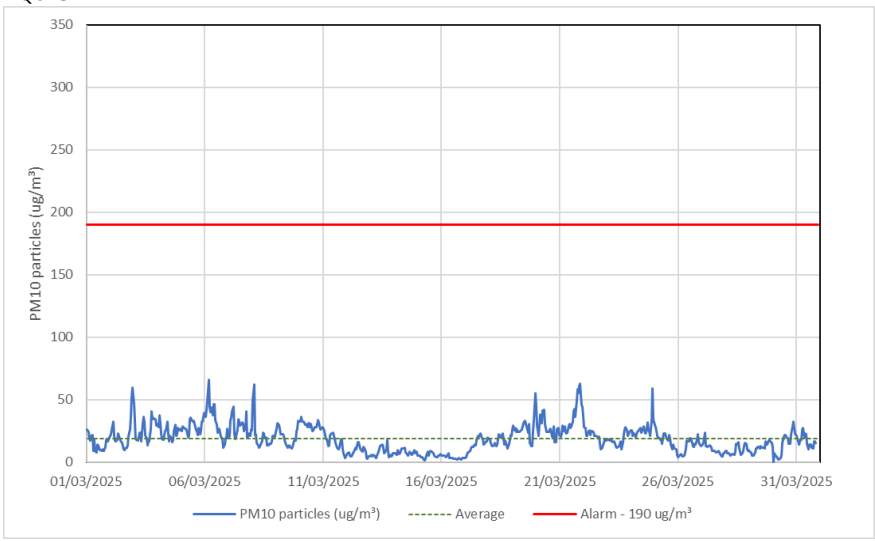

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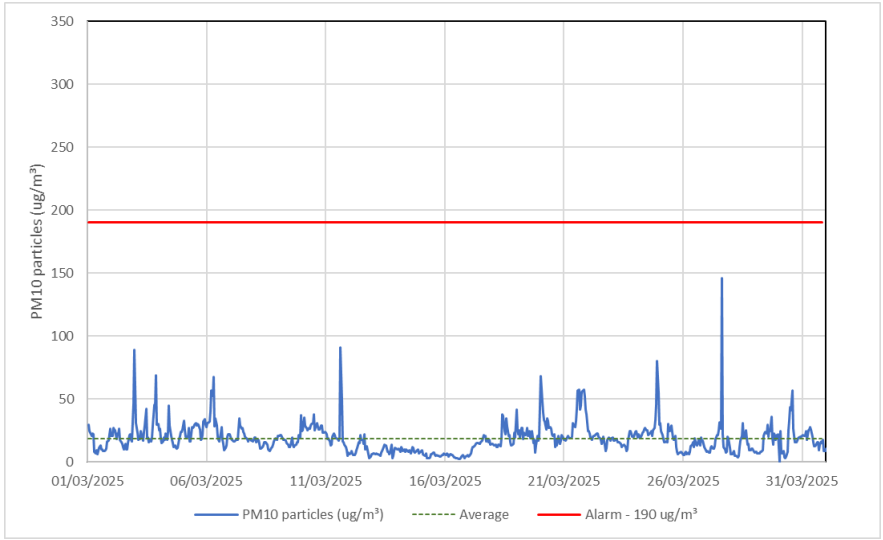

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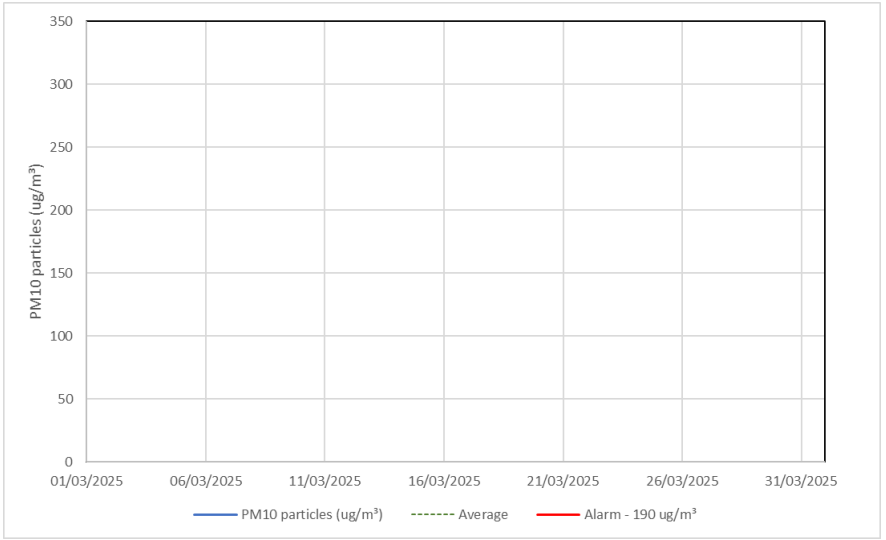

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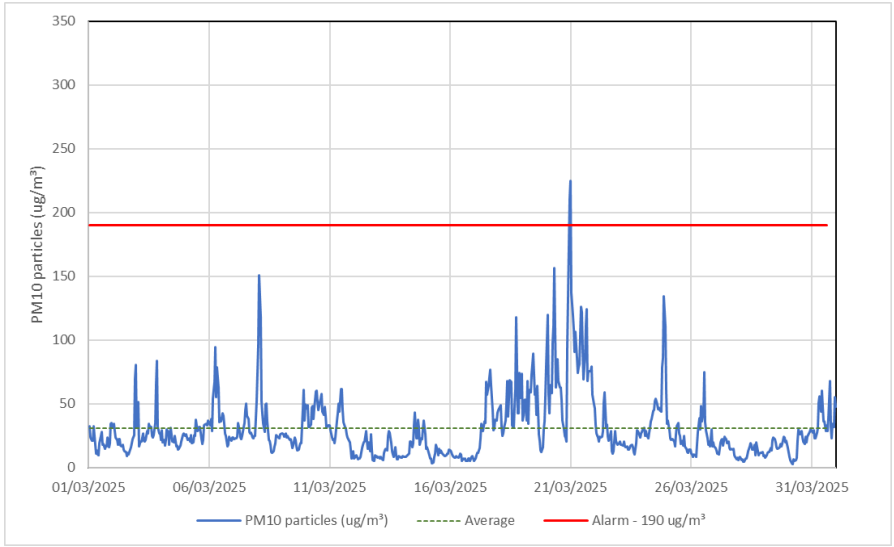

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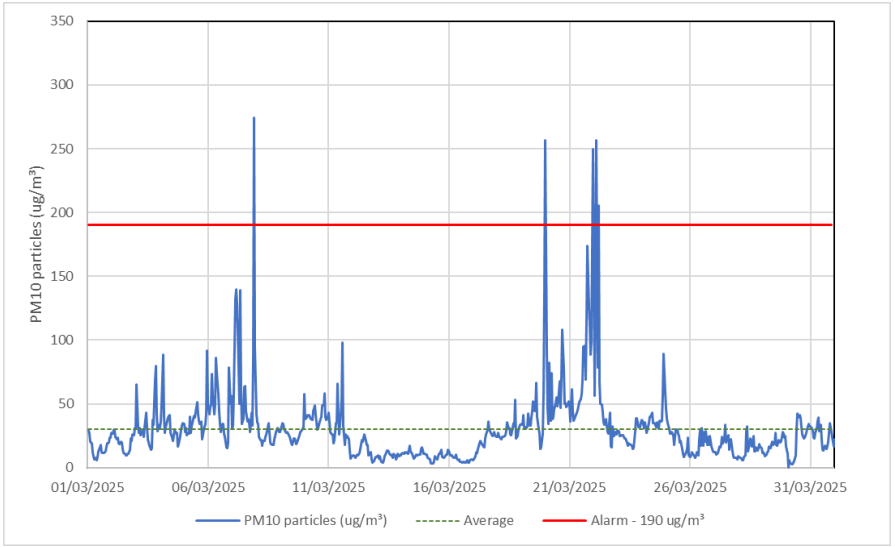

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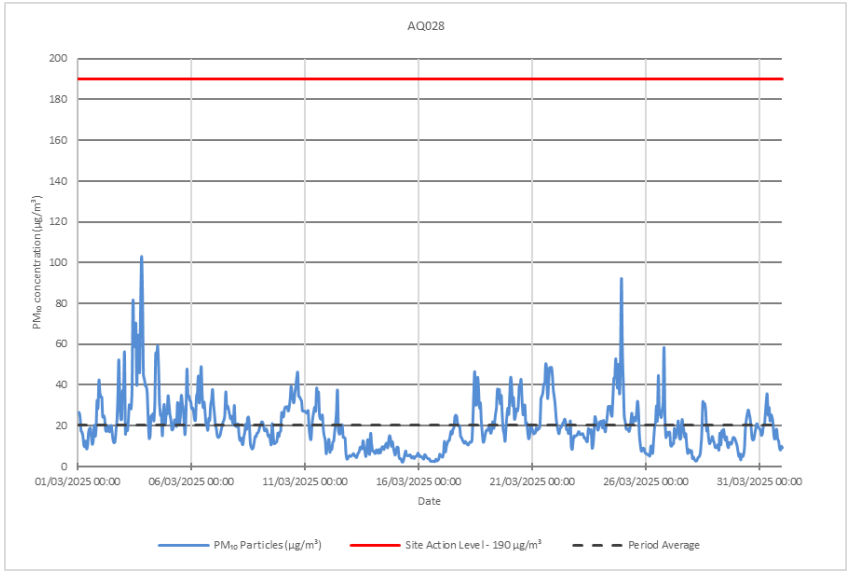

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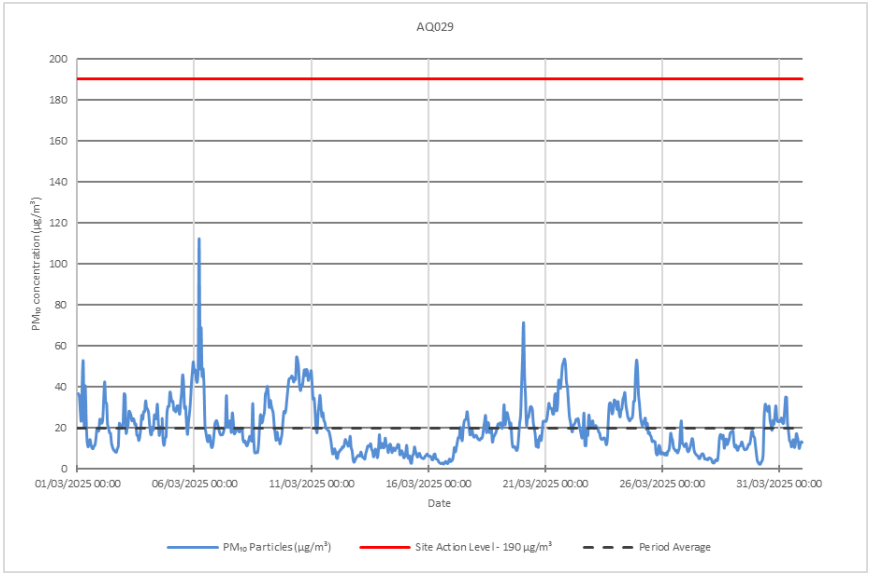

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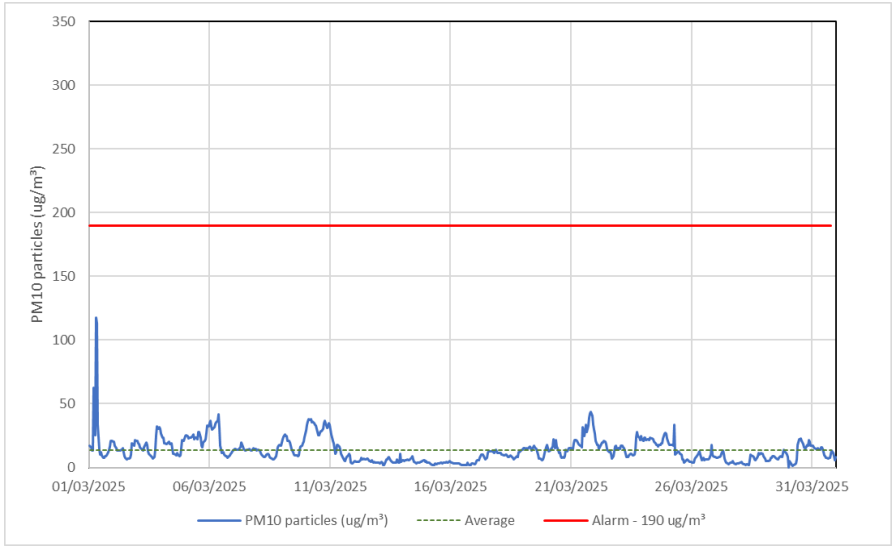

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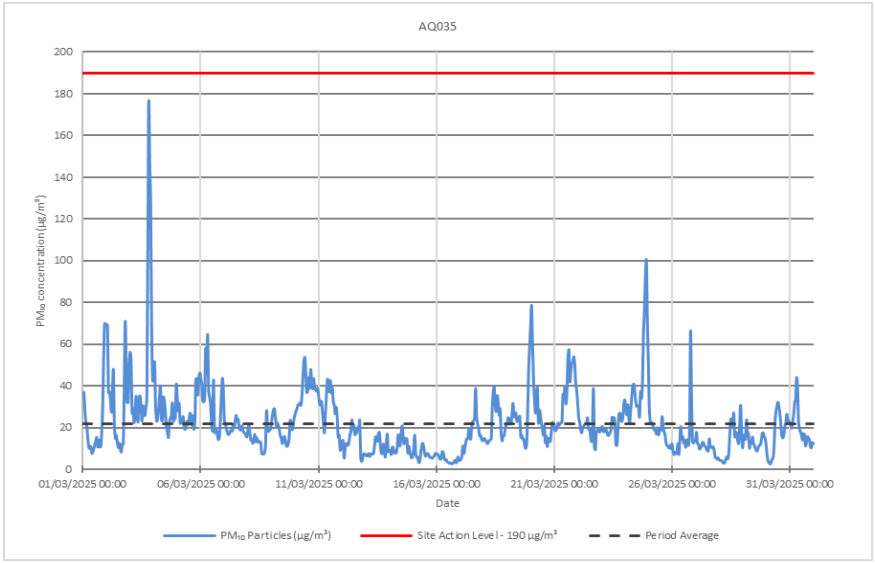

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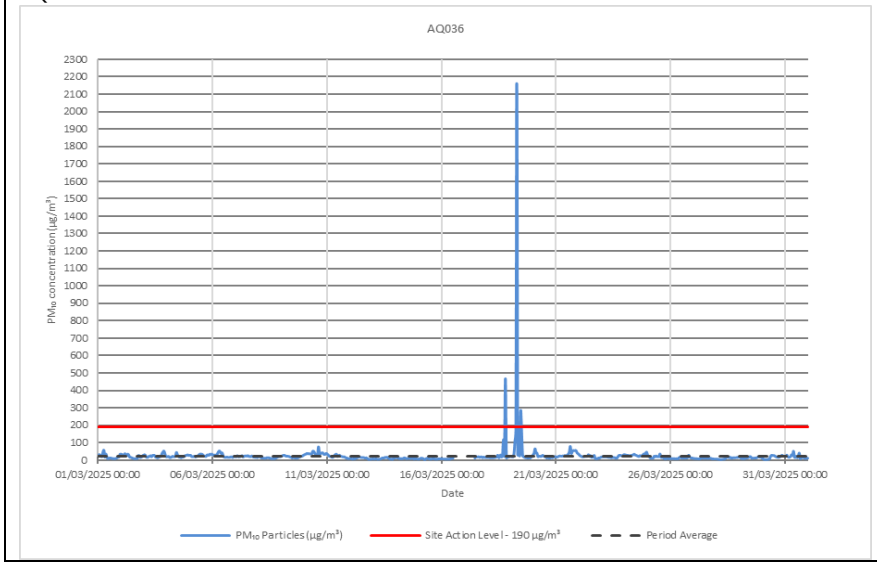

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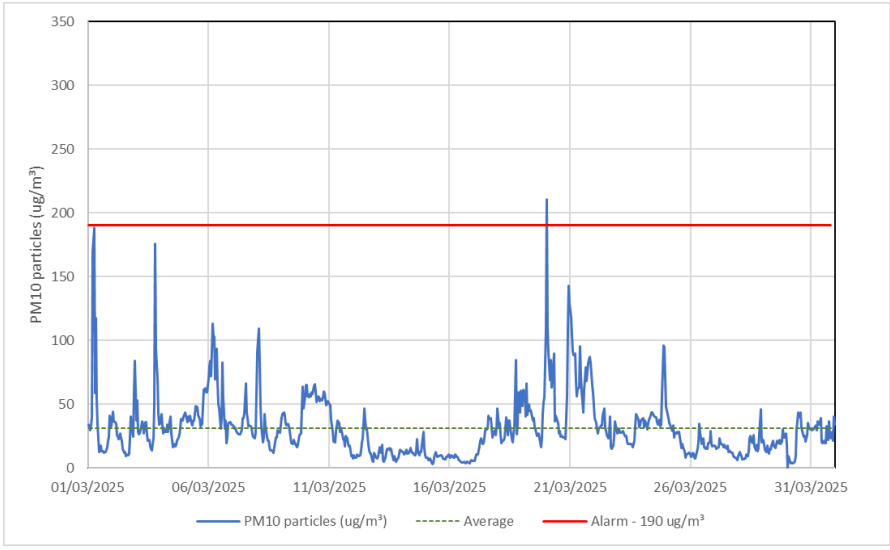

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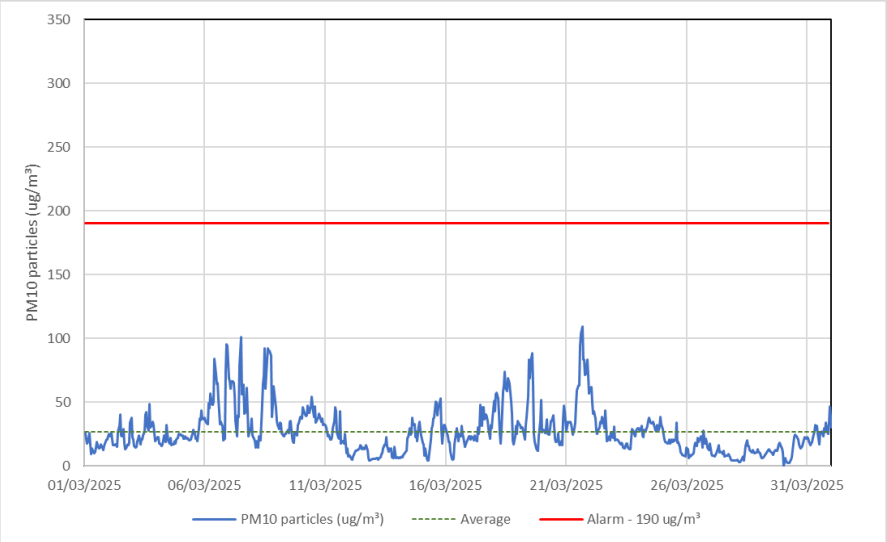

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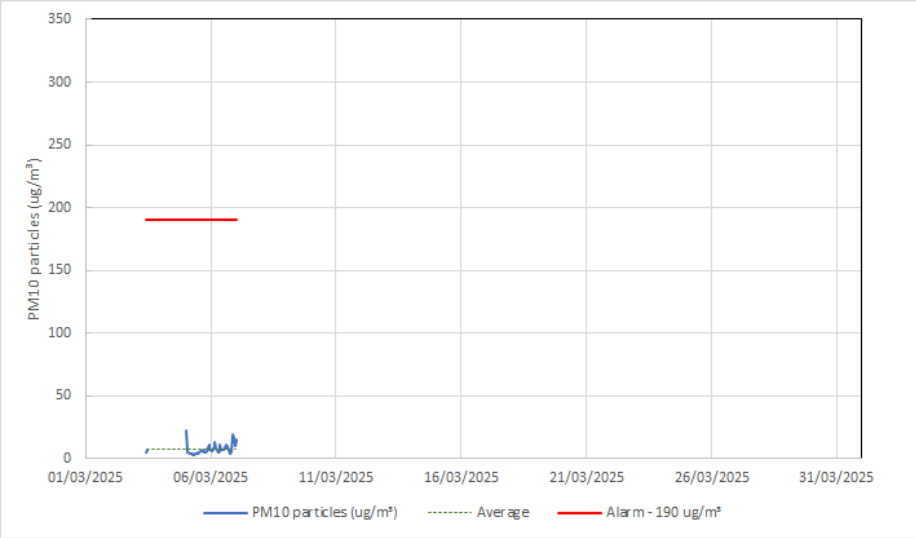

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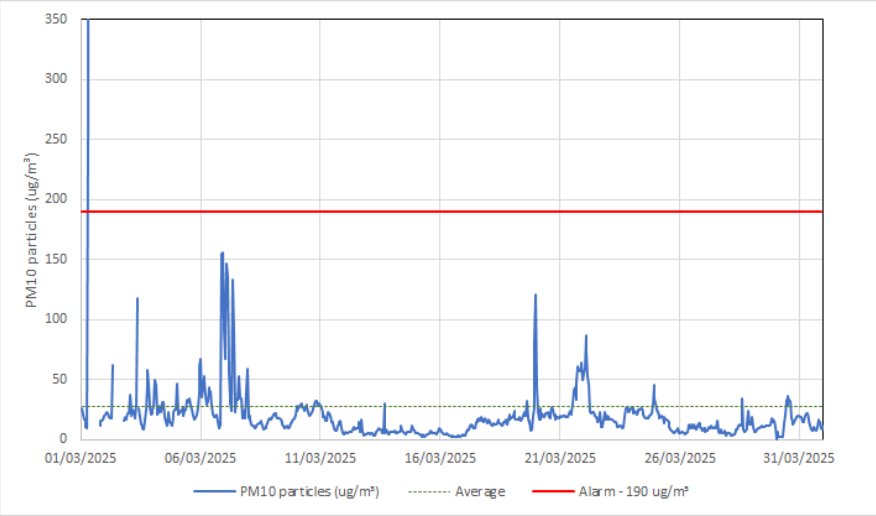

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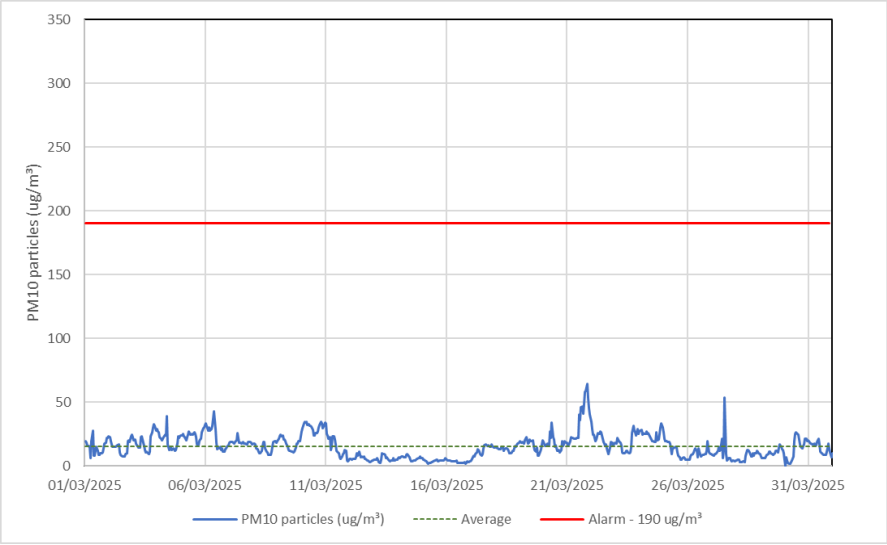

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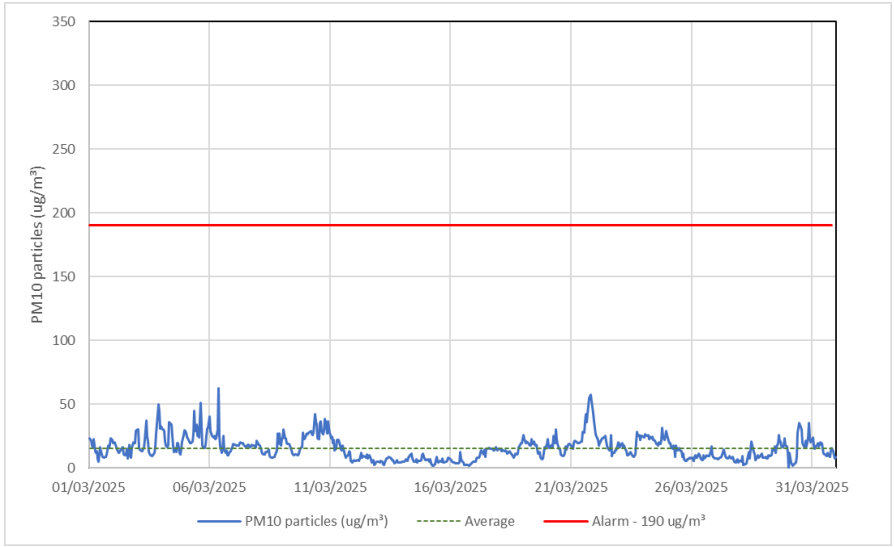

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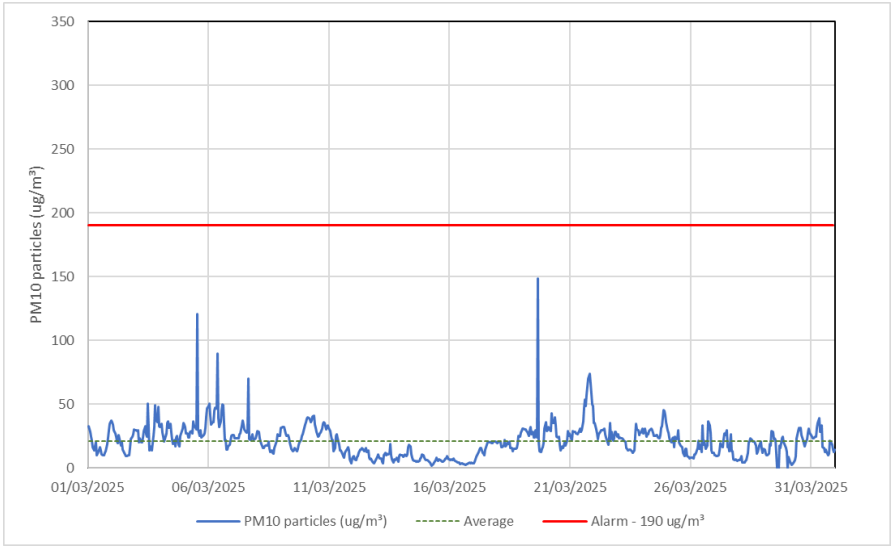

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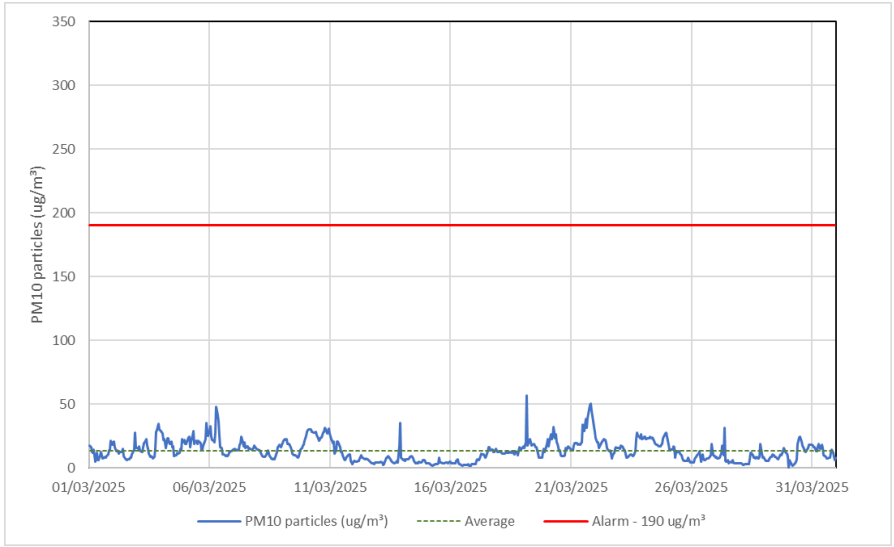

Appendix C – Air Quality Monitoring Results

Table 4: NO_2 monitoring locations around highways, NO_2 concentrations and monthly monitoring results with running mean for 2025 (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	58	46											52
HS2-000020BN7	The Approach street sign	520959, 181102	48	34											41
HS2-000020BQF	Conway Drive sign post	520856, 181733	46	44											45
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	51	44											47
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	47	38											43

[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	60	50											55