

Air Quality and Dust Monitoring Monthly Report – July 2021

London Borough of Hammersmith and
Fulham



Department for Transport

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High Speed Two (HS2) Limited,
Two Snowhill
Snow Hill Queensway
Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.gov.uk/hs2

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 Hammersmith and Fulham (LBHF) during June and July 2021 respectively.
- 1.1.2 Figure 1 and Figure 2 in Appendix A present 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 Construction works commenced 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;
 - Ground reduction works;
 - Sheet Pile Installation;
 - Permanent Accommodation Building construction;
 - Maintaining vegetation clearance on Wormwood Scrubs;
 - HEX railway sidings demolition;
 - Construction of temporary haul roads;
 - Drainage installation;
 - Concrete Batching and Polymer plant set up; and
 - Piling and excavation activities.
- 1.1.5 Four (4) dust monitors are installed around the worksite, where earthworks, construction and trackout activities are underway. This site returned a 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.
- 1.1.7 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.
- 1.1.8 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.

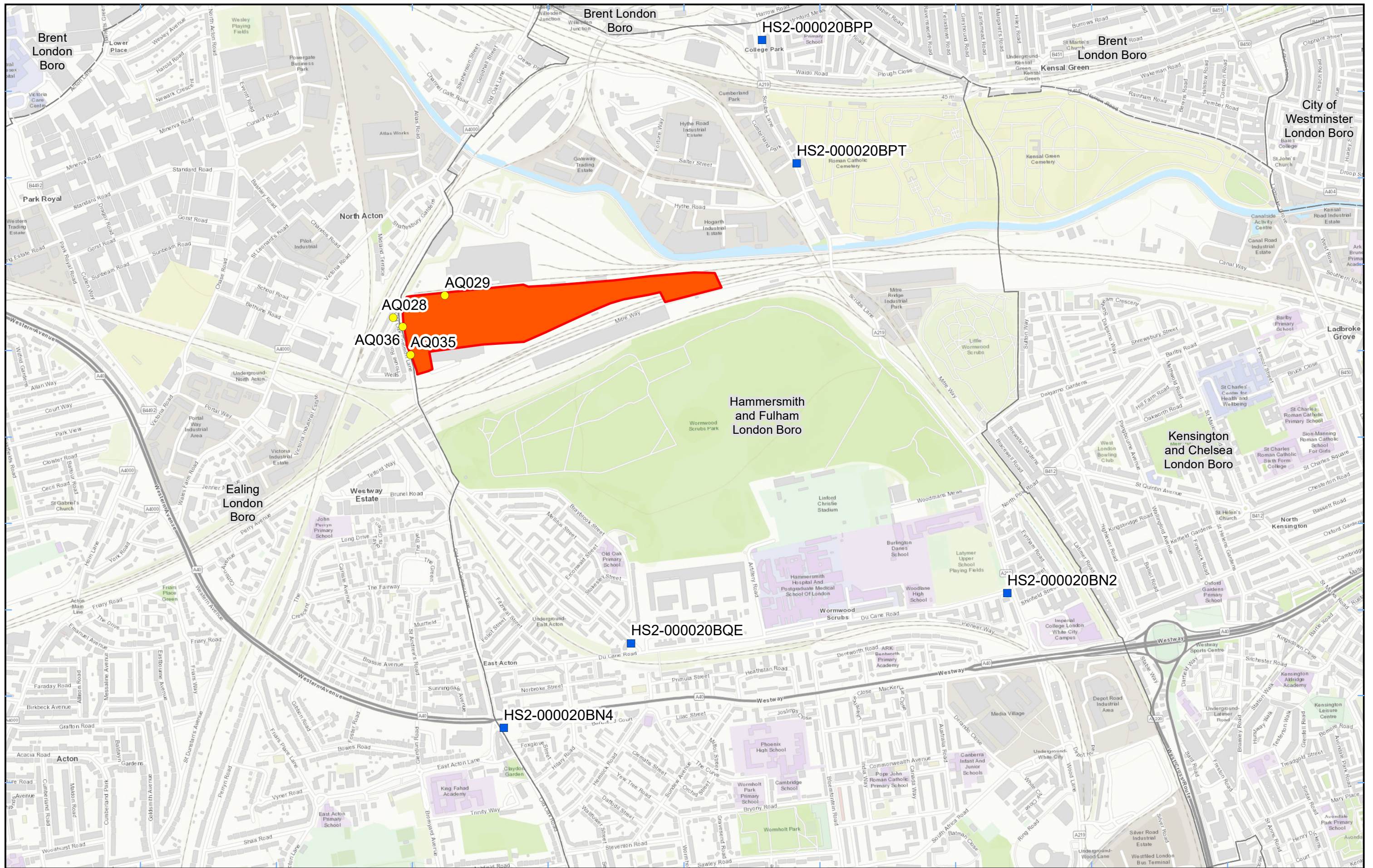
- 1.1.9 There were seven (7) dust trigger alerts recorded during this monitoring period (July 2021). Triggers are presented in Appendix B, Table 3. All other results in line with the expected ranges.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO₂) is undertaken at seven (7) locations around 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 NO₂ monitoring locations and results are presented in Appendix C, Table 4, together with the 2021 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 July 2021 in LBHF

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-21-42284-C	n/a	Increased noise and dust recently.	Apology provided. Details on methods employed to help manage and reduce dust levels on site and monitoring. Works concurrent to those of NR to minimise road closure disruption. Information on *Disruption Special Cases Panel" for health issues.
HS2-21-42263-C	Old Oak Common Station Site (Wells House Road)	Resident reported concerns re: air quality & noted impact on health.	A response has been sent outlining the mitigations in place and advising stakeholder to consider eligibility for the special cases panel.
HS2-21-42310-C	Old Oak Common Station Site (Wells House Road)	Resident complained about and raised health concerns.	A response has been sent outlining the mitigations in place and advising stakeholder to consider eligibility for the special cases panel.
HS2-21-42311-C	Old Oak Common Station Site (Wells House Road)	Stakeholder complained about noise/ dust impacting tenants in their property, and asked for respite/ rehousing.	A response has been sent outlining the mitigations in place, and advising stakeholder to consider eligibility for the special cases panel.
HS2-21-42317-C	Old Oak Common Station Site (Wells House Road)	Resident complained about noise, vibration and dust, and raised health concerns.	An apology was provided to the resident. Details on methods employed to help manage and reduce dust levels on site and monitoring in place to ensure mitigations are effective. In addition, the stakeholder has been advised on special cases eligibility.

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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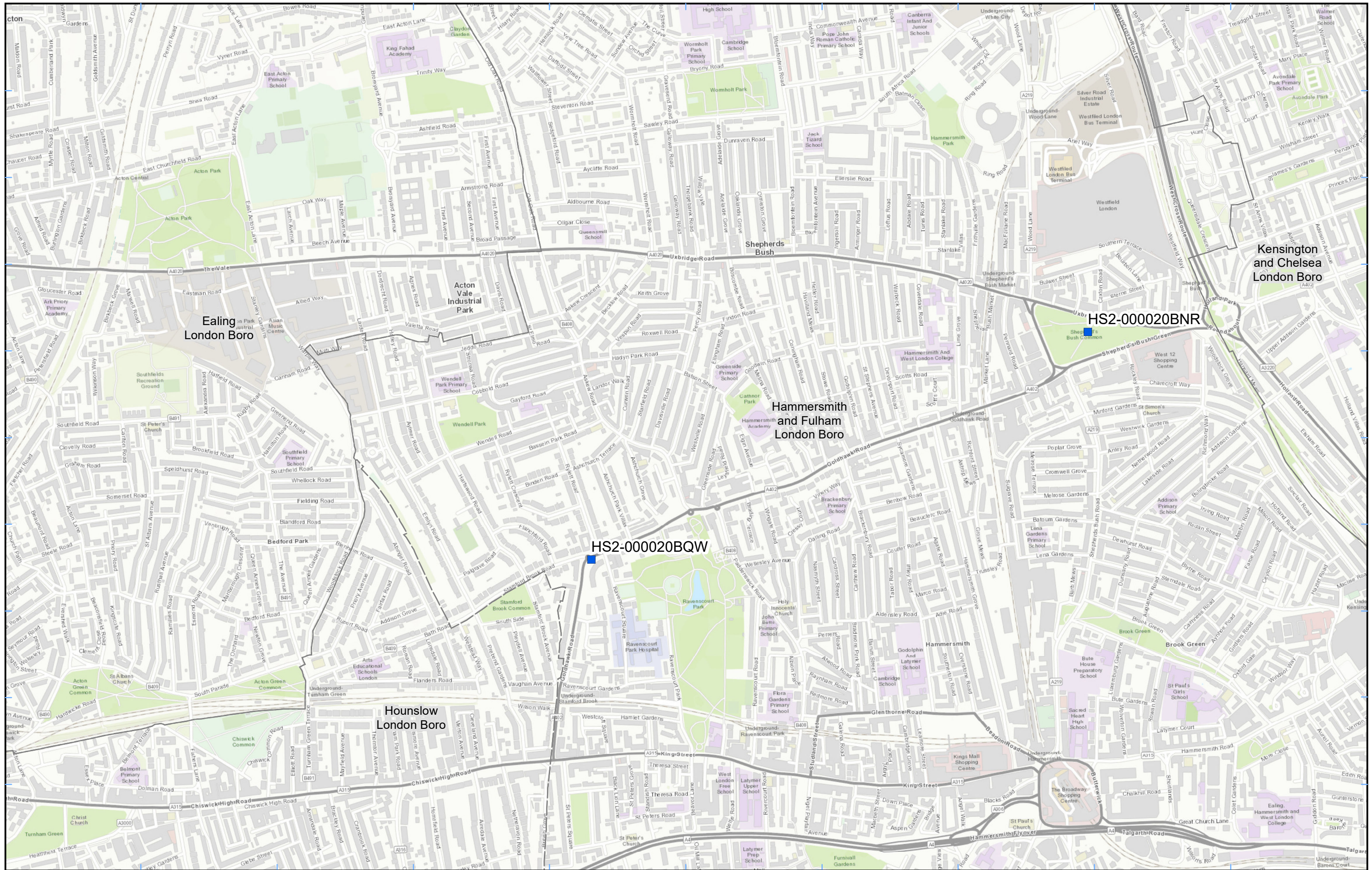
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Legend
 Diffusion Tube
 District Borough Unitary Boundaries

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Map Number
 Map Name
**Monitoring Locations In LBHF
 (Sheet 2)**
**London Borough of Hammersmith
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Appendix B – Dust Monitoring Results

Table 2 Dust Monitoring locations and July 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 (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 (%)
AQ028	521302, 182067	Wells House Road	M	Yes	N	33.2	2.3	214.1	2	100.0
AQ029	521453, 182132	Old Oak Common	H	Yes	N	13.2	1.7	170.9	0	99.9
AQ035	521353, 181959	Old Oak Common	H	Yes	N	25.6	2.5	317.8	5	99.7
AQ036	521330, 182041	Old Oak Common	H	Yes	N	14.5	2.1	116.5	0	100.0

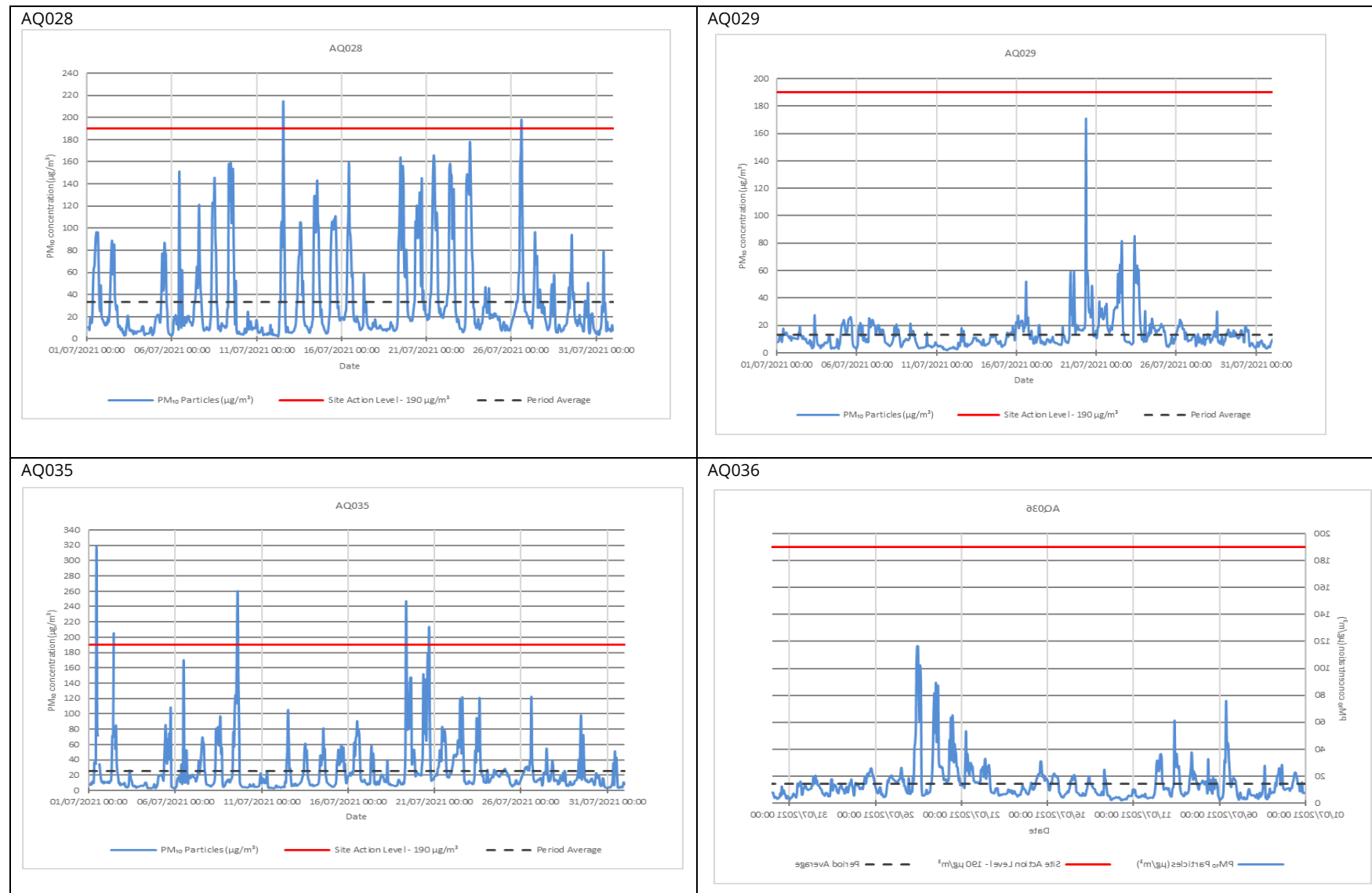
Table 3: Summary of exceedances of trigger level in June 2021

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ028	12/07/2021 13:01 – 14:00; 214.1 µg/m ³	<p>Currently tree surgery works being carried out on Old Oak Common Lane, with a small amount of vegetation strimming in area AD8.1, circa 100m north AQ028.</p> <p>There were 33 vehicle movements between 12:30 and 13:30 that were inspected upon arrival and when leaving site. However, all of these vehicles had secure, covered loads that would not trigger an alert.</p>	<p>Standard air quality mitigation undertaken as followed:</p> <p>A water bowser which is filled and towed around our work areas with a telehandler spraying water from the back of the tank powered by a small engine.</p> <p>We also have a pressure washer stationed at the top of the ramp into Zone 2 which is used when we need to normally when the bowser is being refilled with water which takes around 30 minutes to complete. This pressure water is also used on the haul roads.</p> <p>There is also a dust monitoring scheme on a daily basis where our enviro leads have to inspect the site conditions and reported these to BBVS.</p> <p>Road sweeper to continue regular site wide patrols.</p> <p>Piling platform works and Guidewall installation in zone 5/6 (West Box) are 300m away from this monitor and, therefore are highly unlikely to be causing this alert.</p>
	26/07/2021 14:01 – 15:00; 197.3 µg/m ³	<p>At the time of the alert the works being undertaken were as follows:</p> <p>Ground level vegetation clearance was undertaken using handheld tools, in AD8.1. There was no dust generated from these works.</p> <p>In the west box, excavation works were being undertaken in section zone 1 and 2.</p> <p>Concrete Pours were being undertaken for P19 for Pile in Zone 2 & none for D-wall.</p> <p>Polymer production was Active in the Polymer Plant.</p>	<p>Dust suppression measures in place site wide using a 9 tonne dumper and multiple dust suppression bowsers dampening down haul roads and any working areas. Heathrow Express demolition works have a static dust suppression unit in place dampening down works area and stockpiles prior to loading demolition arisings.</p> <p>Wind direction at the time of alert was north-easterly away from the AQ028 monitor.</p>

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
		<p>Concrete production was not active in the Concrete batching plant.</p> <p>Other plant equipment being used but no expected to generate any significant dust include:</p> <ul style="list-style-type: none"> • Z45 Mewp (boom Lift) • 160T Leibherr Crane <p>In the vicinity of the sub-station, scaffolders were erecting the perimeter access to the flat roof with generation of some dust from scaffold boards being turned and repositioned however this should not have a significant impact.</p>	
AQ035	01/07/2021 10:01 – 11:00; 317.8 µg/m ³	Tree felling works were undertaken directly adjacent to the air quality monitor.	The Air Quality Monitor has been switched off to allow cables to be rerouted and prevent severance by chainsaws.
	02/07/2021 10:01 – 11:00; 205.2 µg/m ³		Works will be ongoing over the next few days, and following this the dust monitor will be restored.
	09/07/2021 14:01 – 15:00; 259.6 µg/m ³	This exceedance was possibly caused by demolition works of Heathrow Express railway sidings. Additionally, Cadent Gas were cutting slabs on the public side of the hoarding, which may have contributed to the exceedance alert. The road sweeper was undertaking the regular site wide patrols, however, this activity should not generate any dust particles.	<p>Demolition works are being visually monitored. Standard dust mitigation measures were in place at the time of the alert. Site staff are reminded to continue to implement best practice dust mitigation in order to minimise dust emissions.</p> <p>MOTOFOG dust suppression is in use at all times, dampening down demolition works and any possible dust emissions. This is occurring in conjunction with 9 tonne dumper and towed dust suppression bowser dampening down access roads and other work areas. Bowsers and jet sprays for small inaccessible areas are used to routinely dampen down work areas, these were witnessed as being in action on Friday afternoon.</p> <p>The 24 vehicle movements between 13:30 and 14:30 were inspected upon arrival and when leaving site. All had secure, covered loads that would not trigger an alert.</p>

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
			It is noted that the wind direction at the time of the alert was blowing from the monitors location towards work areas.
	19/07/2021 08:01 – 09:00; 259.6 µg/m ³	<p>No works being carried out in the vicinity of AQ035 at the time of the activation that would trigger dust.</p> <p>Road sweeper arrival delayed as experienced a puncture on route to site.</p> <p>The 15no. vehicle movements between 07:27 and 08:00 were inspected upon arrival and when leaving site. All had secure, covered loads that would not trigger an alert.</p>	<p>Heathrow Express railway sidings demolition work have the dust suppression unit (MOTOFOG MF40) in full use during working hours dampening down works area and any material stockpiles prior to loading away</p> <p>Increased damping down with the bowser.</p> <p>Road sweeper to commence service as soon as possible.</p> <p>Best practice dust mitigation measures in their works, where applicable across the site.</p>
	20/07/2021 16:01 – 17:00; 212.4 µg/m ³	<p>Large volume of traffic during this extraordinary heat has given rise to more dust than normal.</p> <p>At the time of the alert all works being carried out had ceased for the day.</p> <p>Demolition of Heathrow Express railway sidings had full static dust suppression in place during the working day. This is continuously monitored by operatives and the site supervisor.</p>	<p>More dampening down by bowser and road sweeper and are also setting up a watering/dampening hose to deal with extra dust volumes. See images of the dampening below in Error! Reference source not found. to Error! Reference source not found.</p> <p>A review of the whole working area was undertaken. 2 full time dust suppression units have been employed. However due to very hot weather another 2 additional units have been ordered to cope with this unusual heat wave.</p>

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



Appendix C – Air Quality Monitoring Results

Table 4: NO₂ monitoring locations around highways NO₂ concentrations and monthly monitoring results with running mean for 2021 (µg/m³)

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BN2	Lamp post on Du Cane Road	523092, 181264	52	49	46	42	45	Tube Missing							47
HS2-000020BN4	End of cycle lane sign on Old Oak Road	521625, 180871	55	49	47	54	48	43							49
HS2-000020BNR	Lamp posts in Shepherd's Bush Common	523481, 179871	42	39	34	33	34	25							35
HS2-000020BPP	Sign post on A219 Scrubs Lane, South of Harrow Road	522378, 182877	48	52	40	40	39	37							43
HS2-000020BPT	Controlled Zone/Zone Ends road sign on A219 Scrubs Lane, north of Hythe Road	522478, 182517	52	52	44	45	42	36							45
HS2-000020BQE	Lamp post next to No 11 Wulfstan Street	521996, 181118	38	33	33	29	27	19							30
HS2-000020BQW	Lamp post on A402 Goldhawk Road	522037, 179209	44	44	39	36	35	34							39

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.