HS2

February 2021

Air Quality and Dust Monitoring Monthly Report – February 2021

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 January and February 2021 respectively.

1.1.2 Figure 1 to Figure 3 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 3, include:

- Old Oak Common Depot (located in the London Borough of Hammersmith and Fulham) mobilisation and new site set up for the station works contractors;
- Old Oak Common satellite compound (south of Wells House Road) – vegetation clearance;
- Victoria Road Crossover Box and Flat Iron Site –groundworks, piling and utilities works;
- Willesden Euro Terminal – groundworks; temporary bride installation across the Grand Union Canal;
- Atlas Road– site set up and groundworks;
- Green Park Way Vent Shaft –site set up and groundworks; and
- Mandeville Road Vent Shaft – site set up and groundworks.

1.1.5 Twelve (12) dust monitors were 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 1, together with line charts of monthly data from each dust monitor 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 There were two (2) dust trigger alerts recorded during the monitoring period (February 2021). However, following investigation it was noted that this exceedance was not related to HS2 site activities, as no dusty activities were programmer or being undertaken at the time. Triggers alerts are presented in Appendix B, Table 2. All other results were in line with expected ranges.

1.1.9 Data capture for monitors AQ022 was below 90% for the month of February 2021 due to a fault with the monitor on the 14th February 2021.

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 may occur as a result of the scheme.

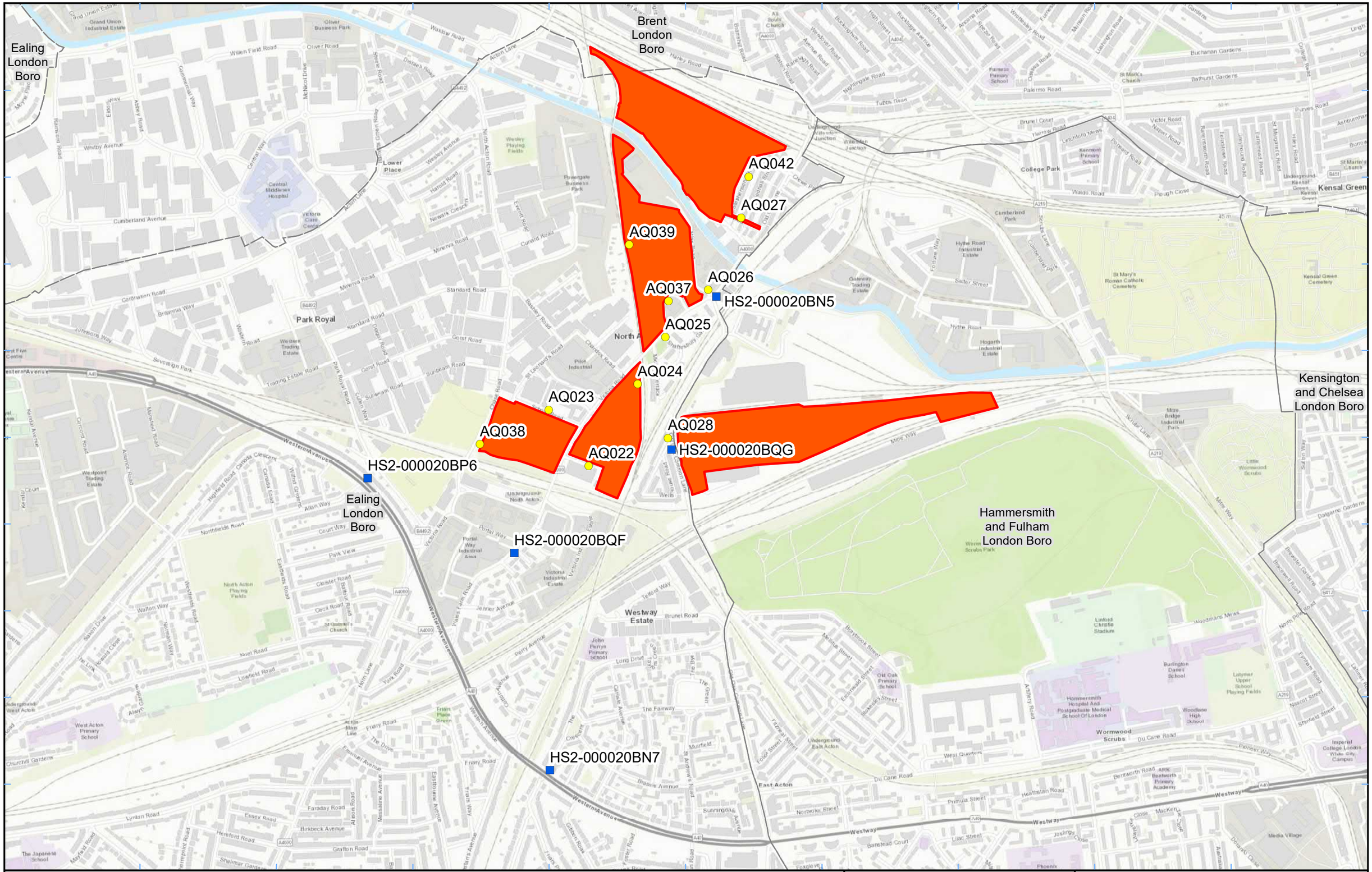
1.1.11 Diffusion tube monitoring results are provided from the laboratory analysis, and therefore still require various analysis and adjustments to be undertaken. Final corrected results will be presented and described in the annual report. However, based on the results to date, no unexpected values 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 2020 running mean.

1.1.13 There were no (0) complaints received. Relating to dust or air quality, during this reporting period (February 2021).

Appendix A – Worksites and Monitoring Locations

Figure 1 to 3: Worksites and monitoring locations within the LBE



Legend

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

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 and Monitoring Locations In LBE (Sheet 1)

London Borough of Ealing

Scale at A3: 1:10,000

0 100 200 300 400 Metres

Doc Number:

Date: 27/01/21

Legend

Diffusion Tube
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 and Monitoring Locations In LBE (Sheet 2)

London Borough of Ealing

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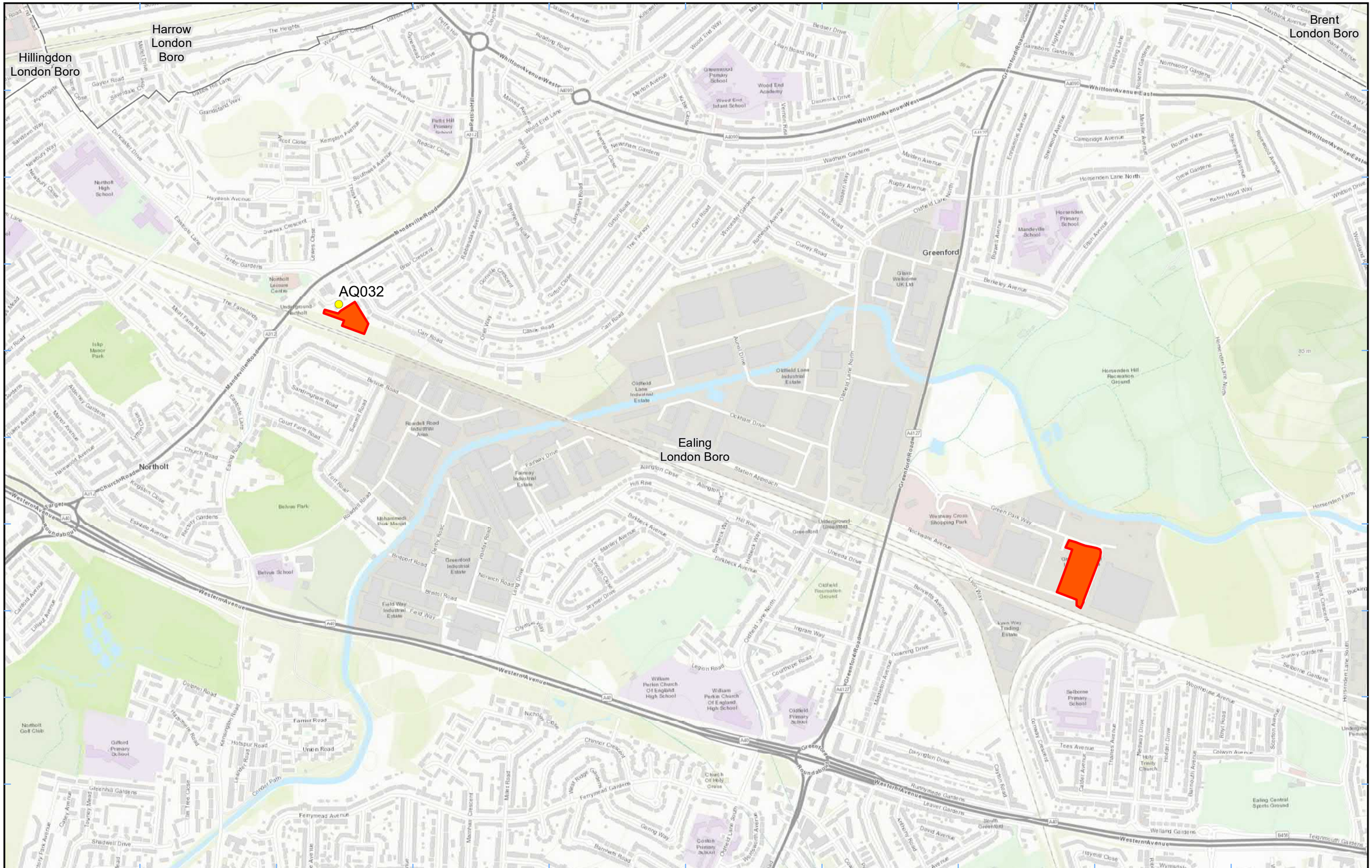
Date: 04/01/21



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 and Monitoring Locations In LBE (Sheet 3)

London Borough of Ealing

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

Scale at A3: 1:10,000

0 100 200 300 400 Metres

Doc Number:

Date: 04/01/21

Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and February 2021 results

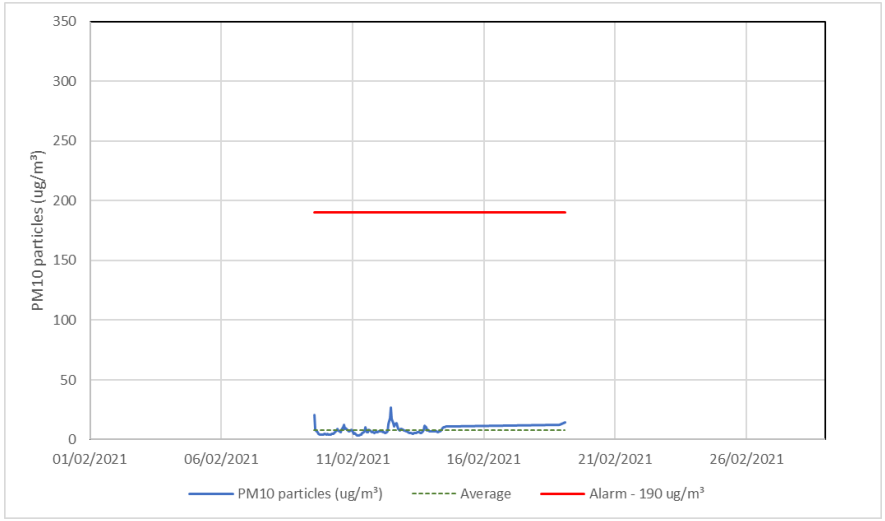
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM_{10} concentration ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1-hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
AQ022	521072, 181985	Boden House	M	Yes	N	7.6	3.4	26.9	0	18.5
AQ023	520956, 182149	School Road	M	Yes	N	15.0	0.8	99.6	0	99.9
AQ024	521214, 182223	Braitrim House	M	Yes	N	15.9	0.9	101.7	0	99.9
AQ025	521295, 182360	Victoria Road	M	Yes	N	13.2	0.9	82.5	0	99.9
AQ026	521419, 182497	Old Oak Lane	M	Yes	N	14.8	0.7	81.4	0	99.9
AQ027	521515, 182706	Channel Gate Road	M	Yes	N	17.7	0.8	150.3	0	99.9
AQ028	521309, 182085	Wells House Road	M	Yes	N	14.3	0.7	92.8	0	100.0
AQ032	513402, 184536	Badminton Close	M	Yes	N	11.3	0.8	71.0	0	99.9
AQ037	521304, 182464	Atlas Road	M	No	N	14.1	0.8	197.6	1	99.9
AQ038	520756, 182049	Chase Road	M	Yes	N	13.7	0.8	253.8	1	99.9
AQ039	532417, 181198	Atlas Road 2	M	Yes	N	13.6	1.0	82.0	0	99.9
AQ042	521537, 182826	Stephenson Road	M	Yes	N	14.2	0.8	88.7	0	99.9
AQ046	515593, 183764	Green Park Way	M	Yes	N	13.5	1.0	91.8	0	99.9

Table 2: Summary of exceedances of trigger level in February 2021

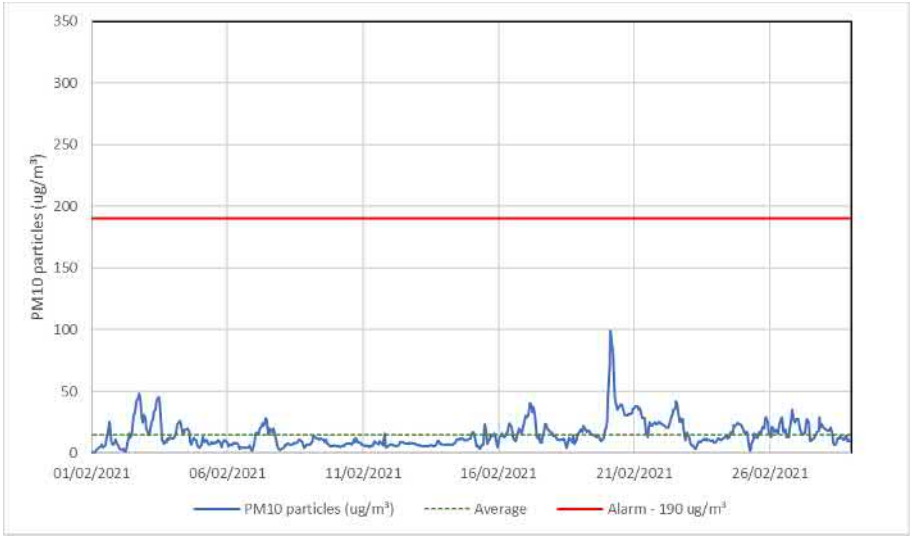
Monitoring site ID	Period exceeding trigger alert and concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ037	26/02/2021 12:00 – 13:00: 197.6 µg/m^3	At the time of the trigger alert from the dust monitor (AQ037), which is located on the south eastern boundary of the Atlas Road site at the rear Tudor House office block, lorries were arriving onto site as part of one of the new subcontractor's mobilisation. Due to the warm dry weather throughout the day, the ground in that area had dried out. It is considered that elevated dust levels were not experienced beyond the immediate area of the site or the monitor. The other nearby dust monitor (AQ025) opposite the site, on the corner of Victoria Road and Shaftesbury Gardens, was also checked and showed no elevated levels.	A jet wash was quickly dispatched to the area on receipt of the trigger to dampen the ground and haul route and an additional dust suppression has been ordered for delivery on Monday. The site steam will maintain vigilance in anticipation of dryer days ahead and ensure suitable dust suppression is available and deployed where required on site.
AQ038	22/02/2021 14:00-15:00: 253.8 µg/m^3	At the time of the trigger alert from the dust monitor (AQ038) which is located on the western boundary of the Victoria Road Crossover Box site adjacent to Chase Road, jet washing / cleaning-out the bolt holes in precast concrete rings was being undertaken and caused localised increased levels of dust/debris along with the high pressure water spray. The activity was being carried out on the shaft collar adjacent to the monitor but was only for a short duration. It is considered that elevated dust levels were not experienced beyond the immediate vicinity of the activity or the monitor.	By the time of receiving the trigger alert the works had already stopped. The subsequent dust level readings significantly reduced at the monitor. Where feasible future similar activities will be carried out further away from the site boundary or alternative methodologies adopted.

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

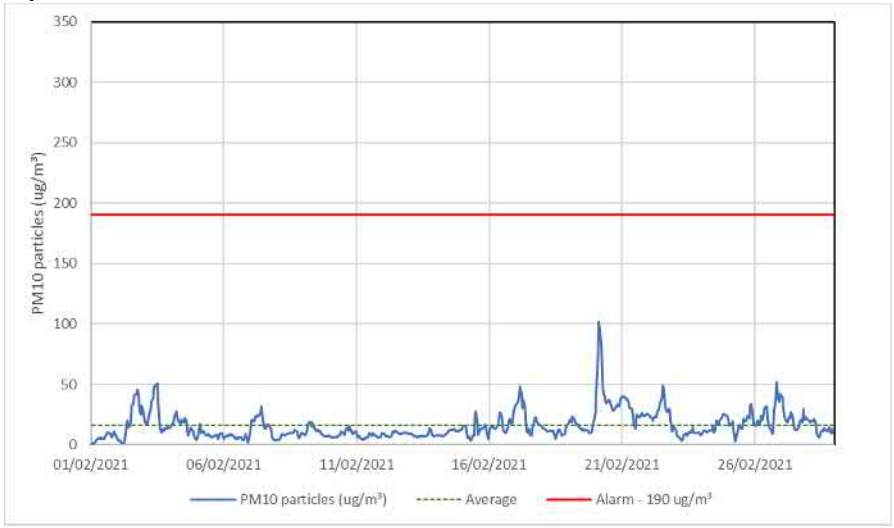
AQ022



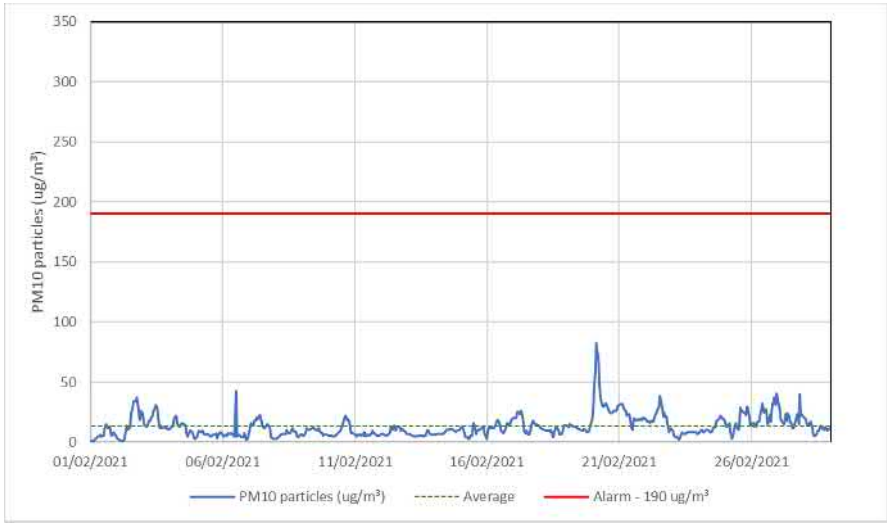
AQ023



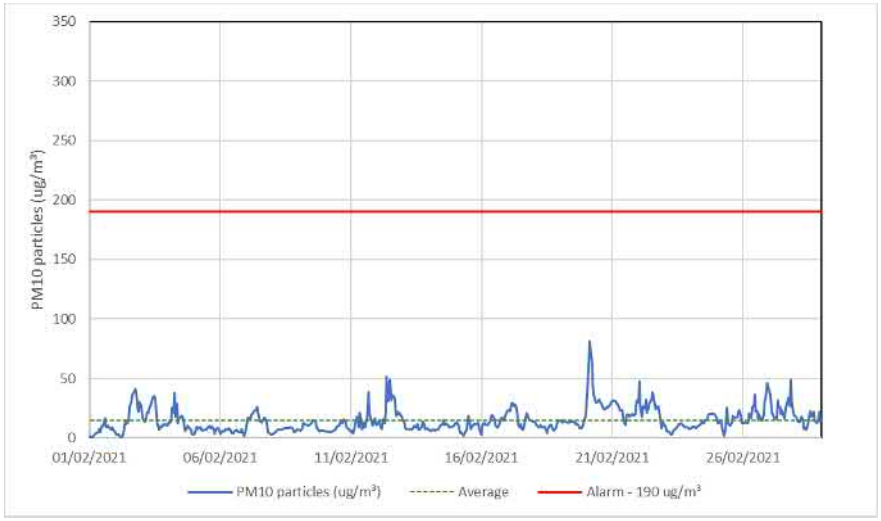
AQ024



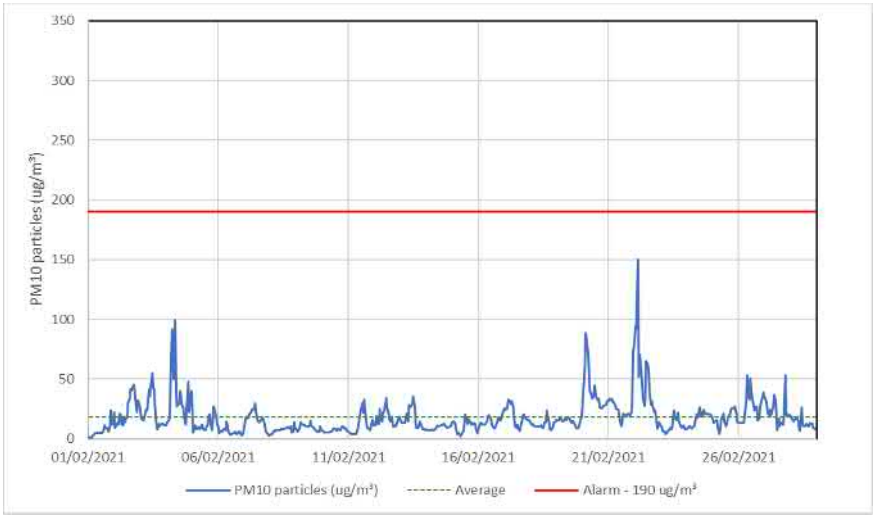
AQ025



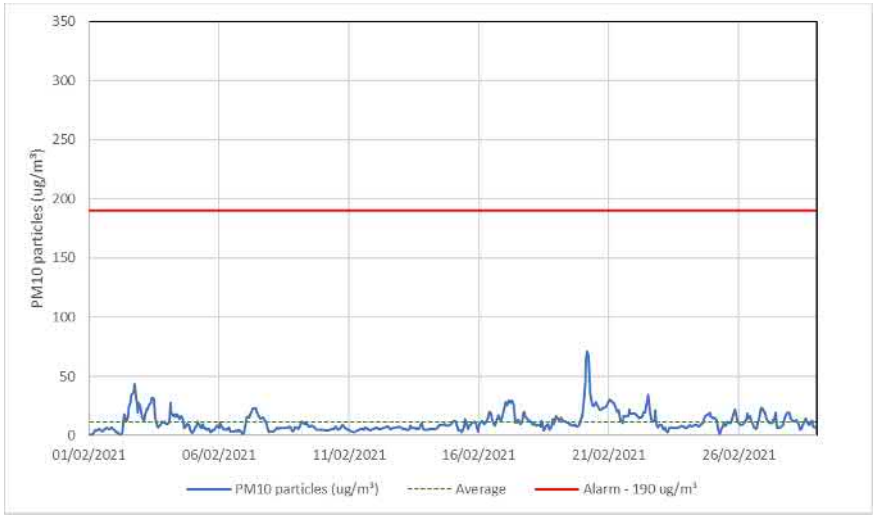
AQ026



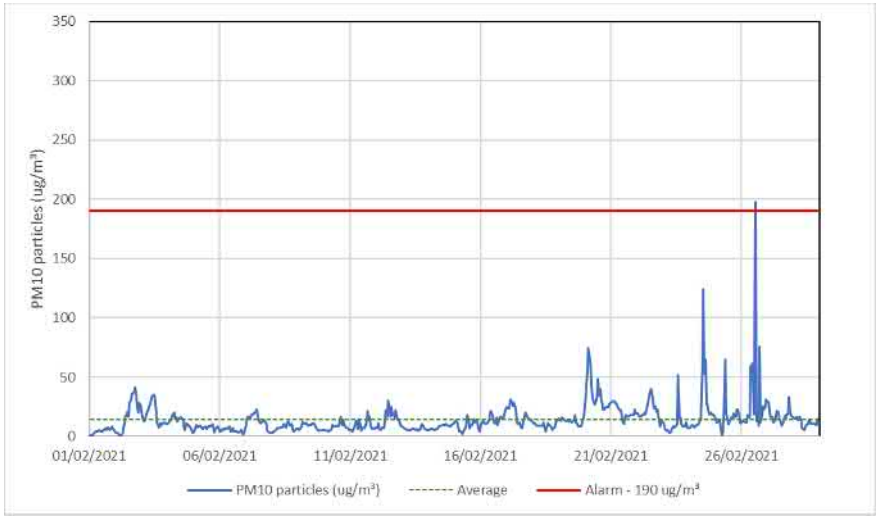
AQ027



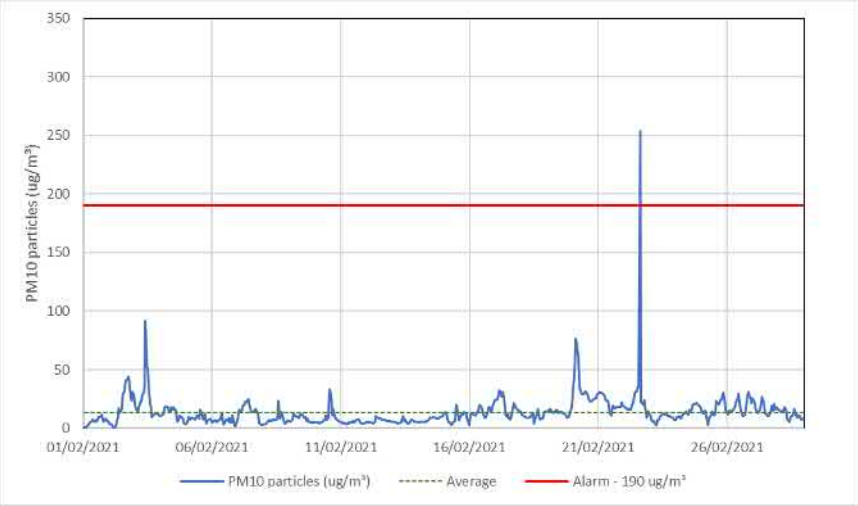
AQ032



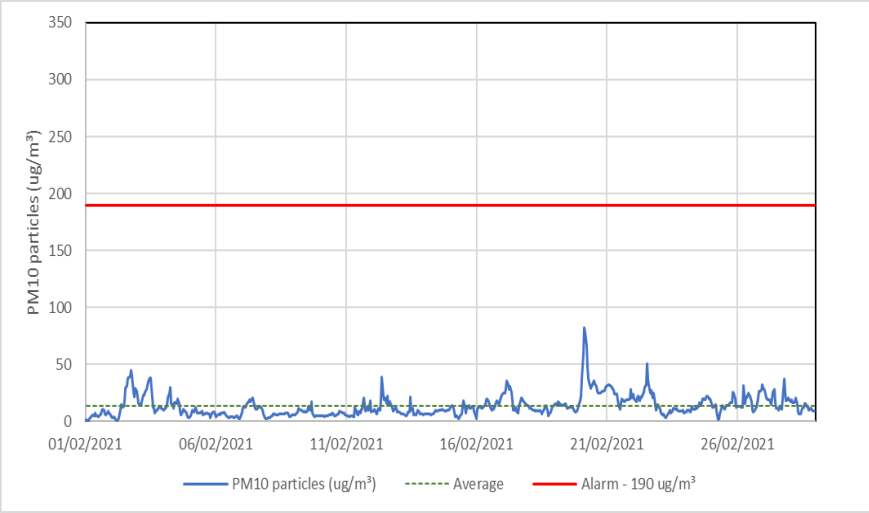
AQ037



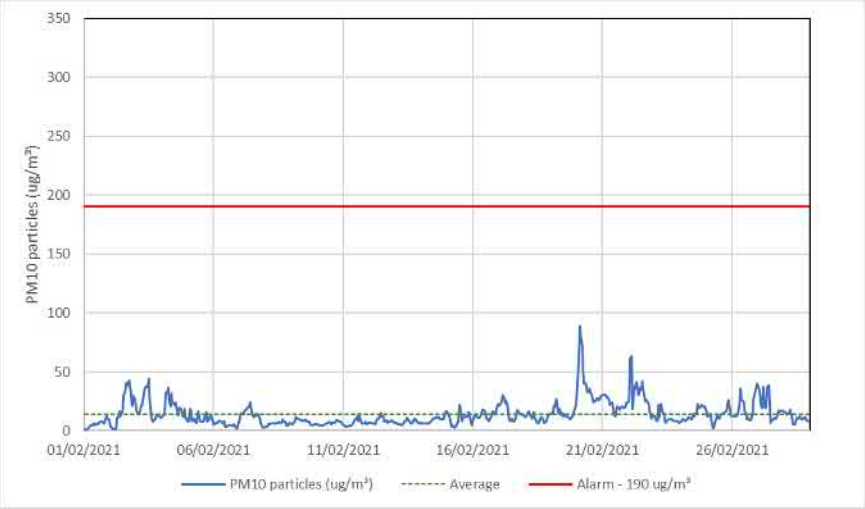
AQ038



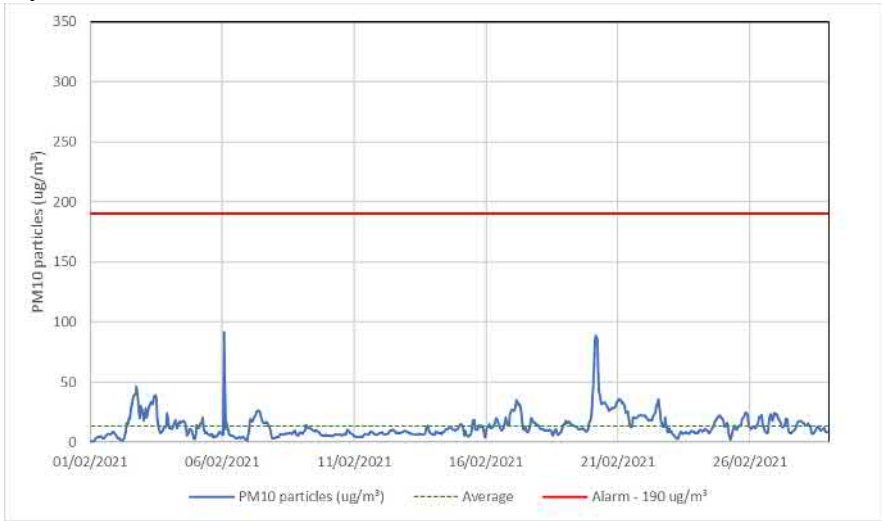
AQ039



AQ042



AQ046



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 2021 (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]
HS2-000020BN5	Sign-post on Victoria Road	521443, 182477	57												57
HS2-000020BN7	The Approach street sign	520959, 181102	56												56
HS2-000020BQF	Conway Drive sign-post	520856, 181733	58												58
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	39												39
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	51												51
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyratory roadside automatic monitoring station	518537, 182708	63												63

[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.*