HS2

April 2021

Air Quality and Dust Monitoring Monthly Report – April 2021

London Borough of Hammersmith and Fulham

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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 Hammersmith and Fulham (LBHF) during March and April 2021 respectively.

1.1.2 Figure 1 and Figure 2 in Appendix A indicate the current worksite together with air quality and dust monitoring locations for April 2021.

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 within the LBHF in August 2020 and is expected to be completed by 2025. The current worksite, as presented in Appendix A, Figure 1, includes:

- Old Oak Common Depot and mobilisation and new site set up for the station works.
- Cranes mobilisation for piling;
- Polymer plant installation in the central box;
- Drainage installation for the piling works;
- Sheet piling in the east box;
- Sheet piling in the north/east of the site;
- Concrete finishing in the batching plant area;
- Preparing the slab for the batching plant silos;
- Permanent site accommodation base preparation; and
- Geogrid installation for the piling mat.

1.1.5 Four (4) dust monitors are installed around the worksite. This site 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 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 There were two (2) dust trigger alerts recorded during this monitoring period (April 2021). Triggers are presented in Appendix B, Table 2. All other results were in line with the expected ranges.

1.1.9 Data capture for monitors AQ028 was below 90% for the month of April 2021 due to an air flow error which prevented the unit from functioning correctly. The monitor was replaced on the 20/04/2021.

1.1.10 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.

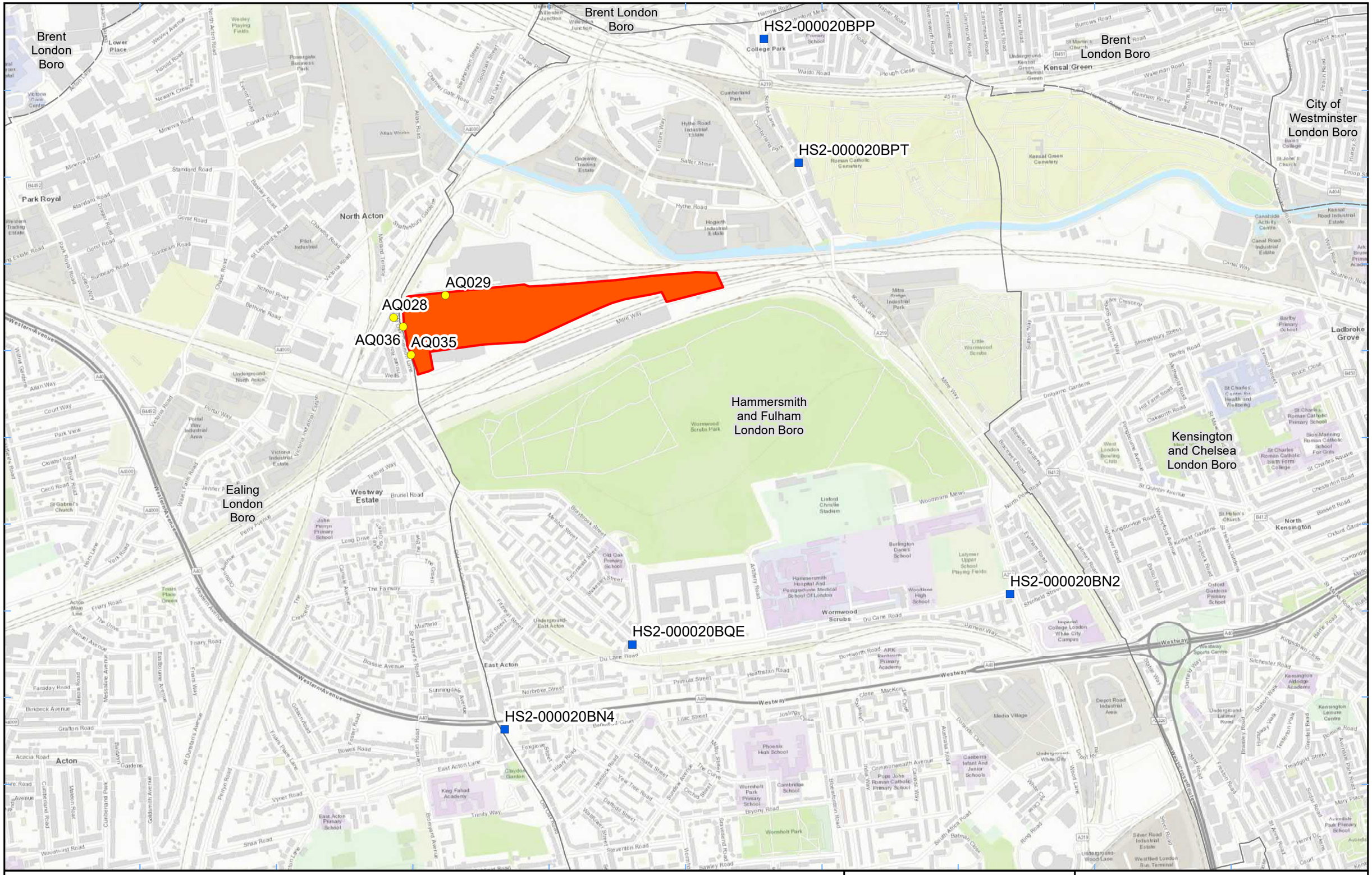
1.1.11 Diffusion tube monitoring results are provided from the laboratory analysis, and therefore still require various analysis and adjustments to be undertaken. Final corrected results will be presented and described in the annual report. However, based on the results to date, no unexpected values 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 2021 running mean.

1.1.13 There were no (0) complaints received, relating to air quality, during this reporting period (April 2021).

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

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Map Number

Map Name

Worksite and Monitoring Locations In LBHF (Sheet 1)

London Borough of Hammersmith and Fulham

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Scale at A3: 1:10,000

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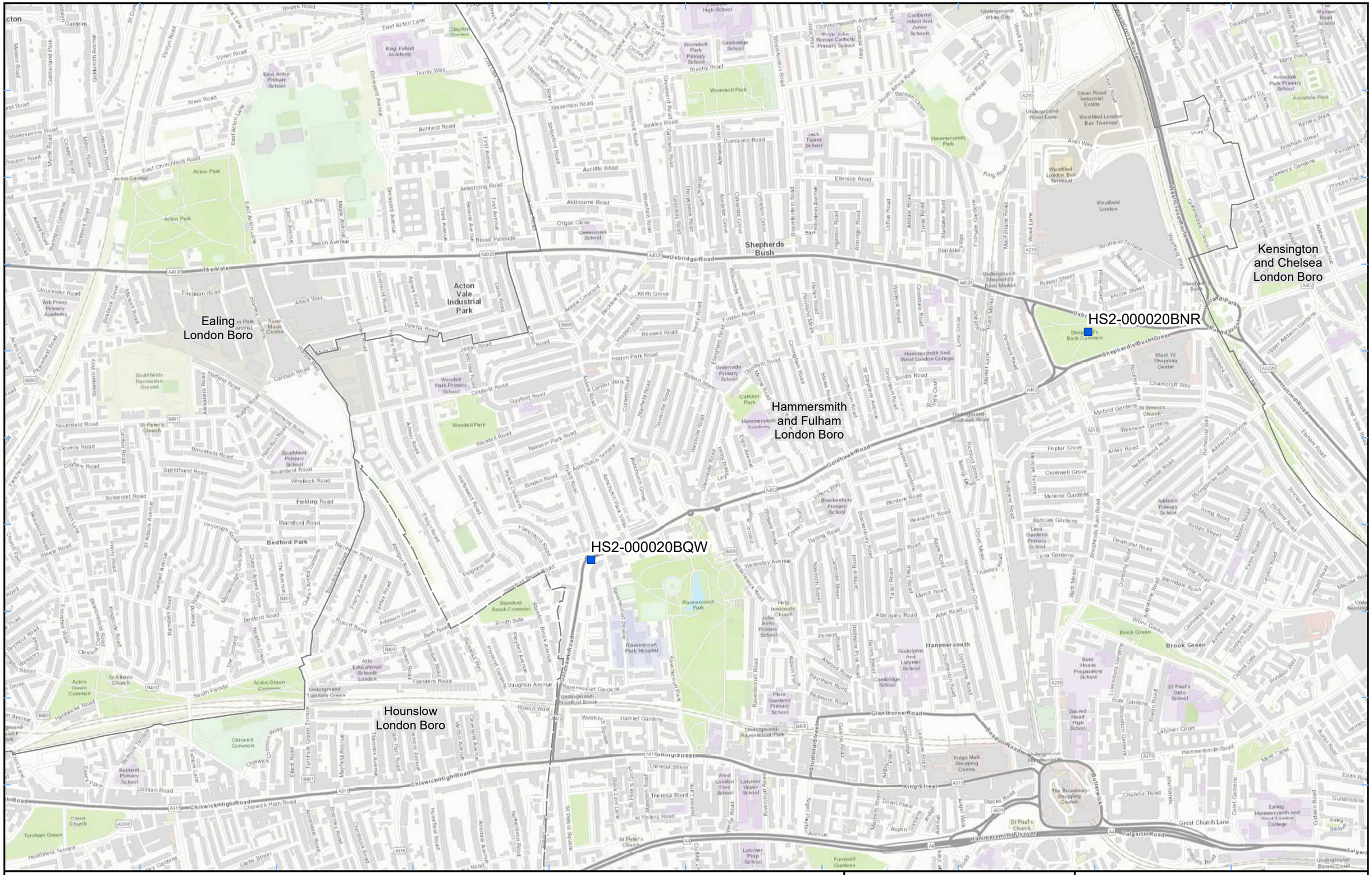
Doc Number:

Date: 08/12/20



Legend

- Diffusion Tube
- District Borough Unitary Boundaries

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Map Number

Map Name

Monitoring Locations In LBHF (Sheet 2)

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Appendix B – Dust Monitoring Results

Table 1 Dust Monitoring locations and April 2021 results

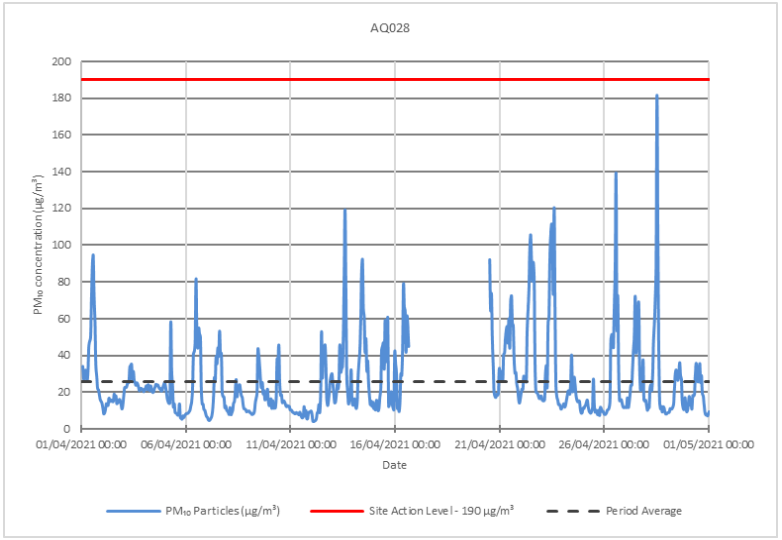
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM_{10} concentration ($\mu g/m^3$)	Minimum 1-hour PM_{10} concentration ($\mu g/m^3$)	Maximum 1-hour PM_{10} concentration ($\mu g/m^3$)	Number of 1-hour periods exceeding trigger level of 190 $\mu g/m^3$	Data capture (%)
AQ028	521302, 182067	Wells House Road	H	Yes	N	25.6	3.8	181.7	0	87.1
AQ029	521453, 182132	Old Oak Common	H	Yes	N	16.7	2.9	79.7	0	100.0
AQ035	521353, 181959	Old Oak Common	H	Yes	N	18.8	2.9	119.9	0	93.1
AQ036	521330, 182041	Old Oak Common	H	Yes	N	20.4	2.8	344.5	2	99.9

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

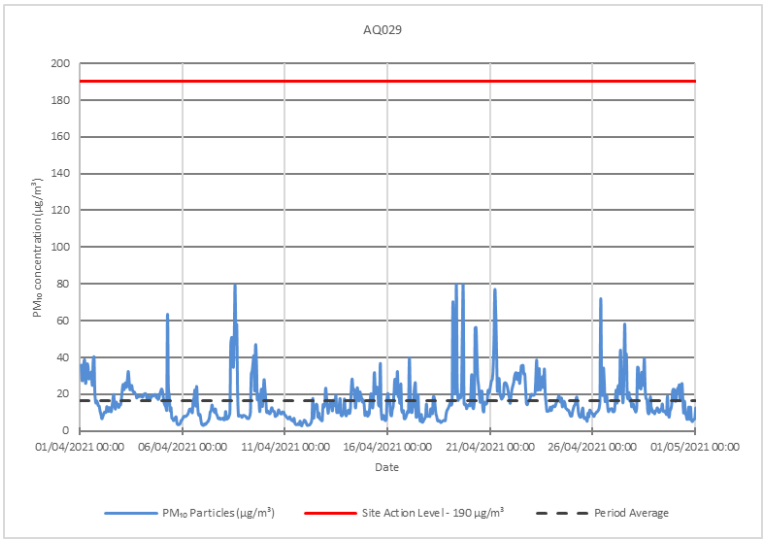
Monitoring site ID	Period exceeding trigger alert and concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ036	08/04/2021 15:00 – 16:00: 318.2 µg/m^3	At the time of the alert, SB3 were having challenges with dust suppression, while there was suppression in place by other contractors, a water bowser with a sprinkler system on the back end was ordered; however, the plant supplied was faulty and had to be returned to the supplier. Works were stopped and SB3 utilised existing dust suppression measures from another contactor (McGee) before works resumed.	On arrival of the water bowser with sprinkler system, it was put straight into use. Contractors have been reminded on the importance of dust mitigation being in place at all times and will continue to implement suitable dust control measures. Furthermore, the issue with the faulty plant will be raised with the suppliers to ensure the correct equipment is deployed going forward. All subcontractors continue to implement their dust control measures.
	10/04/2021 10:00 – 11:00: 344.5 µg/m^3	On receipt of the trigger alert, an immediate investigation was undertaken. At the time of the trigger there were no dusty activities being undertaken and therefore the likely cause of the alert has been linked to a dumper transporting piling platform material from welfare area to Zone 2.	Following the alert, a rainmaker was used to re-supress and prevent dust on the haul roads. Contractors have been re-briefed on dust control measures, and to ensure regular inspections are carried out on the haul roads and that they remain dampened down. All subcontractors continue to implement their dust control measures.

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

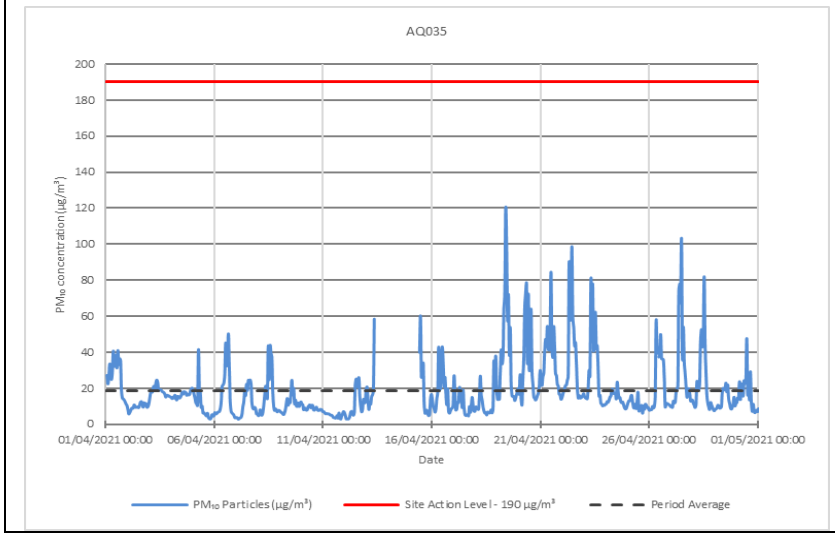
AQ028



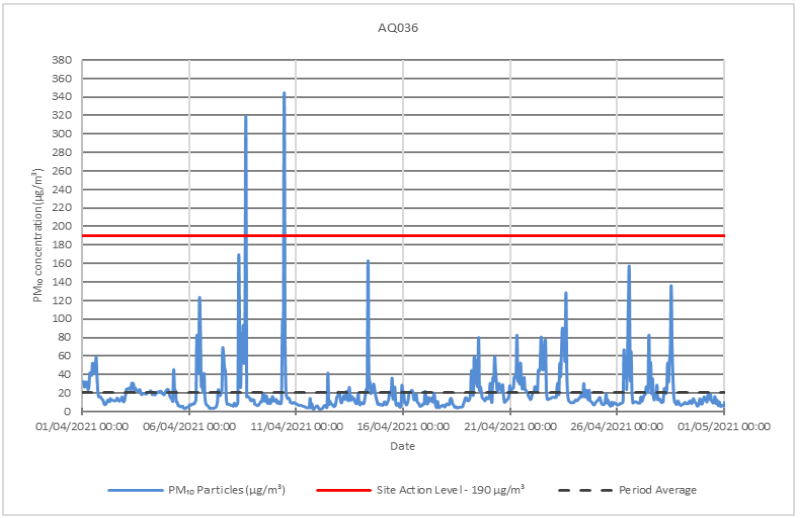
AQ029



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 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]
HS2-000020BN2	Lamp post on Du Cane Road	523092, 181264	52	49	46										49
HS2-000020BN4	End of cycle lane sign on Old Oak Road	521625, 180871	55	49	47										50
HS2-000020BNR	Lamp posts in Shepherd's Bush Common	523481, 179871	42	39	34										38
HS2-000020BPP	Sign post on A219 Scrubs Lane, South of Harrow Road	522378, 182877	48	52	40										47
HS2-000020BPT	Controlled Zone/Zone Ends road sign on A219 Scrubs Lane, north of Hythe Road	522478, 182517	52	52	44										49
HS2-000020BQE	Lamp post next to No 11 Wulfstan Street	521996, 181118	38	33	33										35
HS2-000020BQW	Lamp post on A402 Goldhawk Road	522037, 179209	44	44	39										42

[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.*