HS2

February 2023

Air Quality and Dust Monitoring Monthly Report – February 2023

London Borough of Hammersmith and Fulham

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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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 Hammersmith and Fulham (LBHF) during January 2023 and February 2023 respectively.

1.1.2 Figure 1 and Figure 2 in Appendix A indicate the current worksite 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 works commenced in August 2020 and is expected to be completed by 2025. The current worksite, as presented in Appendix A, Figure 1 and Figure 2, include:

- Ground reduction and muck away - West Box / East Box;
- Intermediate level dig / D-wall breakdown / Excavation / Steel fixing – Station Box;
- Manhole construction – Stanford Brook Sewer;
- Site haul roads and public roads adjacent to site cleaning with a road sweeper;
- Formwork installation / concrete pour / ground reduction – Crossrail and Station Access Retaining Walls;
- Excavations – Satellite Site A / Old Oak common Lane Bridge; and
- Piling works – GWML.

1.1.5 Four (4) dust monitors are installed around the worksite. These sites returned a medium to high dust risk rating.

1.1.6 Dust monitoring locations and results are presented in Appendix B, **Error! Reference source not found.**, together with line charts of monthly data from each dust monitor in Figure 3. 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 One (1) dust trigger alert was recorded during the monitoring period (February 2023) and is reported in Appendix B, Table 2.

1.1.9 Diffusion tube monitoring of Nitrogen Dioxide (NO_2) is undertaken at seven (7) locations around highways within the LBHF as part of the management of air quality where significant effects may 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.

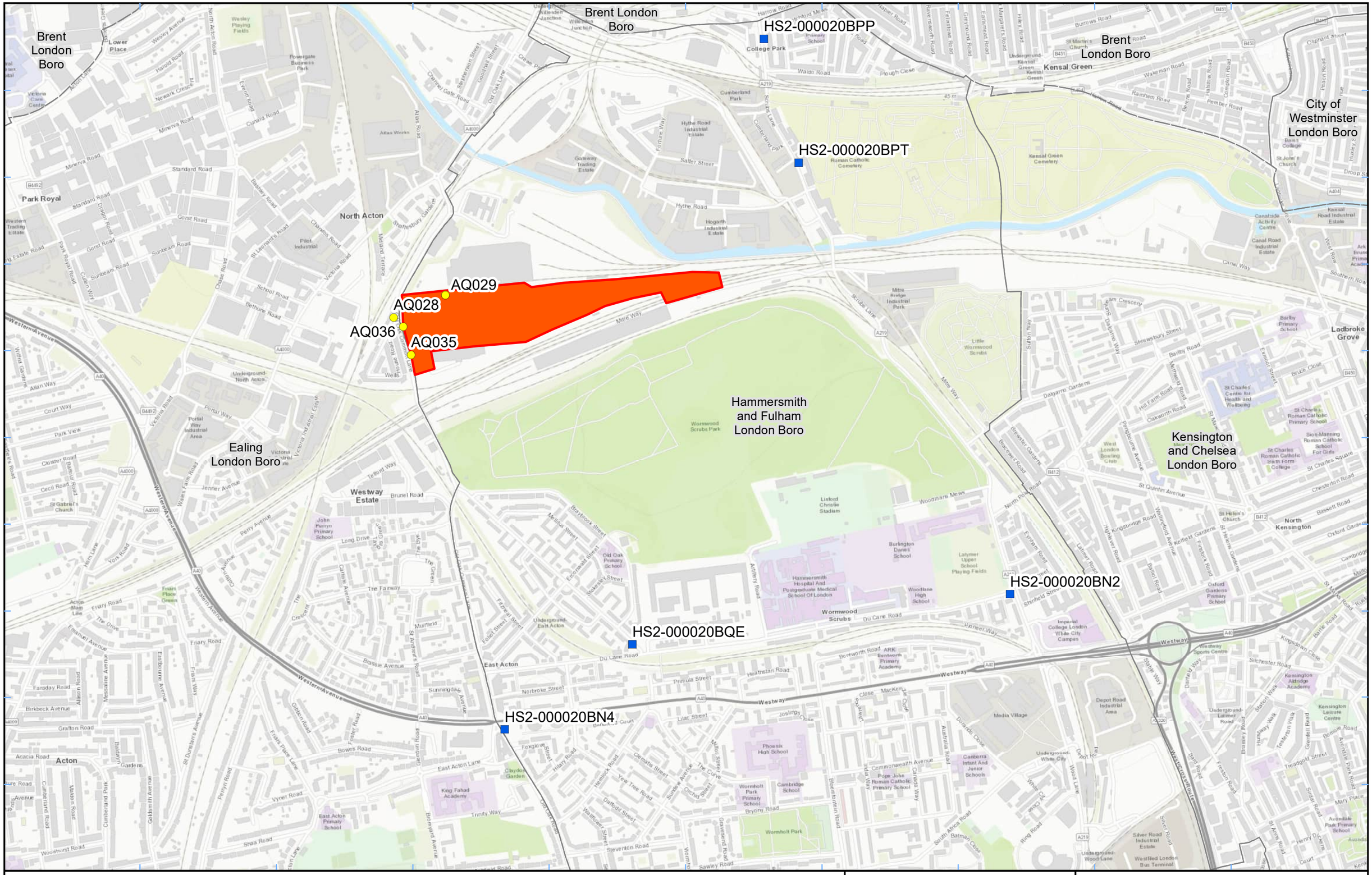
1.1.11 NO_2 monitoring locations and results are presented in Appendix C, Table 3, together with the 2023 running mean.

1.1.12 There were no (0) complaints received during this reporting period.

1.1.13 Data capture was below 90% for multiple sites due to monitors being removed from site to make way for planned works.

Appendix A – Worksites and Monitoring Locations

Figure 1 and 2: Worksites and monitoring locations within the LBHF



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 LBHF (Sheet 1)

London Borough of Hammersmith and Fulham

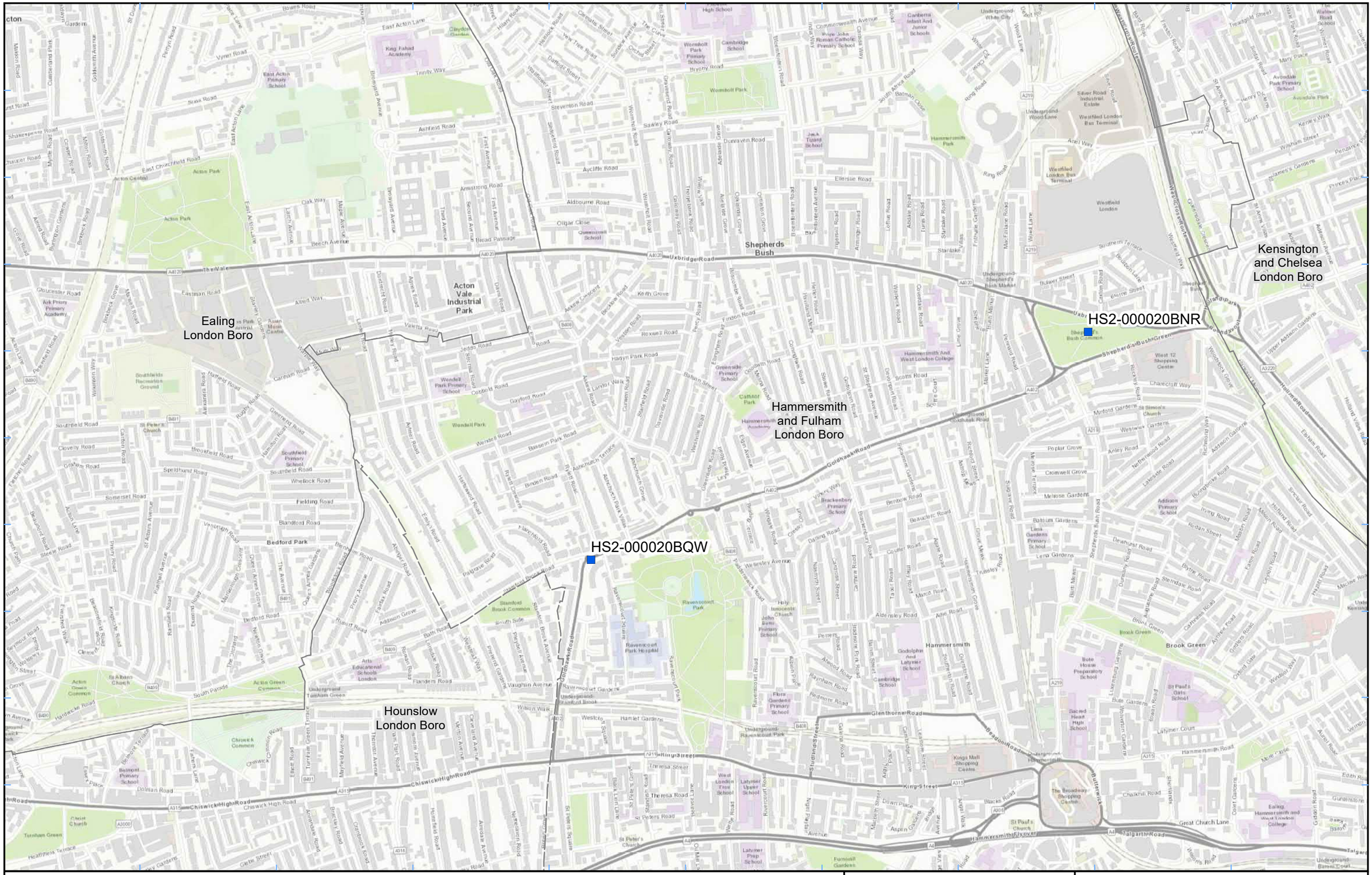
Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:10,000

0 100 200 300 400 Metres

Doc Number:

Date: 21/02/22



Legend

- Diffusion Tube
- District Borough Unitary Boundaries

Map Number

Map Name

Monitoring Locations In LBHF (Sheet 2)

London Borough of Hammersmith and Fulham

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: 08/12/20

Appendix B – Dust Monitoring Results

Table 1: Dust Monitoring locations and February 2023 results

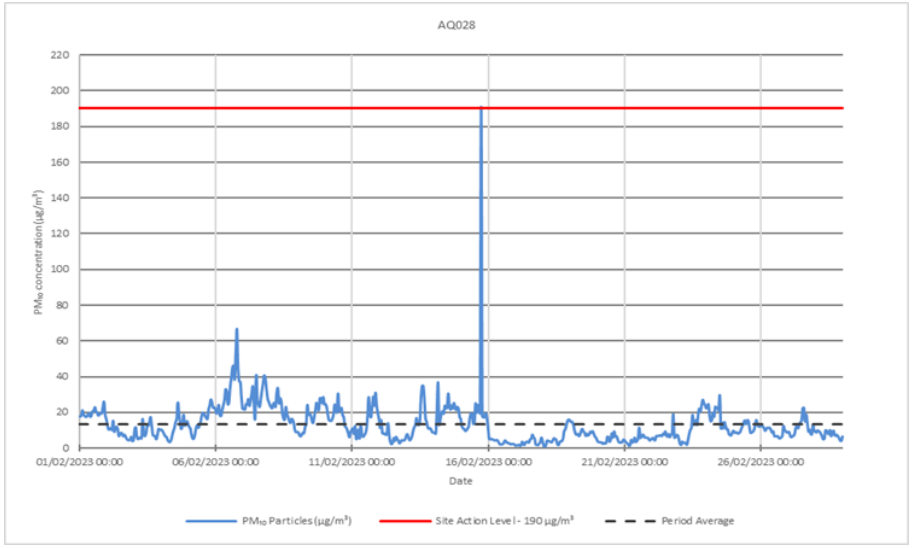
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM_{10} concentration ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1-hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
AQ028	521302, 182067	Wells House Road	M	Yes	N	13.2	0.9	190.8	1	100.0
AQ029	521453, 182132	Old Oak Common	H	Yes	N	-	-	-	-	0.0
AQ035	521353, 181959	Old Oak Common	H	Yes	N	15.3	1.0	116.8	0	98.2
AQ036	521330, 182041	Old Oak Common	H	Yes	N	20.6	2.0	155.3	0	78.6

Table 2: Dust Trigger Alerts and Measures Taken

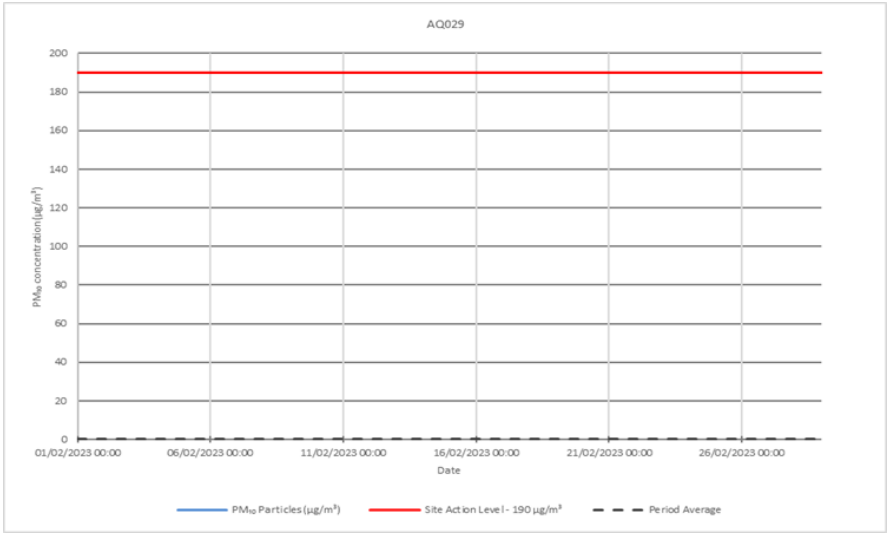
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ028	15/02/2023 17:00 – 18:00; 190.8 $\mu g/m^3$	London clay excavation in West Box during the day – minimal risk of dust from material movement due to nature of clay. There were also SAB - piling LDA work, GWML - piling CFA work, and SBS - mobilisation of BG39 and guide wall construction during the day. However, these works had stopped by the time of the alert, and there were no activities being undertaken on site. The cause is not known and is not likely to have been caused by site activities.	1200 Litre Bowsers x2 on rotation plus dust suppression additive. Contractors will ensure dust suppression is in use during the working hours. Other nearby sites were considered but were found to be too distant to have contributed to the alert.

Figure 3: Construction dust 1-hour mean indicative PM_{10} concentration for dust monitors

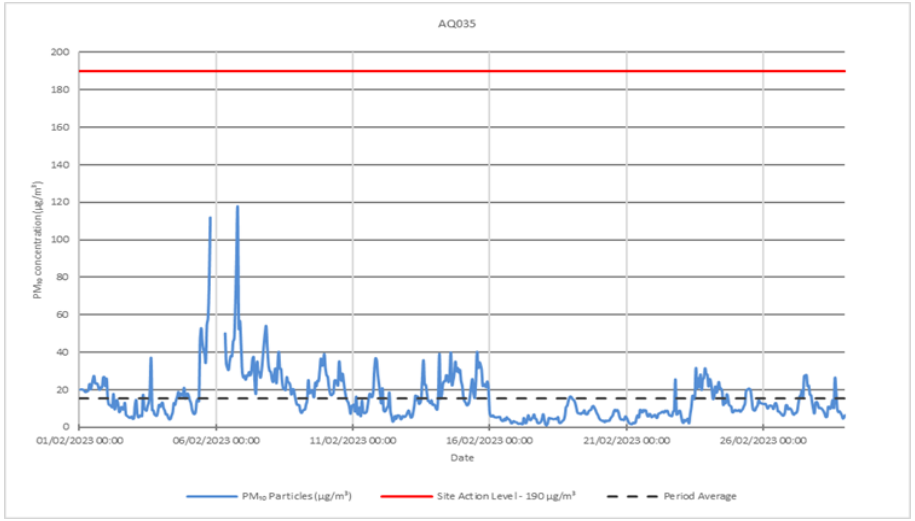
AQ028



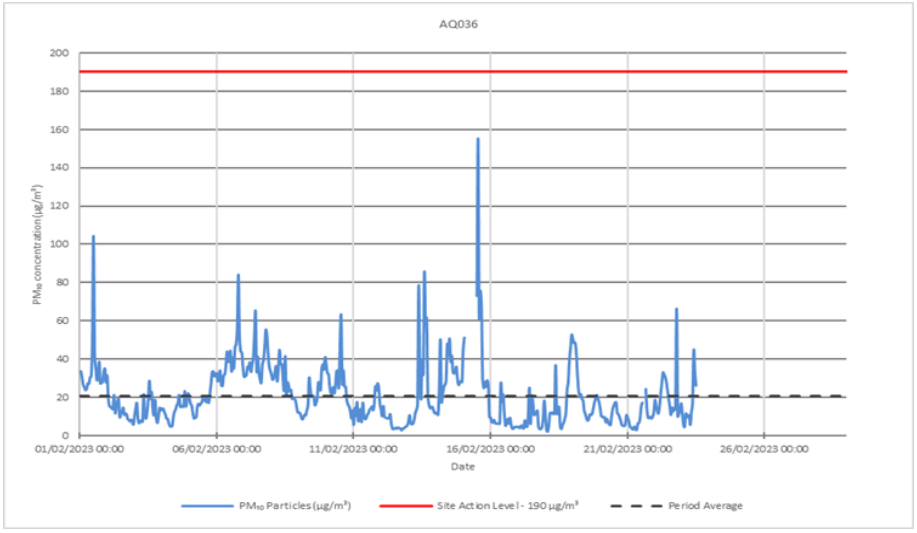
AQ029



AQ035



AQ036



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 2023 (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]
HS2-000020BN2	Lamp post on Du Cane Road	523092, 181264	42												42
HS2-000020BN4	End of cycle lane sign on Old Oak Road	521625, 180871	49												49
HS2-000020BNR	Lamp posts in Shepherd's Bush Common	523481, 179871	45												45
HS2-000020BPP	Sign post on A219 Scrubs Lane, South of Harrow Road	522378, 182877	37												37
HS2-000020BPT	Controlled Zone/Zone Ends road sign on A219 Scrubs Lane, north of Hythe Road	522478, 182517	47												47
HS2-000020BQE	Lamp post next to No 11 Wulfstan Street	521996, 181118	31												31
HS2-000020BQW	Lamp post on A402 Goldhawk Road	522037, 179209	45												45

[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.*