

Air Quality and Dust Monitoring Monthly Report – September 2019

London Borough of Ealing



SKANSKA



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 August 2019 and September 2019 respectively.
- 1.1.2 Figure 1 and Figure 2 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 works commenced within the LBE during April 2018 and are expected to be completed by December 2019. The current and completed worksites, as presented in Appendix A, Figure 1 and Figure 2, include:
- Current -
- Demolition of buildings on Atlas Road, worksite ref. S001-WS05; and
 - Demolition and groundworks at Old Oak Common Depot (located in the London Borough of Hammersmith and Fulham), worksite ref. S004-WS01.
- Completed -
- Demolition of buildings on Victoria Road, worksite ref. S002-WS01.
 - Demolition works at Willesden Euro Terminal, worksite ref. S001-WS03; and
 - Demolition of buildings at Mandeville Road Pumping Station, worksite ref. S002-WS02.
- 1.1.5 Nine (9) dust monitors were installed around worksites, where works are underway. These sites returned a medium or 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. 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.

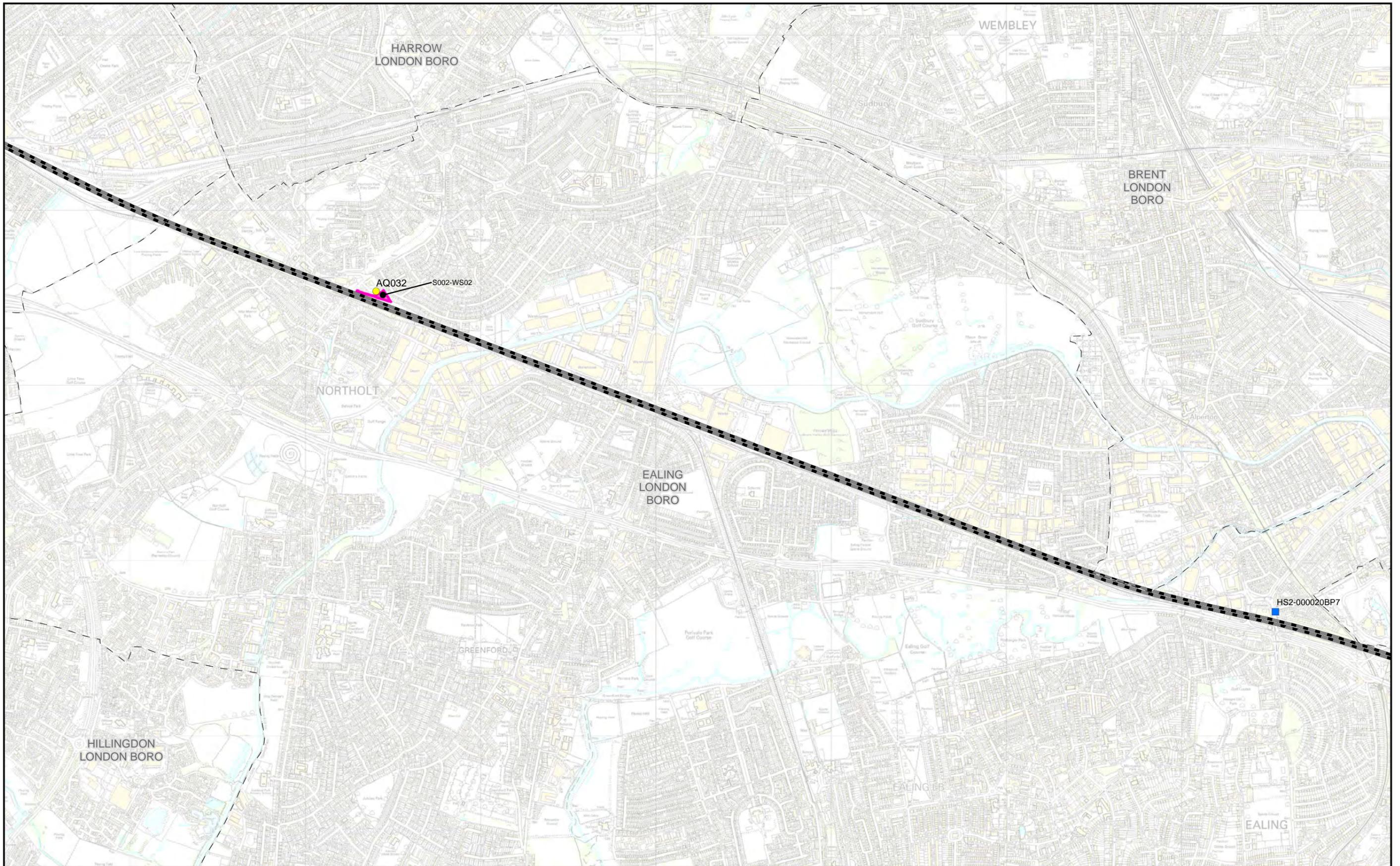
- 1.1.7 The trigger level of 190 $\mu\text{g}/\text{m}^3$, over a 1-hour period, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites – October 2018*' has been applied.
- 1.1.8 There were two (2) dust trigger alerts recorded during this monitoring period (September 2019). Dust trigger alerts are presented in Appendix B, Table 2. All other results were in line with expected ranges.
- 1.1.9 Diffusion tube monitoring of Nitrogen Dioxide (NO_2) was undertaken at six (6) locations in August 2019, around highways within the LBE as part of the management of air quality where significant effects may occur as a result the scheme.
- 1.1.10 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.
- 1.1.11 NO_2 monitoring locations and results are presented in Appendix C, Table 3, together with the 2019 running mean.
- 1.1.12 Table 1 provides a summary of the complaint information related to dust or air quality received during the reporting period (September 2019), together with the findings of any related investigations.

Table 1: Summary of complaints received during September 2019 in LBE

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-19-08750-C	Atlas Road	A complaint was received in relation to dust levels along Stephenson Street.	A response to the complaints was provided on 11 October.
HS2-19-08752-C	Atlas Road	A complaint was received in relation to high concentration of dust.	A meeting has been arranged for the residents to meet with a Senior Environment Manager in S4, where the HS2 dust management measures will be discussed in more detail.

Appendix A – Worksites and Monitoring Locations

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



Legend

--- District/Borough boundary

--- Route in tunnel

--- Route on surface

--- HS2 Chainage Markers

■ Diffusion tube monitoring location

■ Mandeville Road Pumping Station

● Dust monitoring location

Figure Number

Figure Name
Worksites and Monitoring locations in LBE (sheet 1)

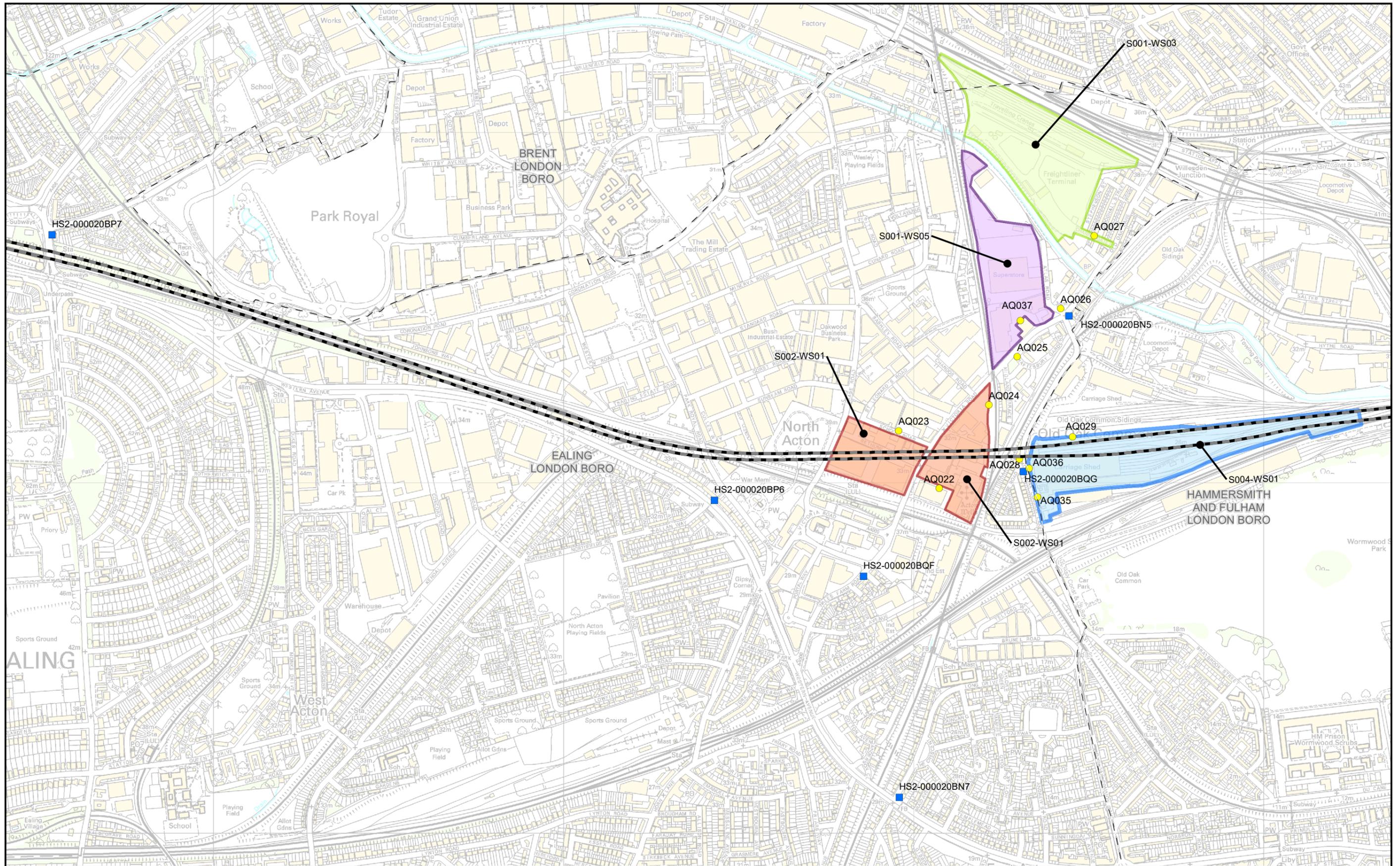
London Borough of Ealing

hs2

Scale at A3: 20,000

0 200 400 600 800 Metres

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- Legend**
- Route in tunnel
 - Route on surface
 - Diffusion tube monitoring location
 - Dust monitoring location
 - Willesden Euro worksite
 - Victoria Road worksite
 - Old Oak Common worksite
 - Atlas Road worksite

Figure Number	
Figure Name	Worksites and Monitoring locations in LBE (sheet 2)
London Borough of Ealing	

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Scale at A3: 10,000

Appendix B – Dust Monitoring Results

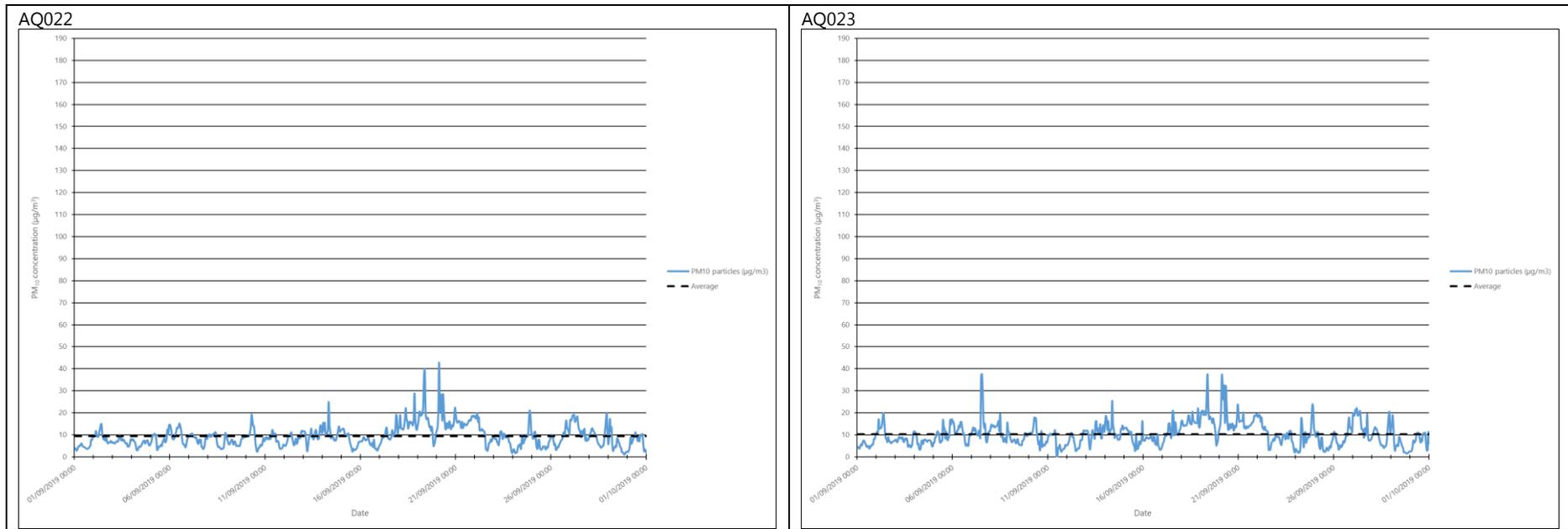
Table 1 Dust monitoring locations and September 2019 Results

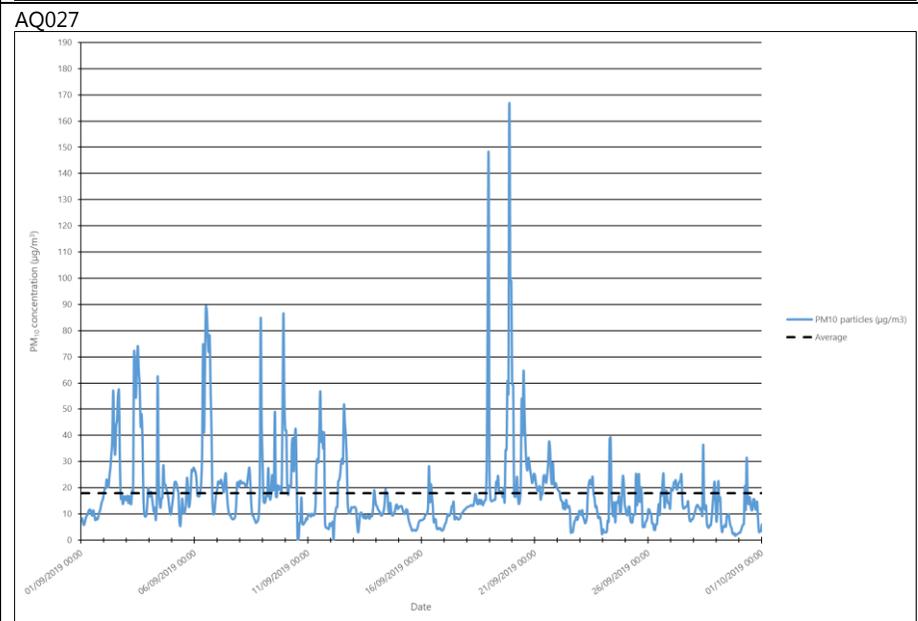
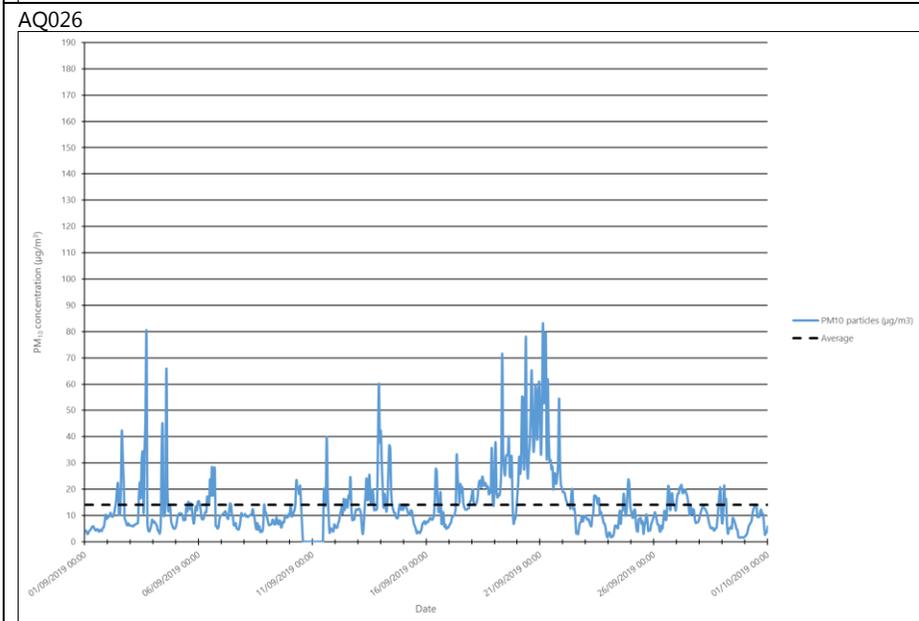
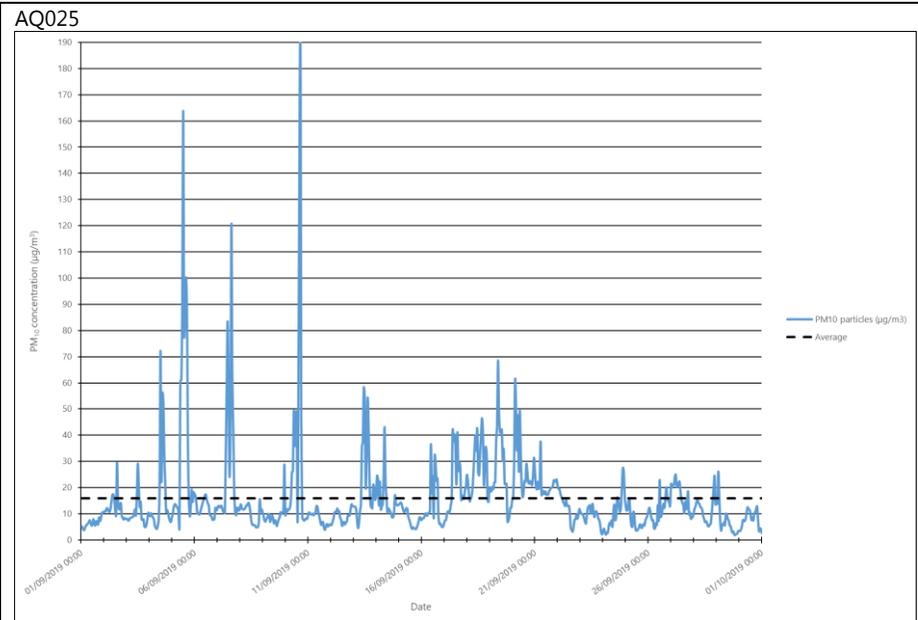
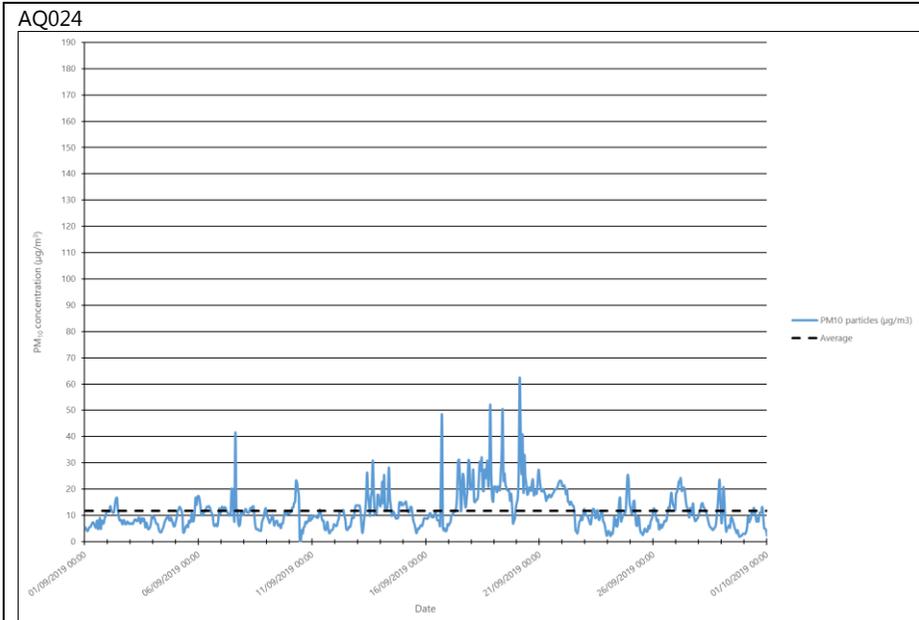
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
AQ022	521072, 181985	Boden House	H	Yes	N	9.4	1.1	42.9	0	100.0
AQ023	520956, 182149	School Road	H	Yes	N	10.4	1.5	37.7	0	99.7
AQ024	521214, 182223	Braitrim House	H	Yes	N	11.7	1.8	62.1	0	99.7
AQ025	521295, 182360	Victoria Road	H	Yes	N	15.9	1.9	190.5	1	100.0
AQ026	521419, 182497	Old Oak Lane	H	Yes	N	14.1	1.5	83.2	0	96.9
AQ027	521515, 182706	Stephenson Street	H	Yes	N	18.0	1.6	166.4	0	99.6
AQ028	521302, 182067	Wells House Road	H	Yes	N	14.5	1.6	85.9	0	99.7
AQ032	513402, 184536	Badminton Close	M	Yes	Y	10.7	2.0	32.8	0	99.9
AQ037	521304, 182464	Atlas Road	H	Yes	N	21.4	1.1	281.4	1	99.6

Table 2 Summary of exceedances of trigger level in September 2019

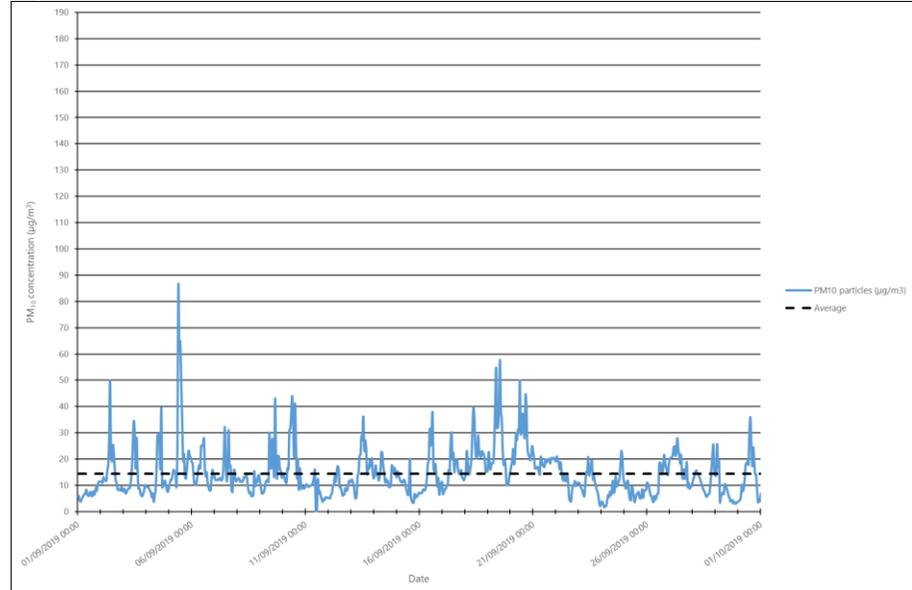
Period exceeding trigger level	Worksite reference	Monitoring site ID	Complaint reference number (if applicable)	Reason	Resolution
10/09/2019 15:01-16:00	S001-WS02	AQ025	n/a	<p>The trigger was not associated with HS2 works on the Atlas Road site. All necessary dust suppression measures were being employed. The data from dust monitor AQ037 was also checked which is on the site boundary and nearer to the HS2 works and it didn't trigger, levels were much lower at the time.</p> <p>3rd party utilities works were being carried out at the time directly opposite Shaftesbury Gardens junction with Victoria Road including pavement slab cutting. It is assumed this may be reason for the elevated level.</p>	n/a
07/09/2019 14:01-15:00	S001-WS02	AQ037	n/a	<p>This trigger was received from the dust monitor located on the south eastern boundary of the Atlas Road site.</p> <p>Albeit the site works finished at 13:00 on the Saturday and dust suppression was deployed on all works as per usual it was believed strong winds could have blown south in the direction of Victoria Road across areas of the site that had dried out.</p> <p>The other monitor, AQ25 on the corner of Victoria Rd/ Shaftesbury Gardens (approx. 100 m away) displayed a similar profile as AQ37 but with lower readings. These two monitors are nearest to the main demolition activity at the moment.</p> <p>AQ26 located on the junction with Old Oak Common and Victoria Road, nearly 200 m away did not show any such similar profile so a wider atmospheric PM contribution was ruled out.</p>	<p>When the site opened on Monday further dust suppression, including a road sweeper, was deployed around the site and the team were reminded to ensure all areas are damped-down at the end of shift each day.</p>

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

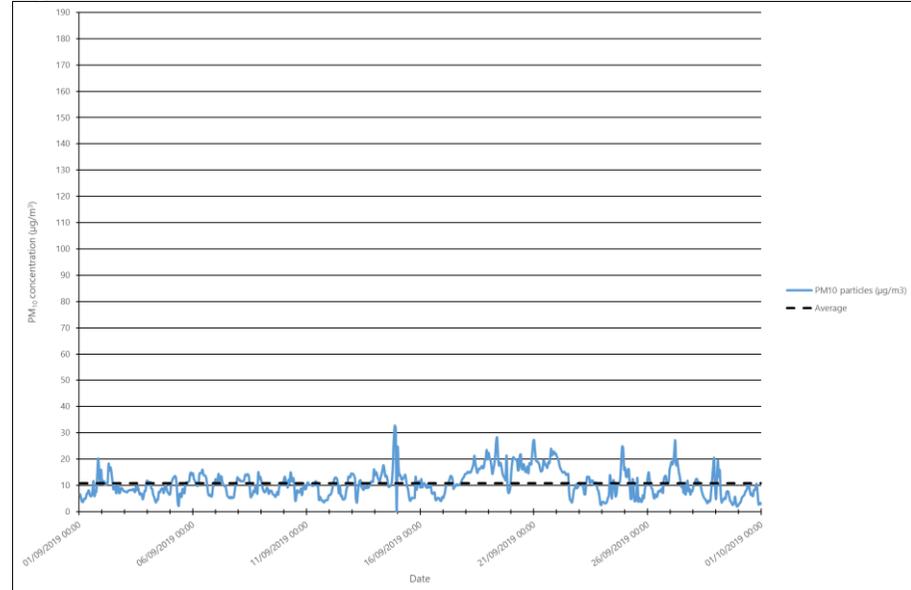




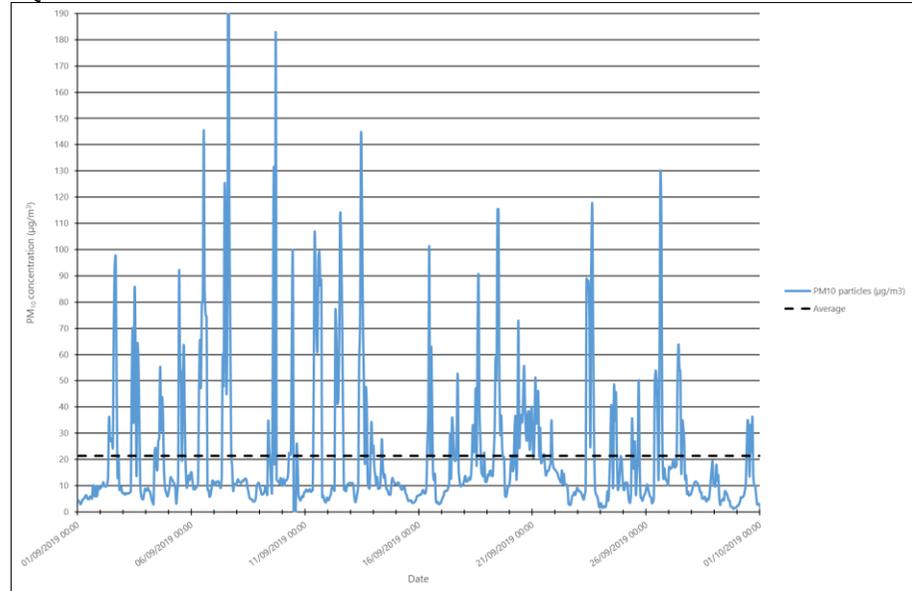
AQ028



AQ032



AQ037



Appendix C – Air Quality Monitoring Results

Table 3 NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2019 (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	63	64	Tube missing	54	38	42	Tube missing	44					51
HS2-000020BN7	The Approach street sign	520959, 181102	75	77	66	47	46	27	49	59					56
HS2-000020BQF	Conway Drive sign post	520856, 181733	69	68	61	59	50	50	48	49					57
HS2-000020BQG	Lamp post outside No 1. Wells House Road on Old Oak Common Lane	521312, 182033	69	63	60	49	42	50	41	41					52
HS2-000020BP6	Triplicate site next to the Ealing, Western Avenue Acton roadside automatic monitoring station	520430, 181950	68	64	54	45	42	55	45	51					53
HS2-000020BP7	Triplicate site next to the Ealing, Hangar Lane Gyrotory roadside automatic monitoring station	518537, 182708	83	80	74	49	56	68	63	73					68

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.