

## Air Quality and Dust Monitoring Monthly Report – April 2024

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 March 2024 and April 2024 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](http://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 - Conveyor operation, Concrete batching, materials management, and haulage.
- Station Box – Concrete Pours, D-Wall breakdown, steel fixing and excavation.
- Station Access Retaining Wall – Steel and shutters fixing.
- Great Western Main line – Piling operations.
- Shared Accommodation Building – Excavations and drainage installations
- Site haul roads and public roads adjacent to site - Cleaning with a road sweeper.
- Old Oak Common East – Excavation / Concrete Breaking.

## **On Networks Works**

- Civil works;
- OLE works; and
- S&T works.

## **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.

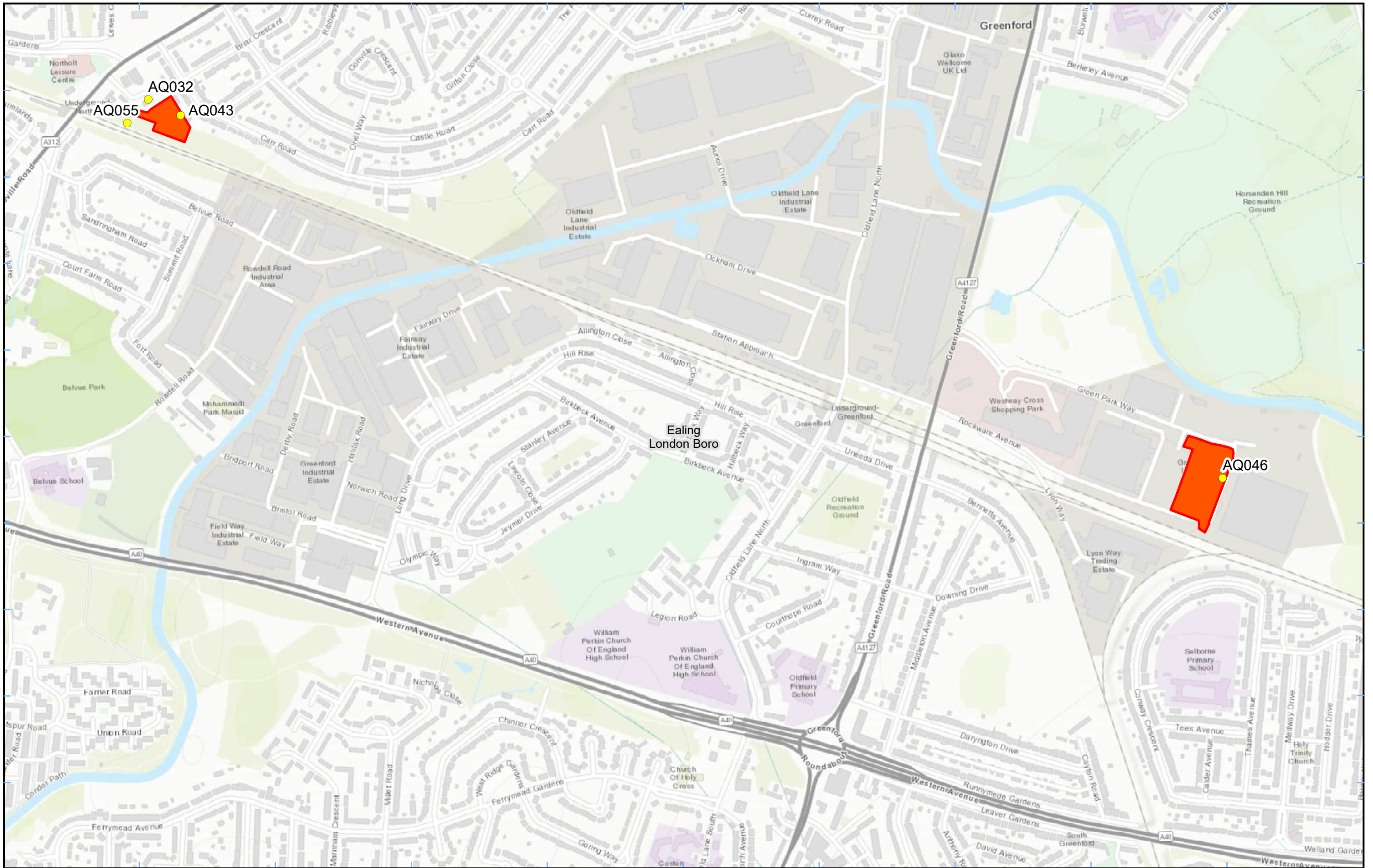
### **Westgate Vent Shaft**

- Vent shaft construction and materials management.

- 1.1.5 Seventeen (17) 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<sub>10</sub> concentrations of 190 µg/m<sup>3</sup>, 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 Diffusion tube monitoring of Nitrogen Dioxide (NO<sub>2</sub>) 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.
- 1.1.10 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.
- 1.1.11 NO<sub>2</sub> monitoring locations and results are presented in Appendix C, Table 3, together with the 2024 running mean.
- 1.1.12 There were no (0) complaints received during the reporting period (April 2024).

# 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

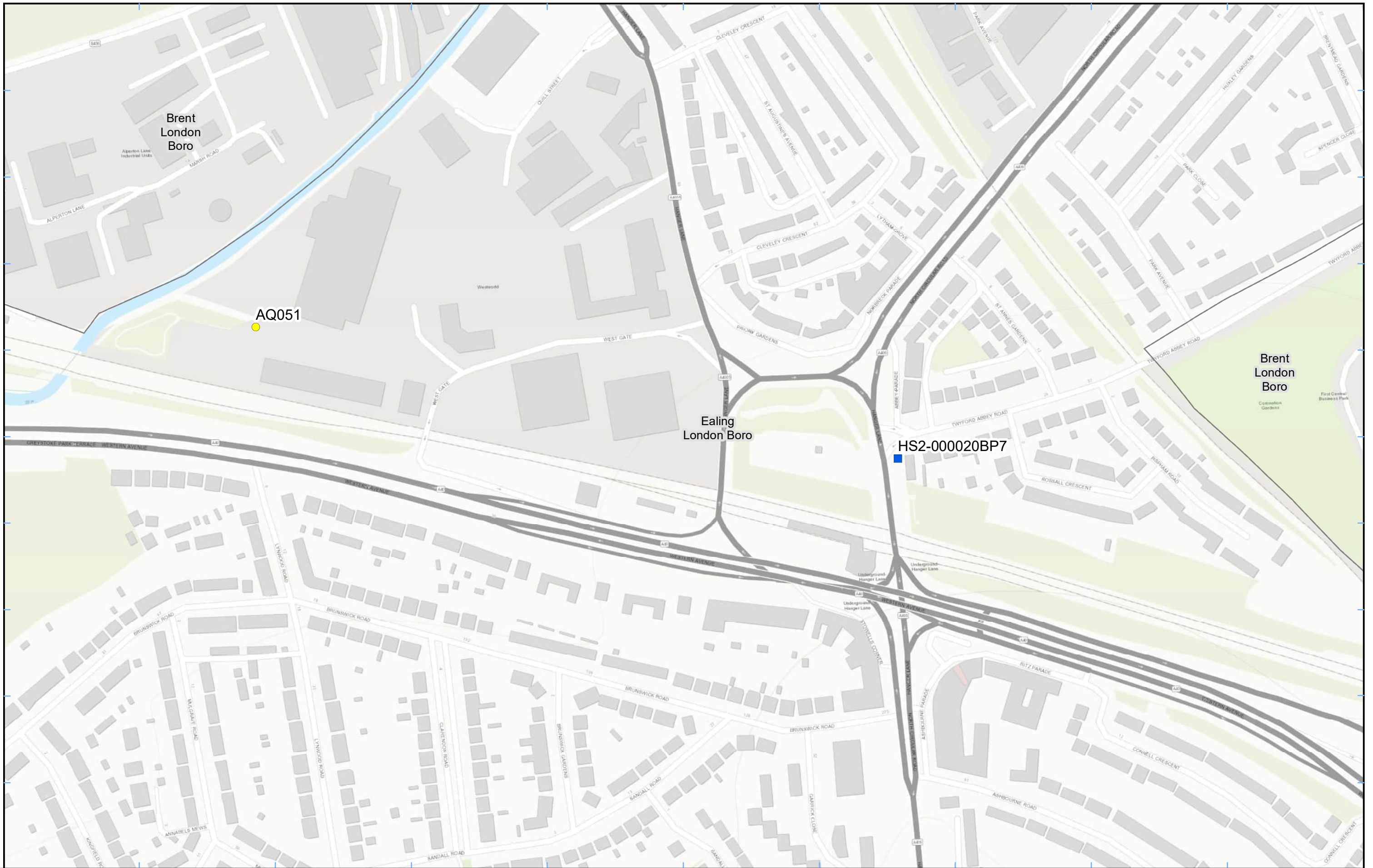
Map Number  
 Map Name  
**Worksite & Monitoring Locations  
 In LBE (Sheet 1)**  
 London Borough of Ealing

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0 70 140 210 280  
 Metres

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**Legend**  
■ Diffusion Tube  District Borough Unitary Boundaries  
● Dust Monitor

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Map Number  
 Map Name  
**Monitoring Locations  
 In LBE (Sheet 2)**  
 London Borough of Ealing

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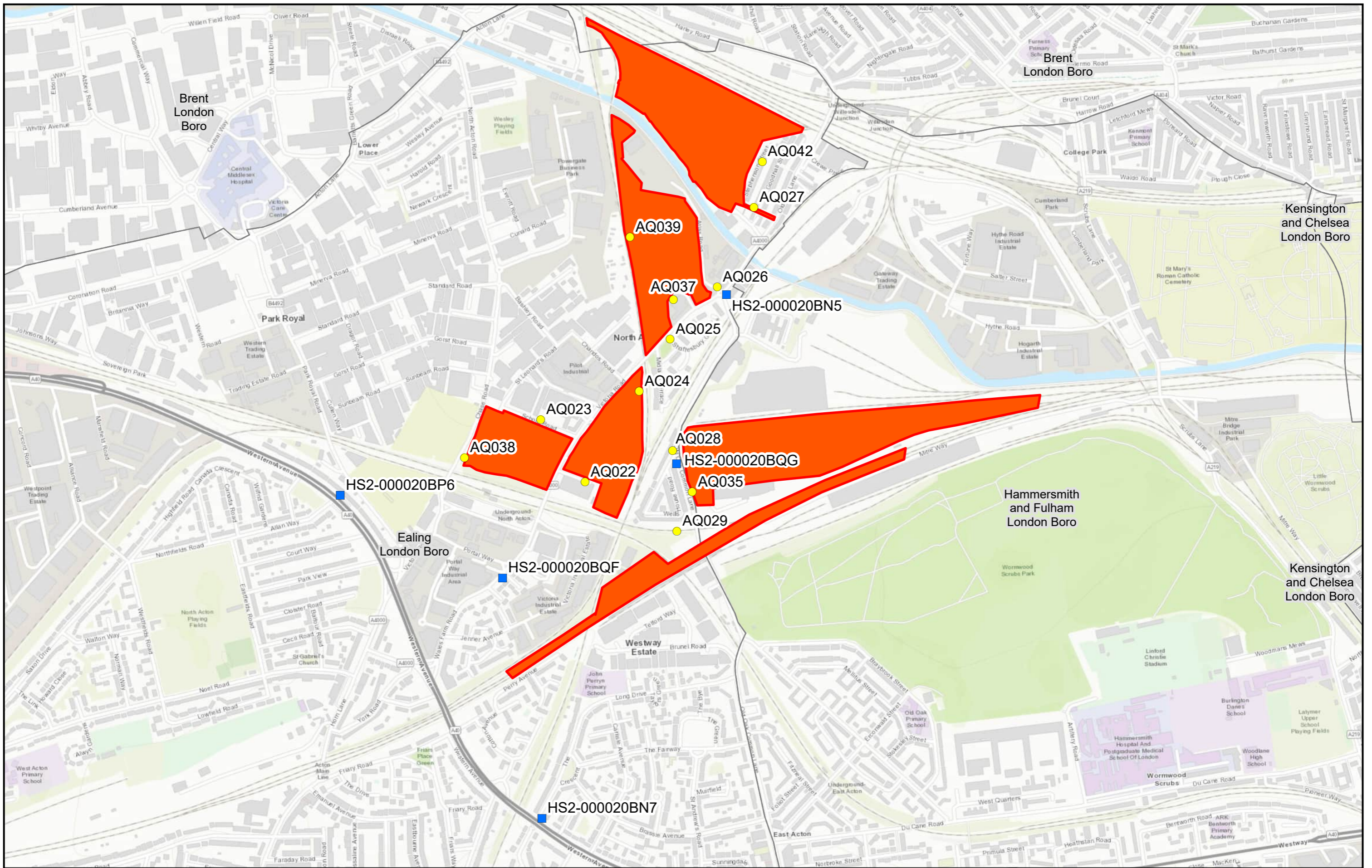
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**Legend**  
■ Diffusion Tube ■ Worksite  
● Dust Monitor  District Borough Unitary Boundaries

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Map Number  
 Map Name  
**Worksite and Monitoring Locations  
 In LBE (Sheet 3)**  
 London Borough of Ealing


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## Appendix B – Dust Monitoring Results

Table 1: Dust Monitoring Locations and Results

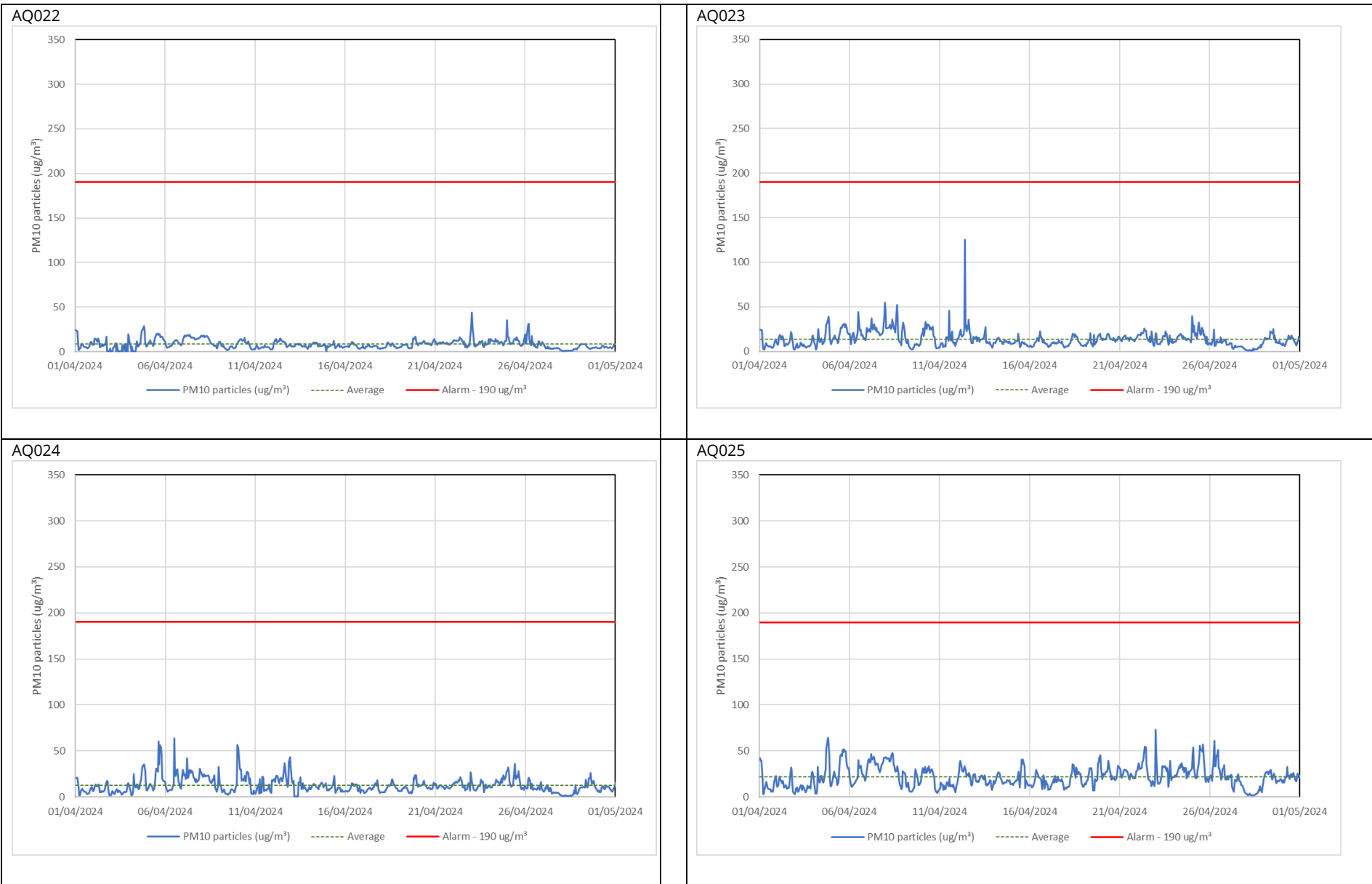
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
AQ022	521072, 181985	Boden House	M	Yes	N	8.6	0.6	44.1	0	96.5
AQ023	520956, 182149	School Road	M	Yes	N	13.7	0.9	125.1	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	12.7	0.7	63.4	0	99.2
AQ025	521295, 182360	Victoria Road	M	Yes	N	22.0	1.5	73.1	0	100.0
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	9.1	0.5	42.3	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	12.5	0.6	53.9	0	100.0
AQ028	521302, 182067	Wells House Road	M	Yes	N	13.0	0.7	86.2	0	100.0
AQ029	521453, 182132	Old Oak Common	H	Yes	N	11.0	1.0	50.4	0	100.0
AQ032	513402, 184536	Badminton Close	M	Yes	N	7.5	0.7	29.7	0	100.0
AQ035	521353, 181959	Old Oak Common	H	Yes	N	11.3	0.3	45.6	0	100.0
AQ037	521304, 182464	Atlas Road	M	Yes	N	12.4	0.9	43.8	0	100.0
AQ038	520756, 182049	Chase Road	M	Yes	N	15.0	1.2	90.6	0	100.0

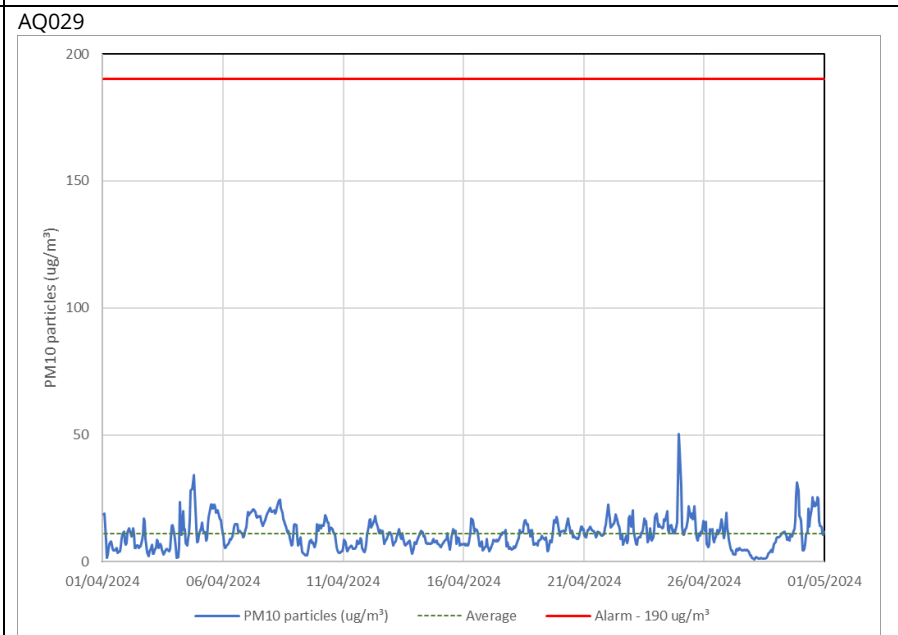
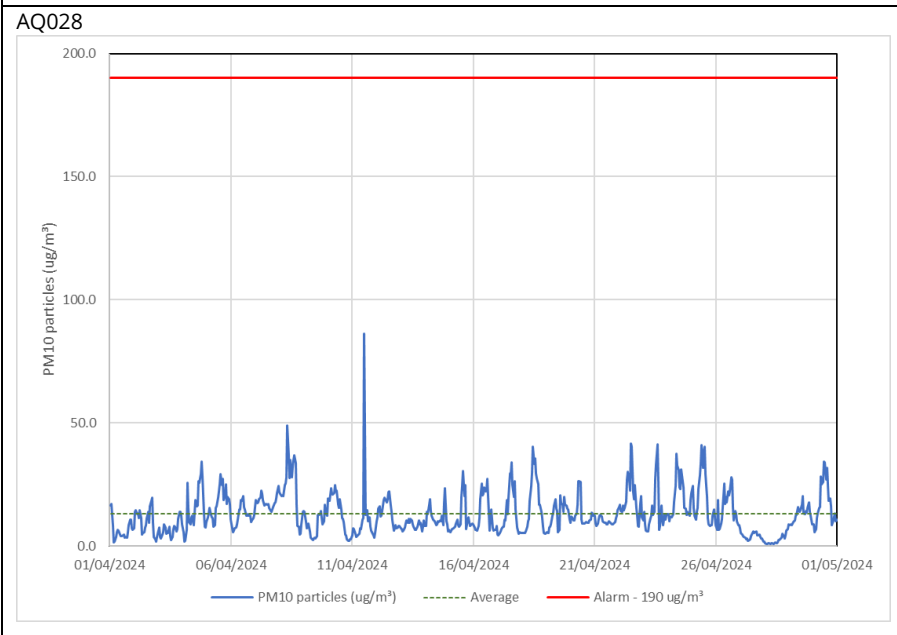
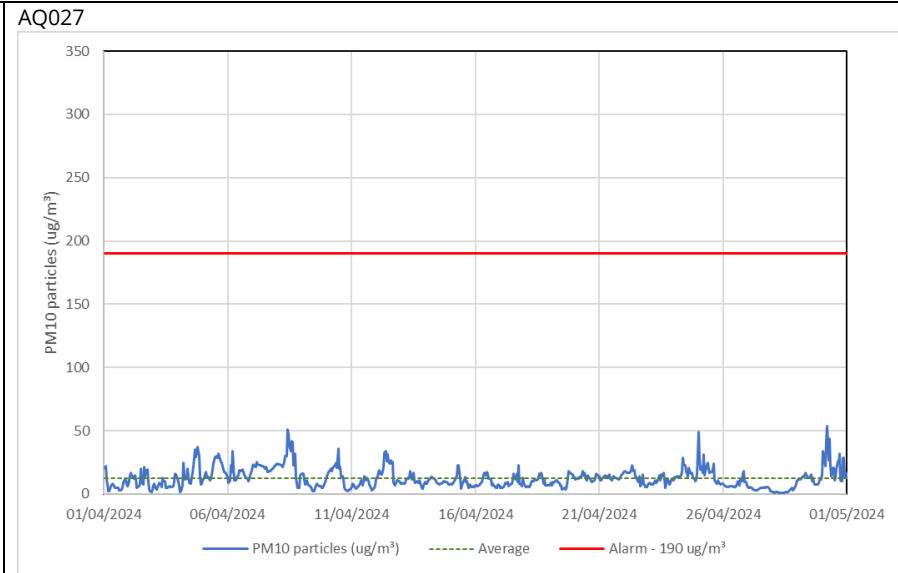
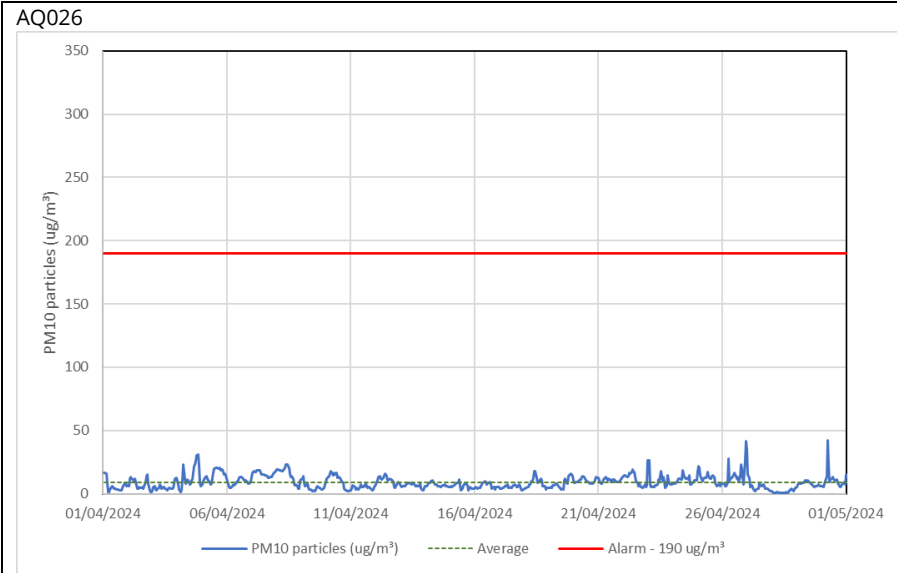
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	11.4	1.2	40.9	0	100.0
AQ042	521537, 182826	Stephenson Road	M	Yes	N	10.6	0.6	67.2	0	100.0
AQ043	513468, 184504	Mandeville Road	M	Yes	N	9.1	0.6	253.5	1	100.0
AQ046	515593, 183764	Green Park Way	M	Yes	N	8.5	0.5	33.9	0	100.0
AQ051	517976, 182823	Westgate	M	Yes	N	10.3	0.5	80.3	0	99.7
AQ055	513359, 184488	Mandeville Road 2	M	Yes	N	9.6	0.8	34.0	0	100.0

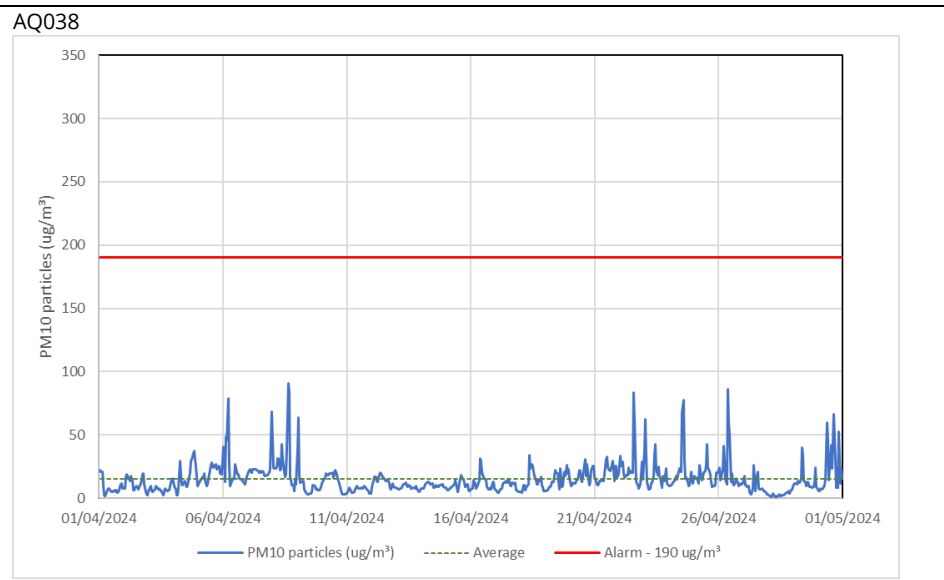
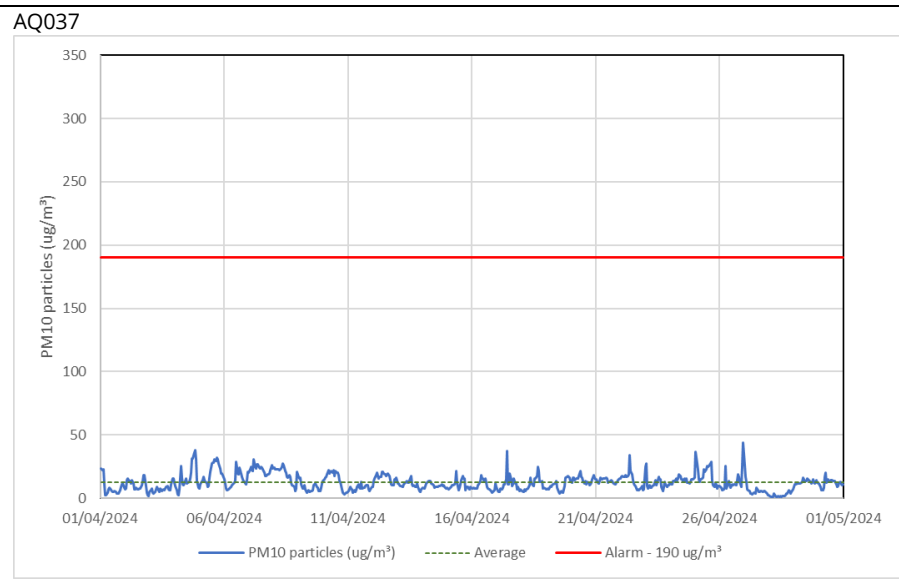
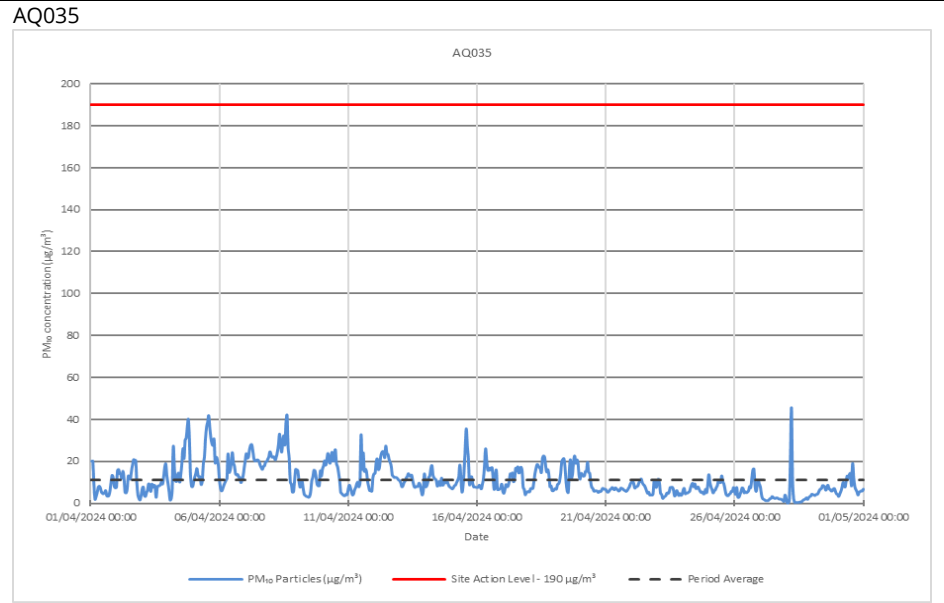
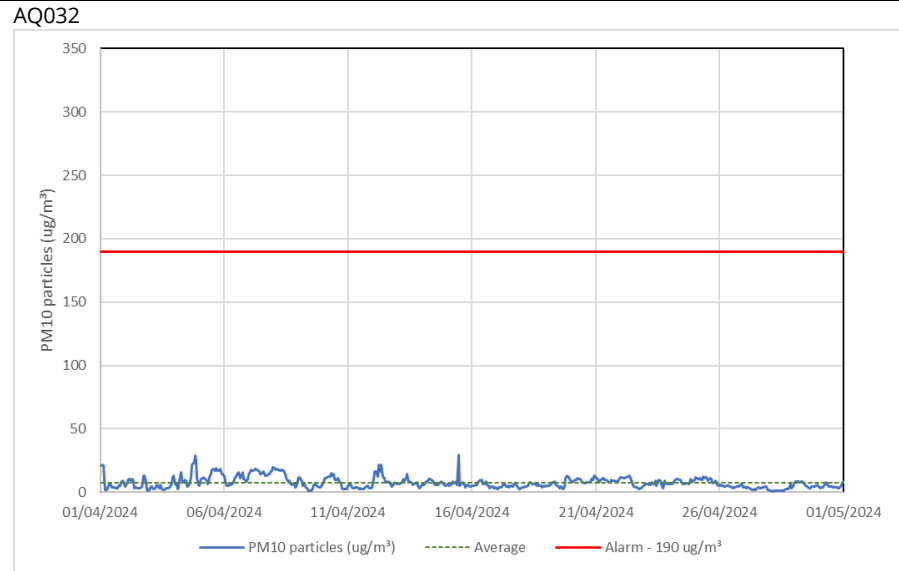
Table 2: Summary of exceedances during period (April 2024)

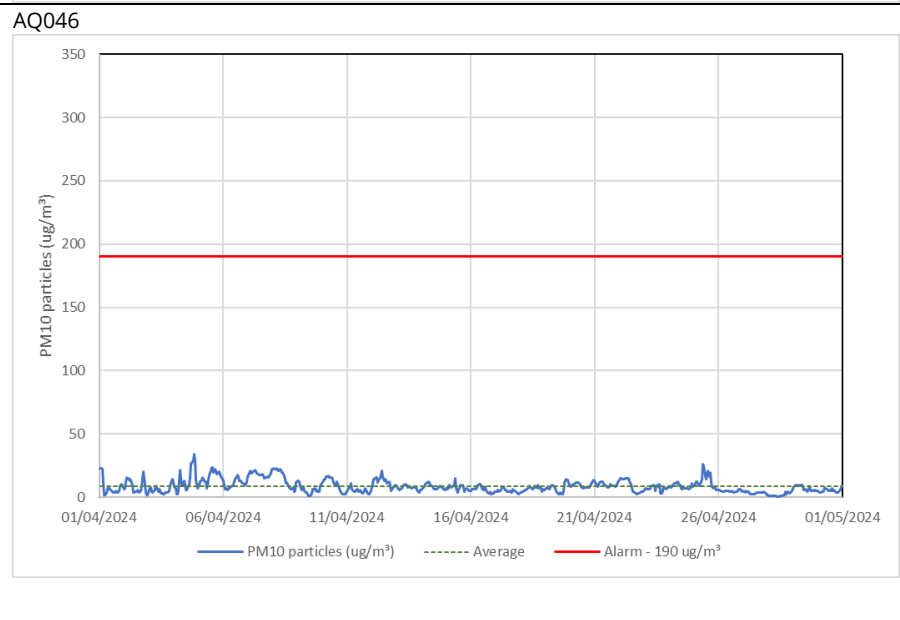
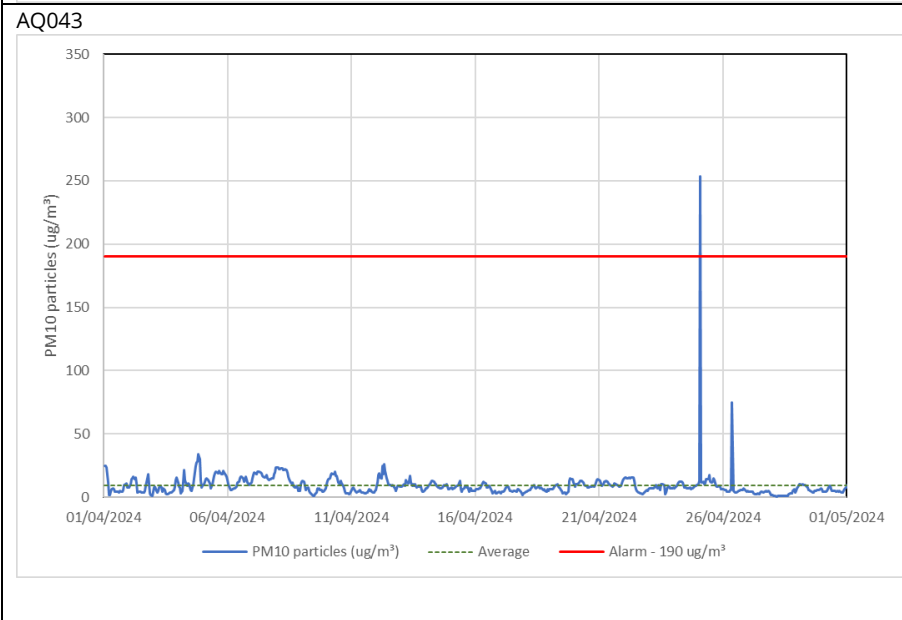
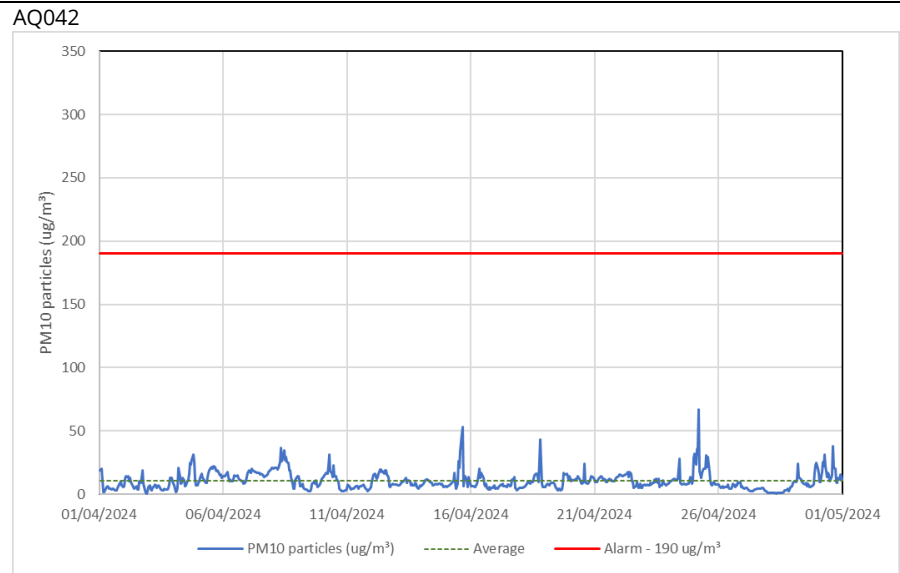
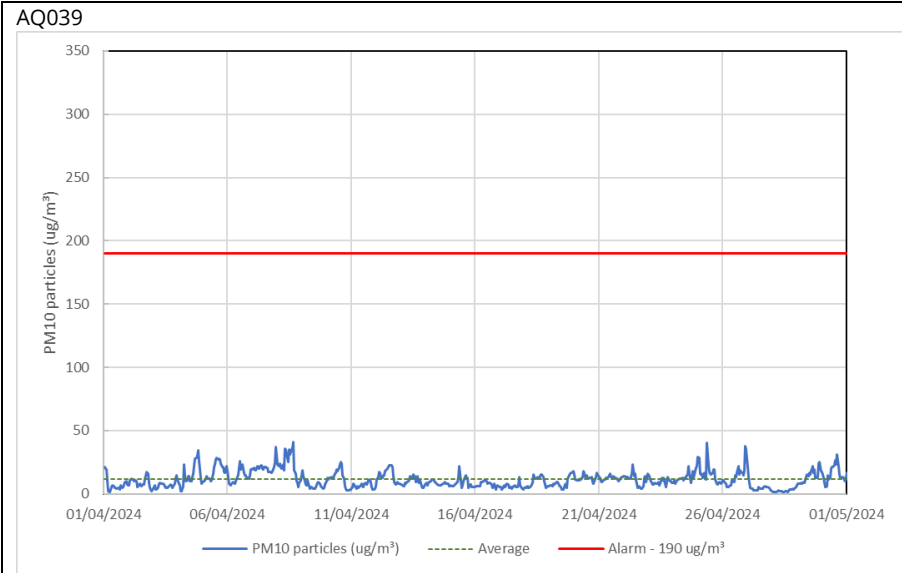
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ043	25/04/2024 01:01 – 02:00; 253.5 µg/m <sup>3</sup>	At the time of the exceedance, during the early hours of the morning there were no dusty works being undertaken on site, only steel fixing below ground in the tunnel shaft. It is considered the trigger was false and due to a tiny piece of loose debris within the monitor's inlet or high humidity levels which can sometimes adversely affect the monitor.	The monitor was checked, cleaned, and serviced the next day.

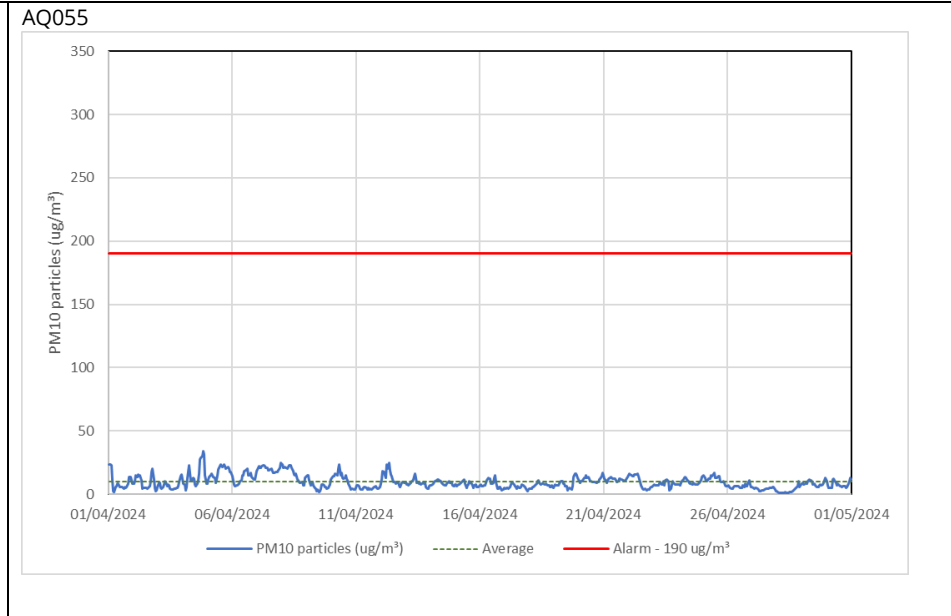
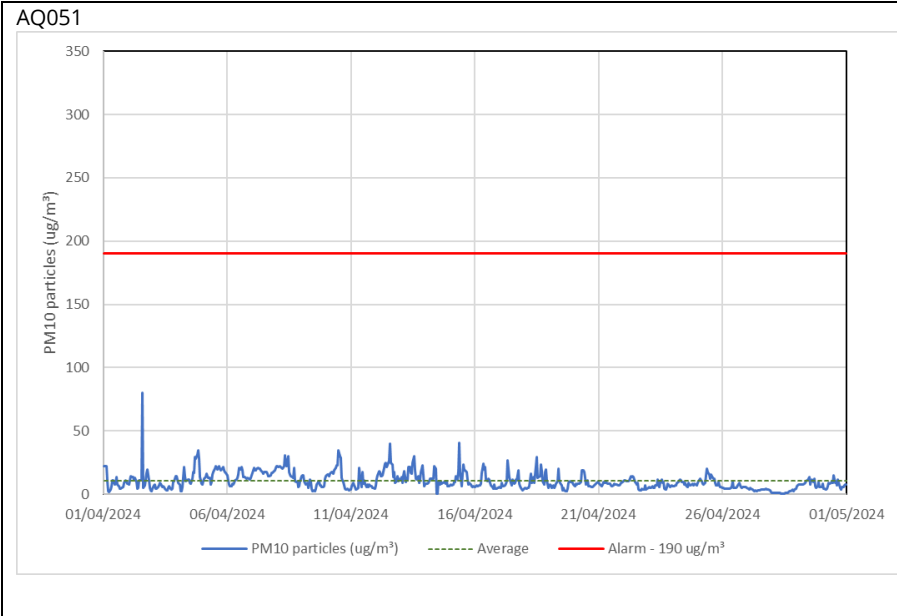
Figure 4: Construction dust 1-hour mean indicative PM<sub>10</sub> concentration for all dust monitors













## Appendix C – Air Quality Monitoring Results

Table 3: NO<sub>2</sub> monitoring locations around highways, NO<sub>2</sub> concentrations and monthly monitoring results with running mean for 2024 (µg/m<sup>3</sup>)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean <sup>12</sup>
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	55	46	43										48
HS2-000020BN7	The Approach street sign	520959, 181102	41	35	40										38
HS2-000020BQF	Conway Drive sign post	520856, 181733	48	46	40										44
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	Tube Missing	Tube Missing	Tube Missing										No data
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	44	44	37										42

<sup>1</sup> 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.

<sup>2</sup> 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 <sup>12</sup>
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyrotary roadside automatic monitoring station	518537, 182708	56	52	52										53