

Air Quality and Dust Monitoring Monthly Report – May 2022

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 April 2022 and May 2022 respectively.
- 1.1.2 Figure 1 to Figure 4 in Appendix A indicate 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 phase of construction works commenced in October 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 4, include:

Old Oak Common Depot

-
- Old Oak Common Depot and mobilisation and new site set up for the station works;
- Box excavation, muck away, crushing and concrete processing – GWML;
- Construction of temporary haul roads;
- Drainage installation;
- Piling and D-Wall activities – East / Central Box;
- Capping beam construction / fixing rebar for propping beam and slabs – West Box;
- Breaking down of D-wall / excavation in - West box;
- Conveyor Commissioning; and
- Manhole Construction / Site setup / Segment Installation – Wormwood Scrubs.

Victoria Road Crossover Box and Flat Iron Site

- Groundworks;
- Piling operations; and
- Conveyor construction.

Willesden Euro Terminal

- Excavated material spoil management.

Atlas Road

- Piling operations;

- Groundworks;
- Conveyor construction; and
- Tunnel entrance construction.

Green Park Way Vent Shaft

- Groundworks;
- Piling operations;
- Vent shaft construction; and
- Materials management.

Mandeville Road Vent Shaft

- Groundworks;
- Piling operations; and
- Materials management.

Westgate Vent Shaft

- Groundworks;
- Piling operations;
- Vent shaft construction; and
- Materials management.

- 1.1.5 Fourteen (14) dust monitors are installed around worksites, where works are underway. These sites returned a medium 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, in Figure 5. 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 PM₁₀ concentrations of 190 µg/m³, 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 One (1) dust trigger alert was recorded during the monitoring period (May 2022) and is reported in Appendix B, Table 3.
- 1.1.9 Data capture was below 90% for multiple monitors in May 2022 due to power supply issues, and monitor faults, subsequently repaired.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO₂) is undertaken at ten (10) locations around highways within the LBE as part of the management of air quality where significant effects may occur as a result of the scheme.

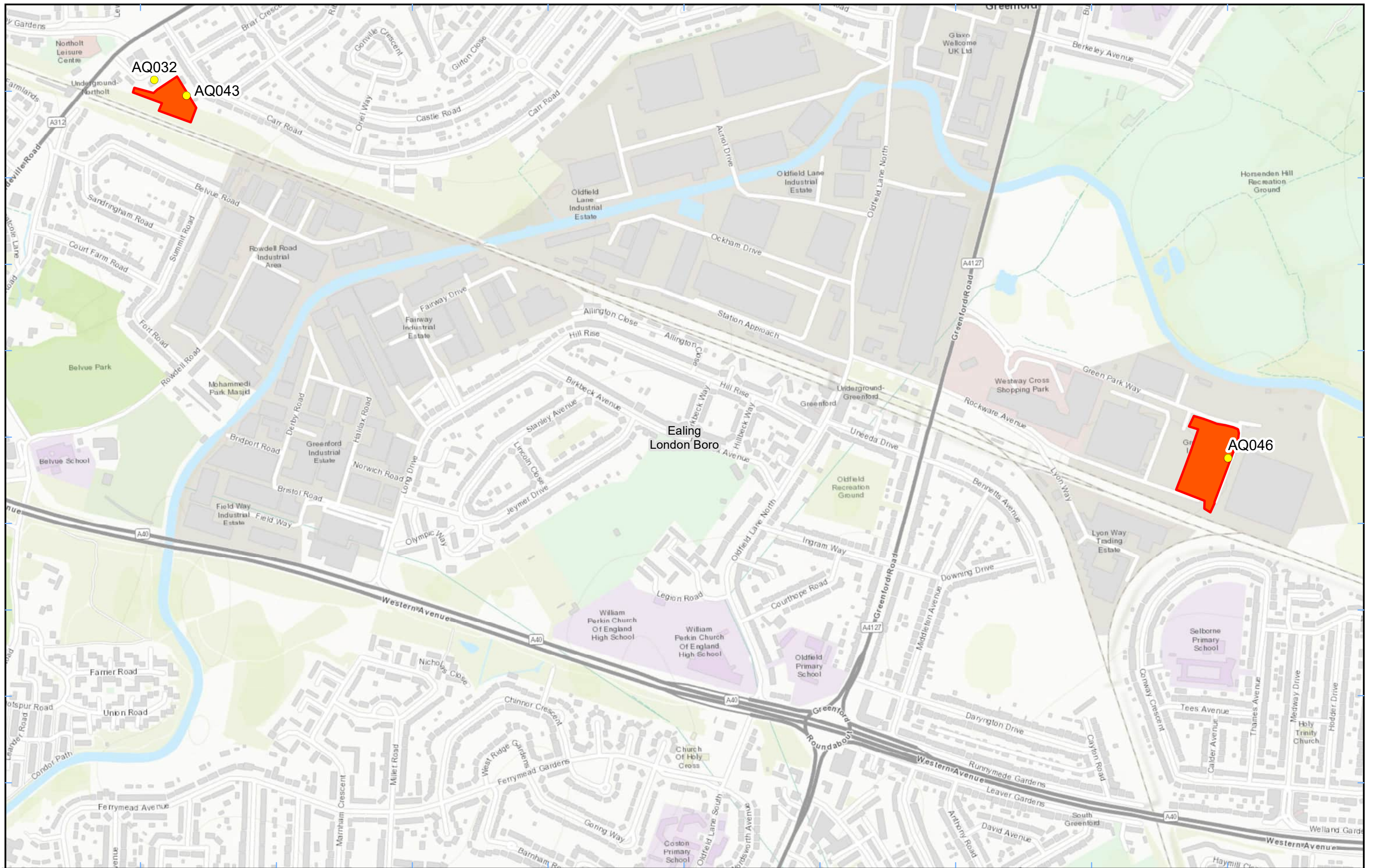
- 1.1.11 Diffusion tube monitoring results are as provided from the laboratory analysis, and therefore still require various analysis and adjustments to be undertaken. Final corrected results will be presented and described in the annual report. However, based on the results to date, no unexpected values were recorded during the monitoring period.
- 1.1.12 NO₂ monitoring locations and results are presented in Appendix C, Table 4, together with the 2022 running mean.
- 1.1.13 Table 1 provides a summary of the complaint information related 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 May 2022

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-22-43613-C	Old Oak Common Station	Level of dust.	Confirmed the mitigation in place including wheel washers and damping down. Tarmac being laid at site entry and road, which will further reduce dust.

Appendix A – Worksites and Monitoring Locations

Figure 1 to Figure 4: Worksites and monitoring locations within the LBE



Legend

- Dust Monitor
- District Borough Unitary Boundaries
- Worksite

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Map Number

Map Name
**Worksite and Monitoring Locations
 In LBE (Sheet 1)**

London Borough of Ealing

Map Number

Map Name
**Worksite and Monitoring Locations
 In LBE (Sheet 1)**

London Borough of Ealing

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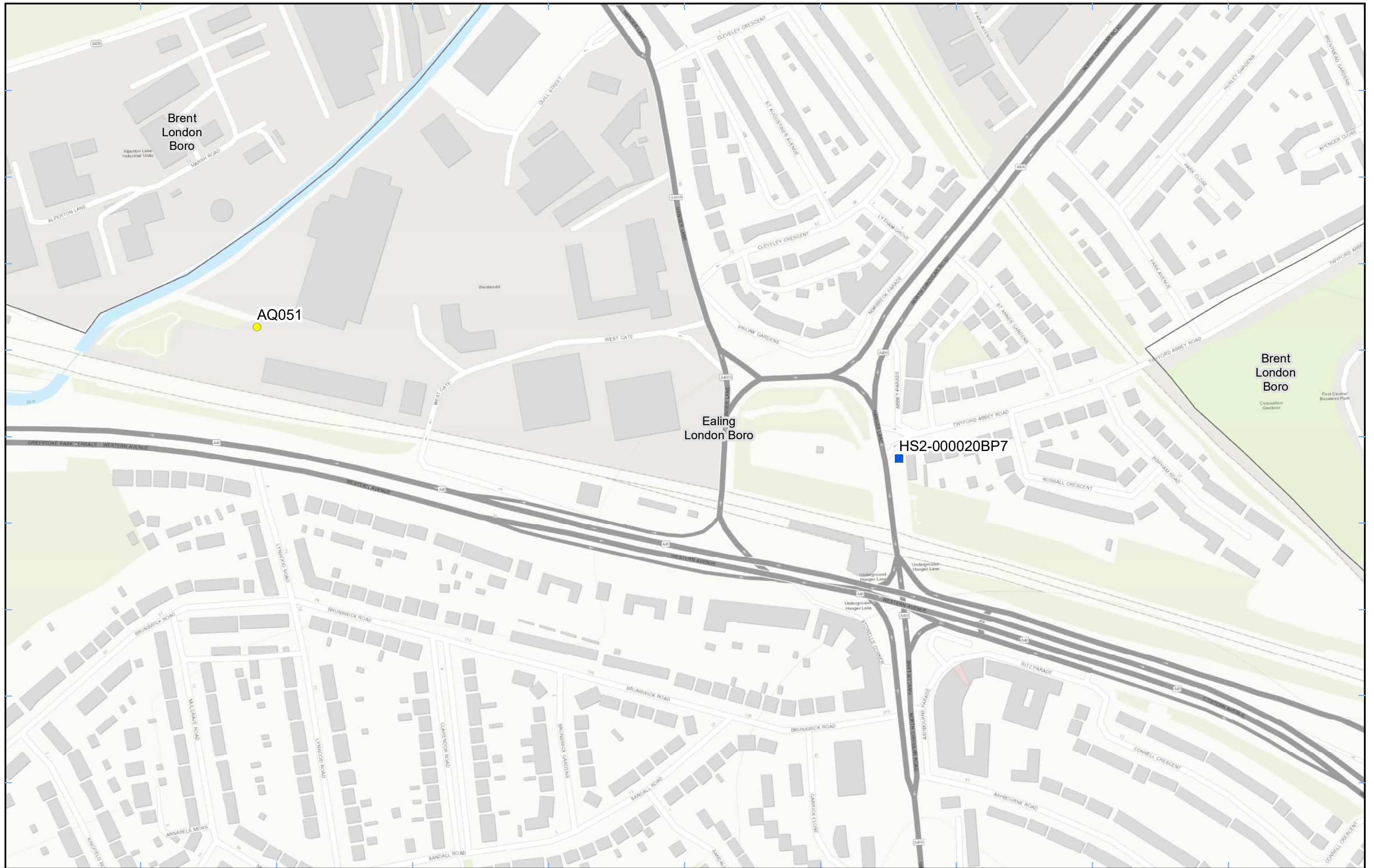
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 Metres

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Legend

- Diffusion Tube
- Dust Monitor
- District Borough Unitary Boundaries

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Map Number

Map Name
**Monitoring Locations
 In LBE (Sheet 2)**

London Borough of Ealing

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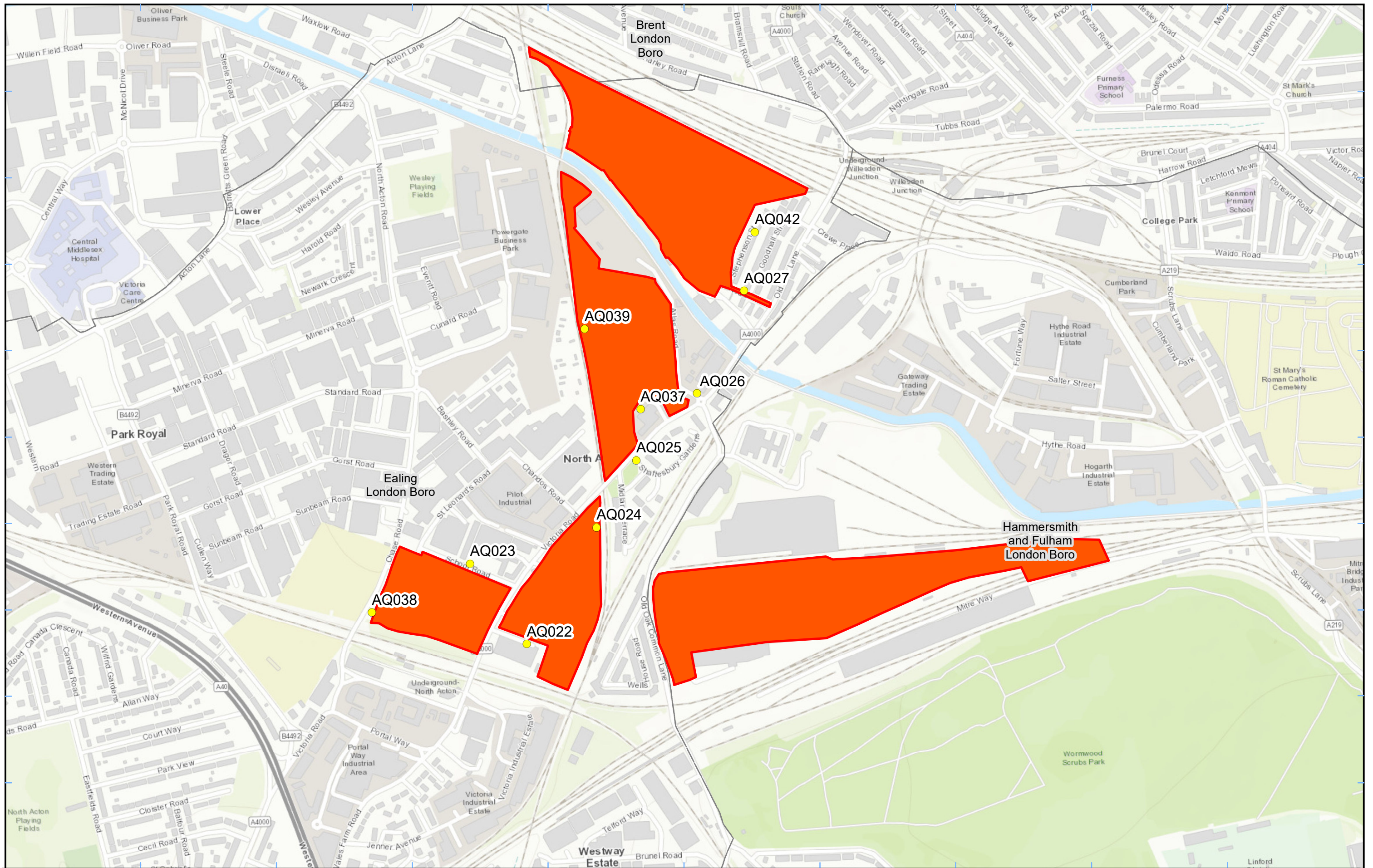
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Legend
 Dust Monitor
 District Borough Unitary Boundaries
 Ealing

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

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 In LBE (Sheet 3)**
 London Borough of Ealing

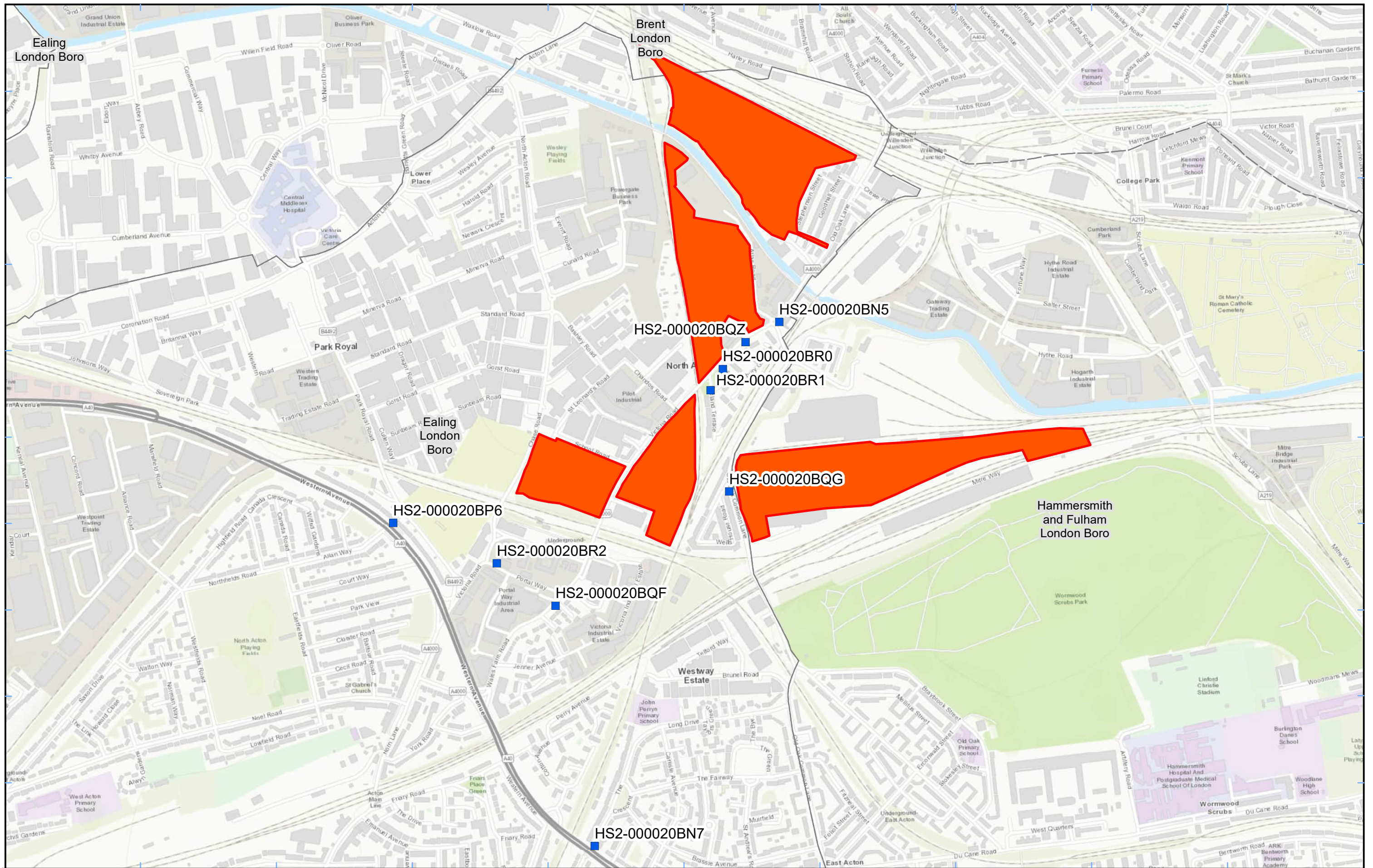
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Legend
■ Diffusion Tube District Borough Unitary Boundaries
 Worksite

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Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBE (Sheet 4)**
 London Borough of Ealing

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Appendix B – Dust Monitoring Results

Table 2: Dust monitoring locations and May 2022 results

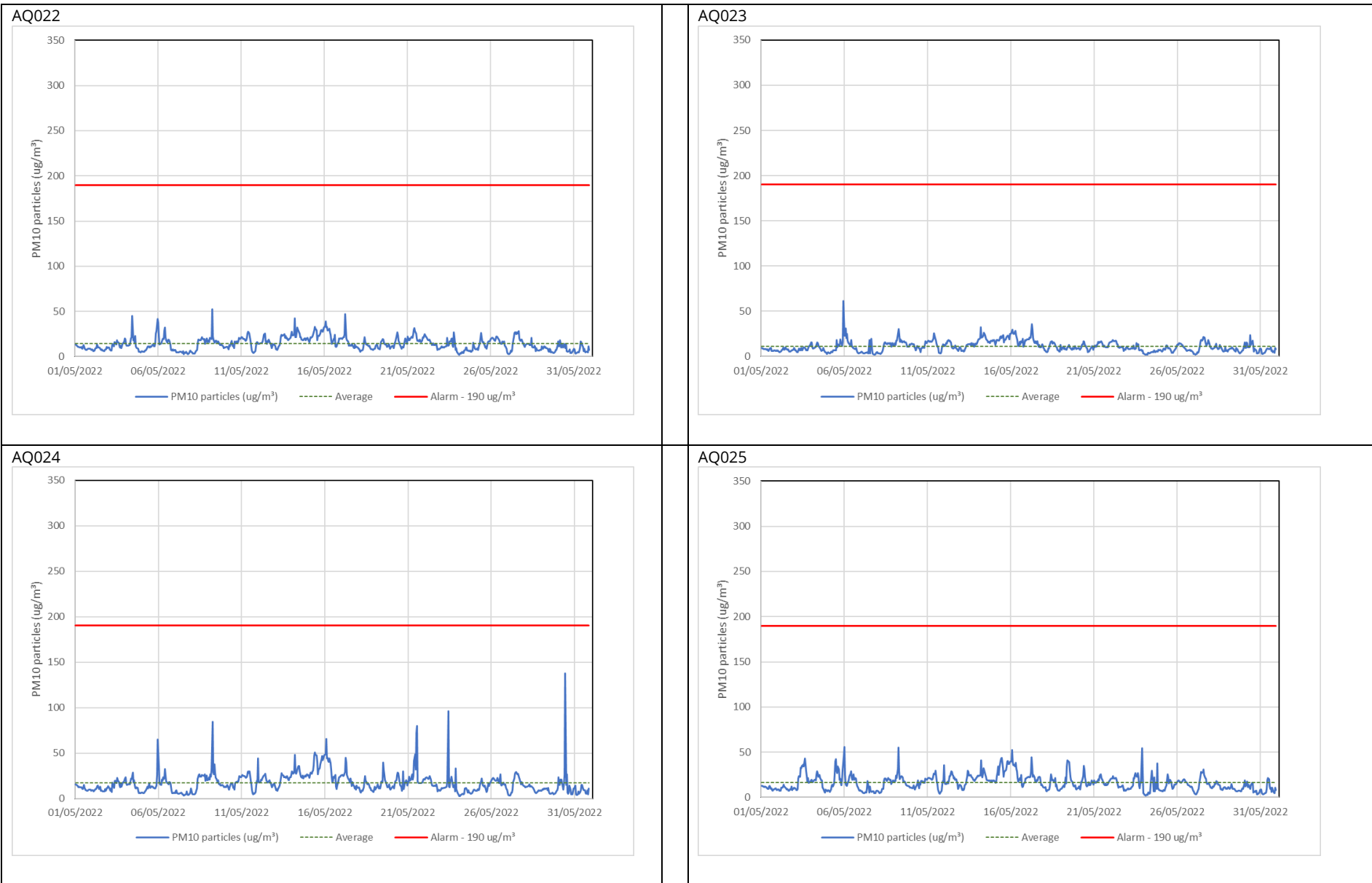
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture
AQ022	521072, 181985	Boden House	M	Yes	N	14.1	2.3	52.6	0	100.0
AQ023	520956, 182149	School Road	M	Yes	N	11.0	1.8	61.3	0	100.0
AQ024	521214, 182223	Braitrim House	M	Yes	N	17.1	2.4	137.8	0	100.0
AQ025	521295, 182360	Victoria Road	M	Yes	N	16.4	2.1	55.9	0	100.0
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	14.9	1.9	83.6	0	100.0
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	20.3	2.2	88.8	0	76.6
AQ032	513402, 184536	Badminton Close	M	Yes	N	9.9	1.8	54.0	0	100.0
AQ037	521304, 182464	Atlas Road	M	Yes	N	12.9	1.8	88.0	0	85.6
AQ038	520756, 182049	Chase Road	M	Yes	N	10.0	1.3	228.3	1	99.5
AQ039	521190, 182628	Atlas Road 2	M	Yes	N	11.4	1.1	54.2	0	100.0
AQ042	521537, 182826	Stephenson Road	M	Yes	N	5.0	1.2	27.1	0	24.2
AQ043	513468, 184504	Mandeville Road	M	Yes	N	11.2	1.5	60.3	0	100.0
AQ046	515593, 183764	Green Park	M	Yes	N	14.1	2.2	175.3	0	100.0

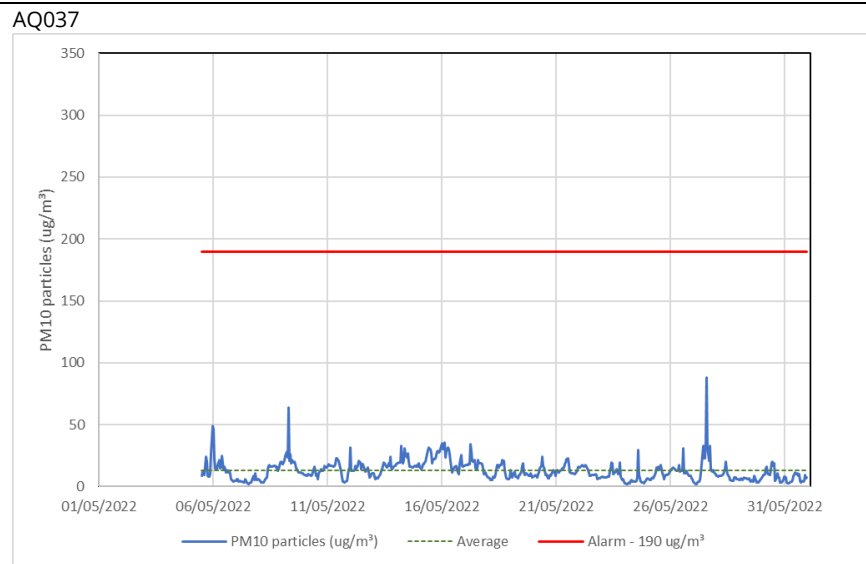
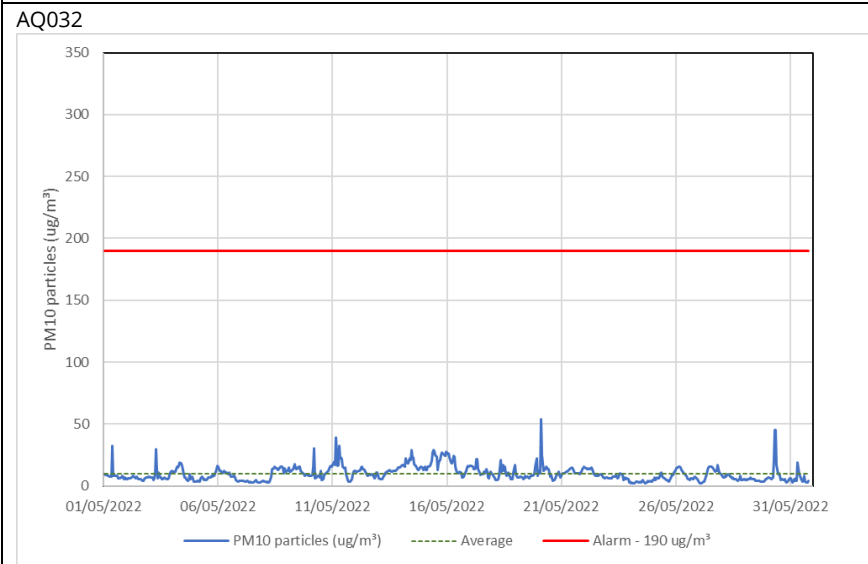
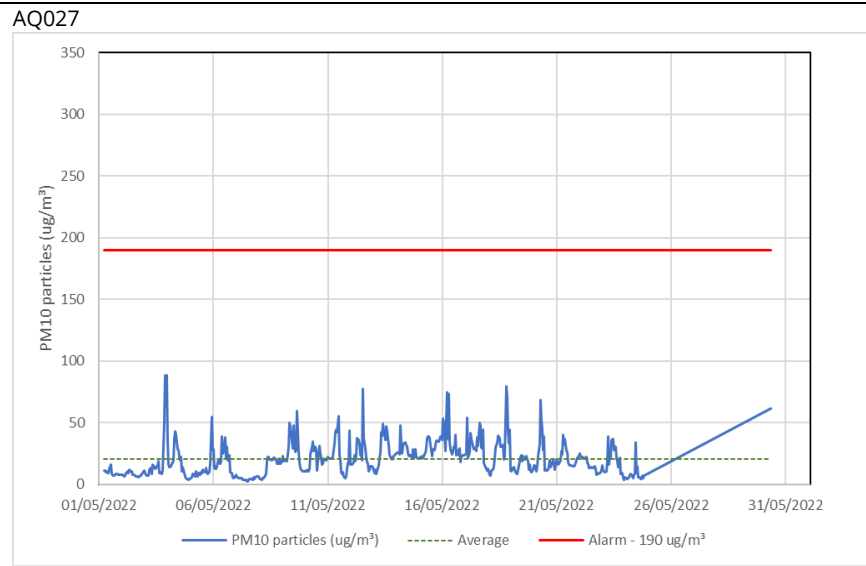
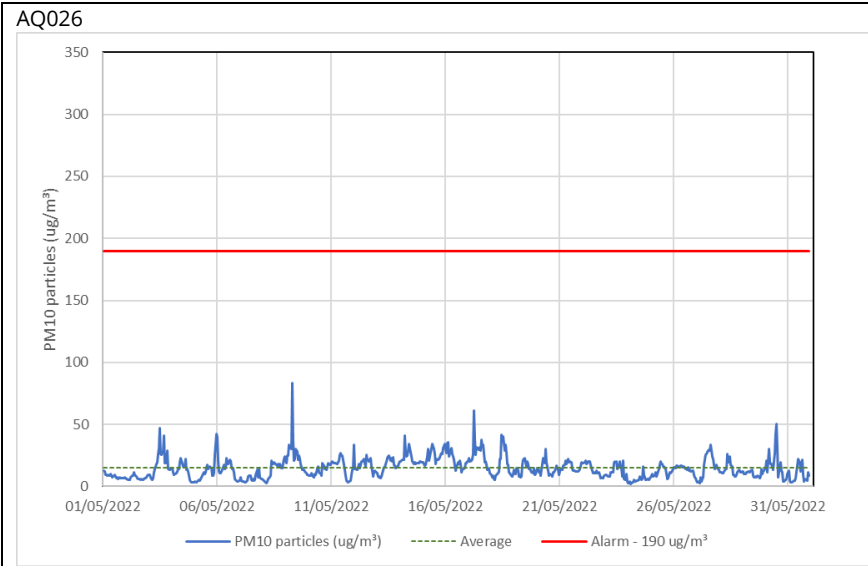
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture
		Way								
AQ051	517976, 182823	Westgate	M	Yes	N	9.4	0.0	71.3	0	100.0

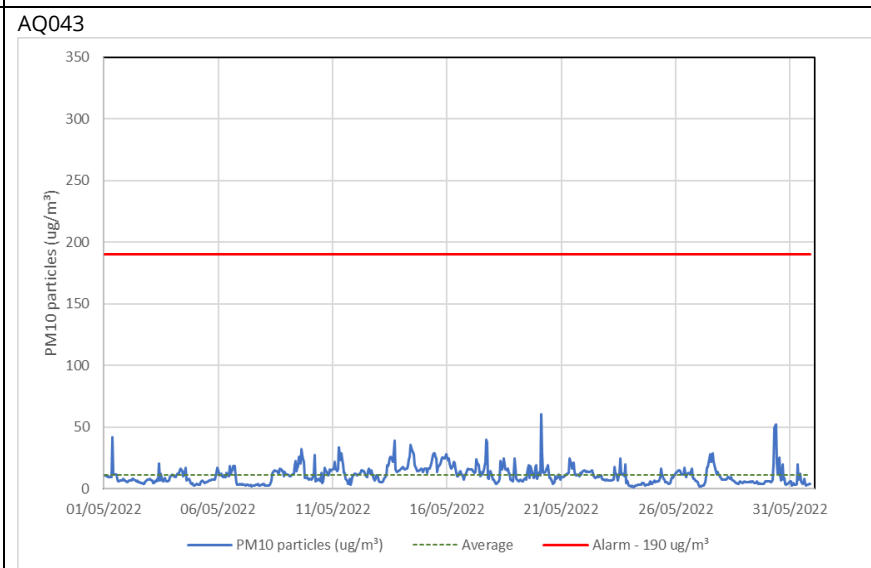
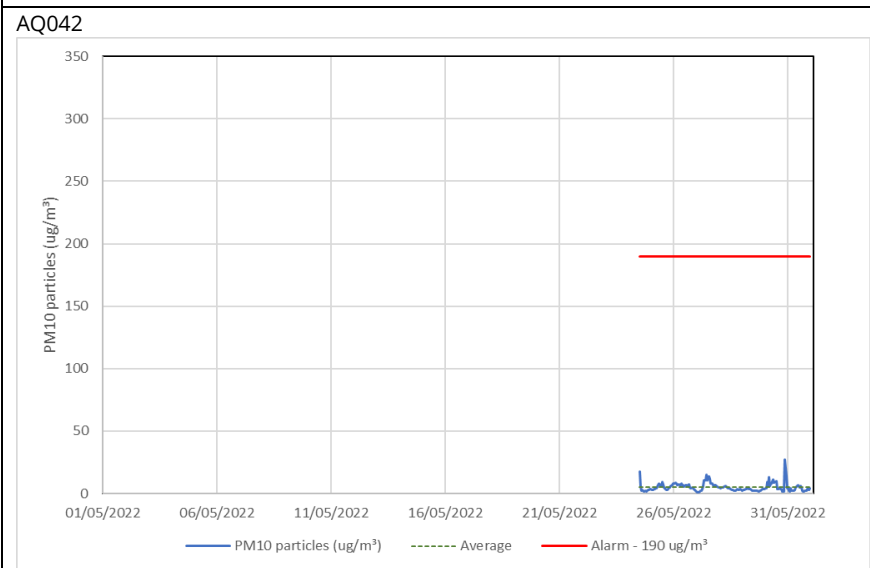
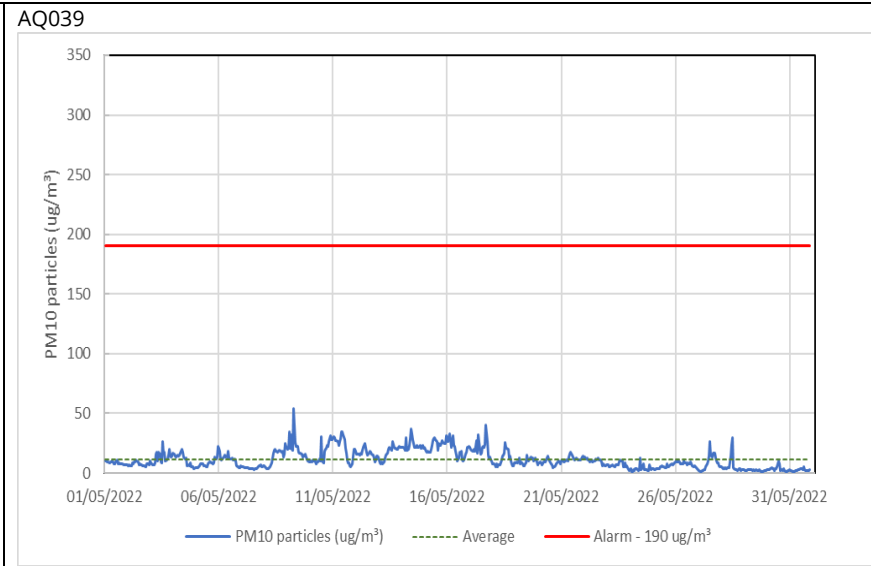
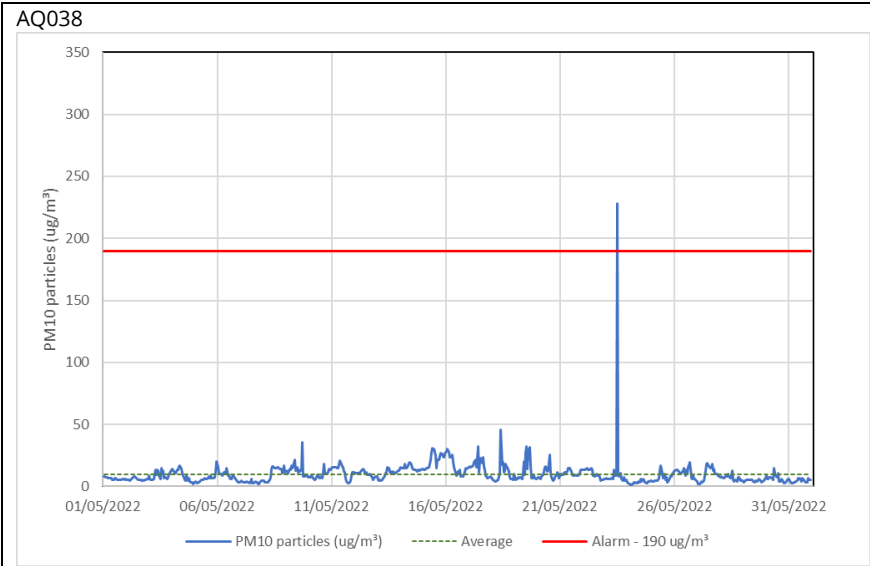
Table 3: Summary of exceedances of trigger level in May 2022

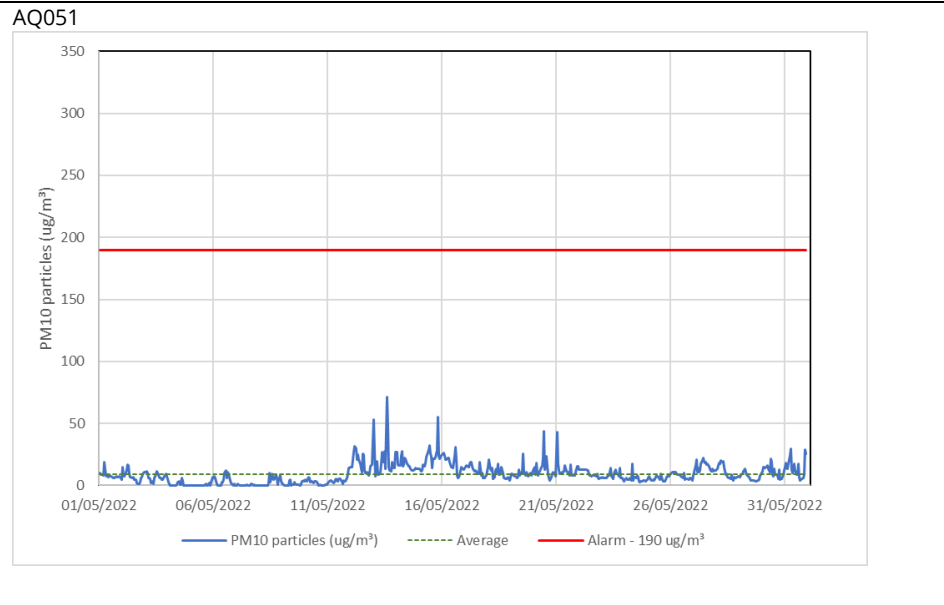
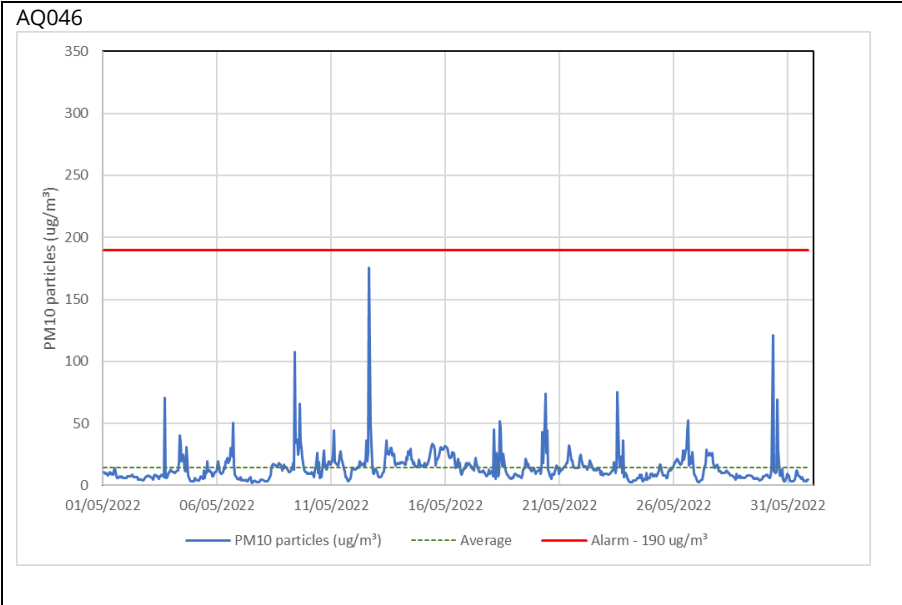
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ038	23/05/2022 11:00 – 12:00; 228.3 µg/m ³	There were water utilities works along Chase Road including backfilling of trenches that day but no observed increased levels of dust or change in active. However, there were no other activities taking place at the time of the trigger that could have given rise to increased dust levels. Therefore, it was concluded that the trigger is most likely to have been associated with the back filling.	Site team will continue to ensure dust suppression is available and deployed where required during the works. Much of the onsite area of the VRCB site is concrete hardstanding and damped down as part of daily circuits of the site by road sweepers, bowsers, dust canons, and jet sprays, to prevent windblown dust from the wider site.

Figure 3: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors









Appendix C – Air Quality Monitoring Results

Table 3: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2022 (µg/m³)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BN5	Sign post on Victoria Road	521443, 182477	65	52	55	39									53
HS2-000020BN7	The Approach street sign	520959, 181102	76	Tube Missing	46	41									54
HS2-000020BQF	Conway Drive sign post	520856, 181733	66	44	62	55									57
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	Tube Missing	38	50	37									41
HS2-000020BQZ	Lamp post on Victoria Road opposite Tudor House	521354, 182425	49	45	57	47									49
HS2-000020BR0	Sign post on Shaftesbury Gardens	521295, 182354	50	33	40	30									38
HS2-000020BR1	Lamp post on Midland Terrace	521263, 182298	43	30	38	30									35
HS2-000020BR2	Lamp post on Victoria Road outside Papa John's	520702, 181844	Tube Missing	Tube Missing	62	Tube Missing									62

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.

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ₁
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	63	45	50	37									49
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyratory roadside automatic monitoring station	518537, 182708	87	67	65	Tube Missing									73