May 2022



Air Quality and Dust Monitoring Monthly Report - May 2022

London Borough of Camden

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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 Camden (LBC) during April 2022 and May 2022 respectively.
- 1.1.2 Figure 1 to Figure 5 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 enabling works commenced within the LBC during December 2017 and is now complete. The current phase of construction works commenced in November 2019 and is expected to be completed by 2025. The current and planned worksites, include:

Skanska Costain Strabag Joint Venture (SCSjv)

- Adelaide Road Vent Shaft piling operations and groundworks;
- Euston Scissor Cut groundworks, piling operations and materials management;
- Euston Throat Retained Cut groundworks, piling operations and materials management;
- Hampstead Road Bridge –Utilities diversion works; and
- Euston Cavern piling operations.

Mace Dragados Joint Venture (MDjv)

<u>TSS</u>

- Cast approx. 80% of the tunnel divide wall; on Tunnel to Euston station;
- Reinforcement installation for the tunnel crown and place the travelling shutter into position;
- Commenced breaking of the access shaft base slab and removal of spoil;
- Completed the shaft base and walls part of the strengthening works;
- Completed third and fourth level of excavation;
- Installed 3rd level props;
- Completed tunnel breakthrough; and
- Started excavating the sump & started earth mat installation.

NTH

CemSkan starting installation of pile mat for test piles.

Zone 5

- CemSkan Completed all pile extraction;
- BerryRange started silent sheet piling installation; and
- JFH Started TW to break out the pile caps.

Two Towers

- Sheet Pile removal South-east and West Two;
- Demolish basement slab and sub-basement slab South-east;
- Piazza works ongoing;
- Piazza area handed over to Net Work rail;
- Backfilling South-east corner;
- Hoarding panels delivered to site ready for hoarding move; and
- Saw cutting ground floor slab and basement slab South-east.

ITR

- Feeder pillar base constructed and checked by UKPN contractor;
- Site scrape of vegetable matter to be removed across the site;
- Set out trial pit locations;
- Vac Ex over gas main, CADENT in attendance for asset;
- Set up green route to south side of site;
- Asbestos found in site scrape over gas main specialist called into site for test sampling;
- Adaption of hoarding line to north of site adjacent to bus station;
- Install cell web & Terram membrane over gas main as per ITP and backfill;
- Set up hoarding to west lodge ready for site side dismantle; and
- Trial holes by Lodge beer garden.

Maria Fidelis

- Pile repairs;
- Blinding for future concrete pours;
- Drainage Installation on the western end of the playground; and
- Installation of GSHP.
- 1.1.5 Twenty-one (21) dust monitors are installed around worksites, where works are underway. These sites returned a medium to high dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 2, together with line charts of monthly data from each dust monitor in Figure 6. 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.

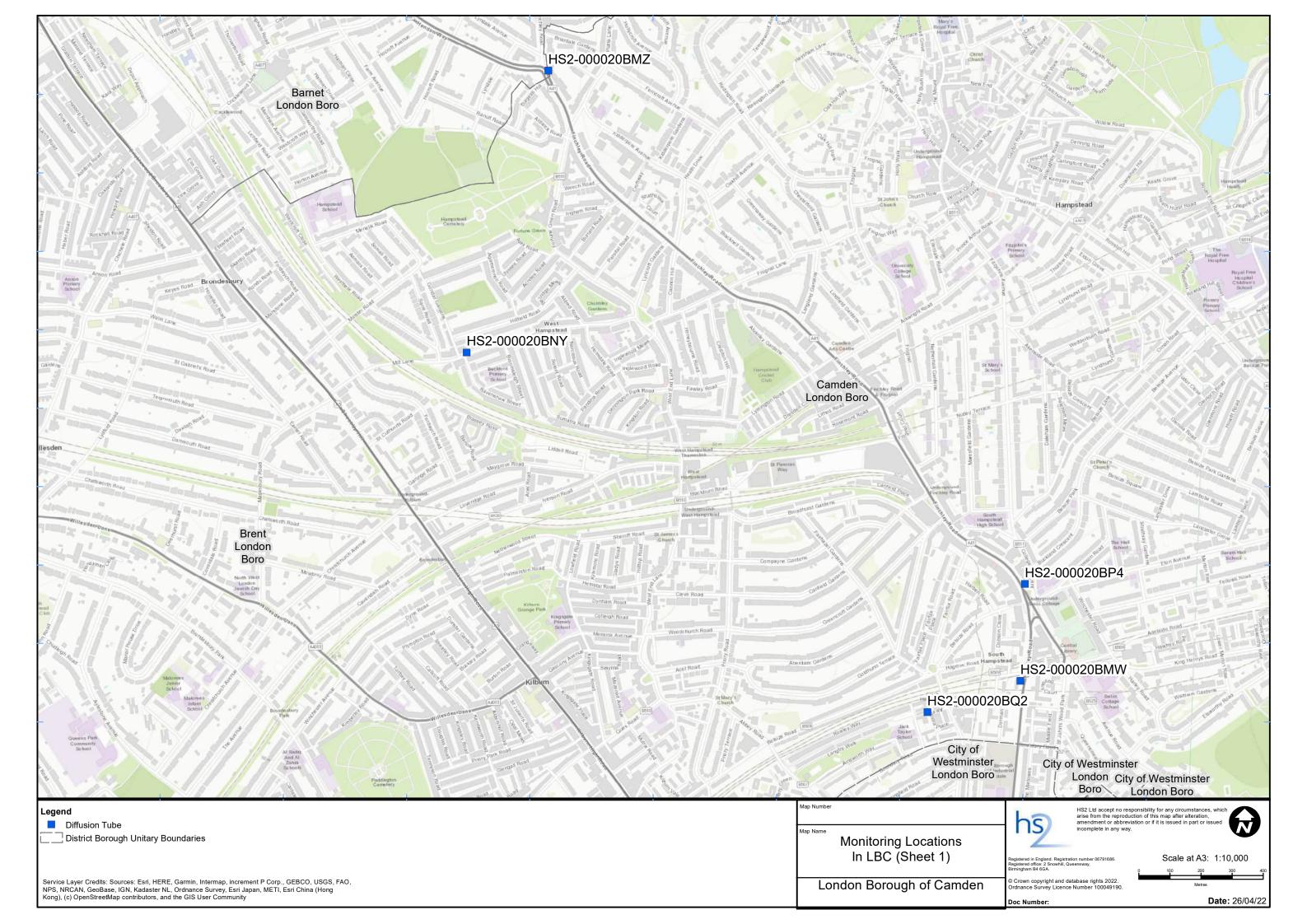
- 1.1.7 The trigger level for PM₁₀ concentrations of 190 μg/m³, over a 1-hour period, in accordance with the updated guidance document 'Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (October 2018)' has been applied.
- 1.1.8 Dust trigger alerts were recorded during the monitoring period (May 2022) and are reported in Appendix B, Table 3.
- 1.1.9 Data capture was below 90% for multiple monitors in May 2022 due to power supply issues.
- 1.1.10 Diffusion tube monitoring of Nitrogen Dioxide (NO₂) is undertaken at sixty-four (64) locations around highways within the LBC 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 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.
- 1.1.12 NO₂ monitoring locations and results are presented in Appendix C, Table 4, together with the 2022 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.

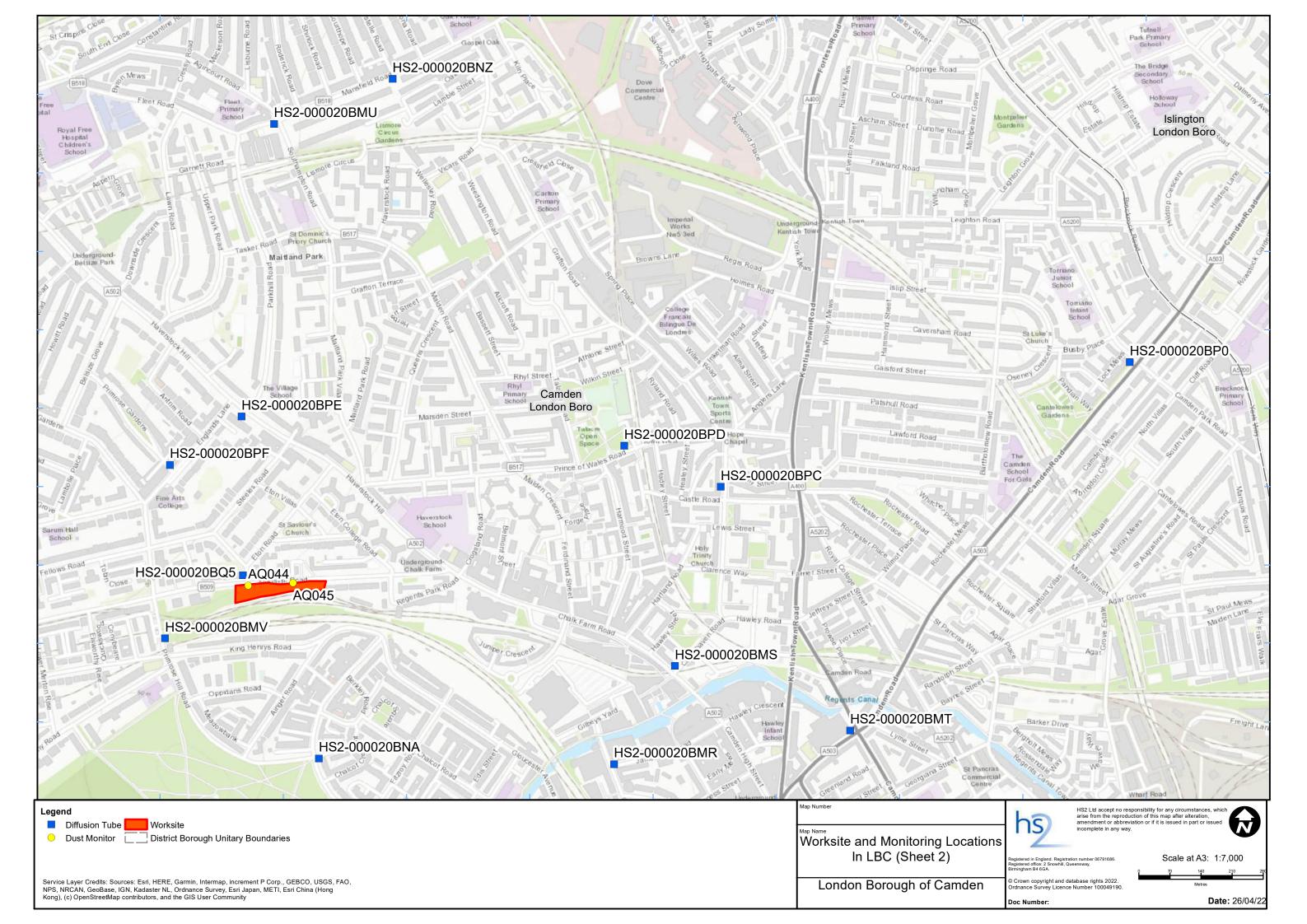
Table 1: Summary of complaints received during May 2022

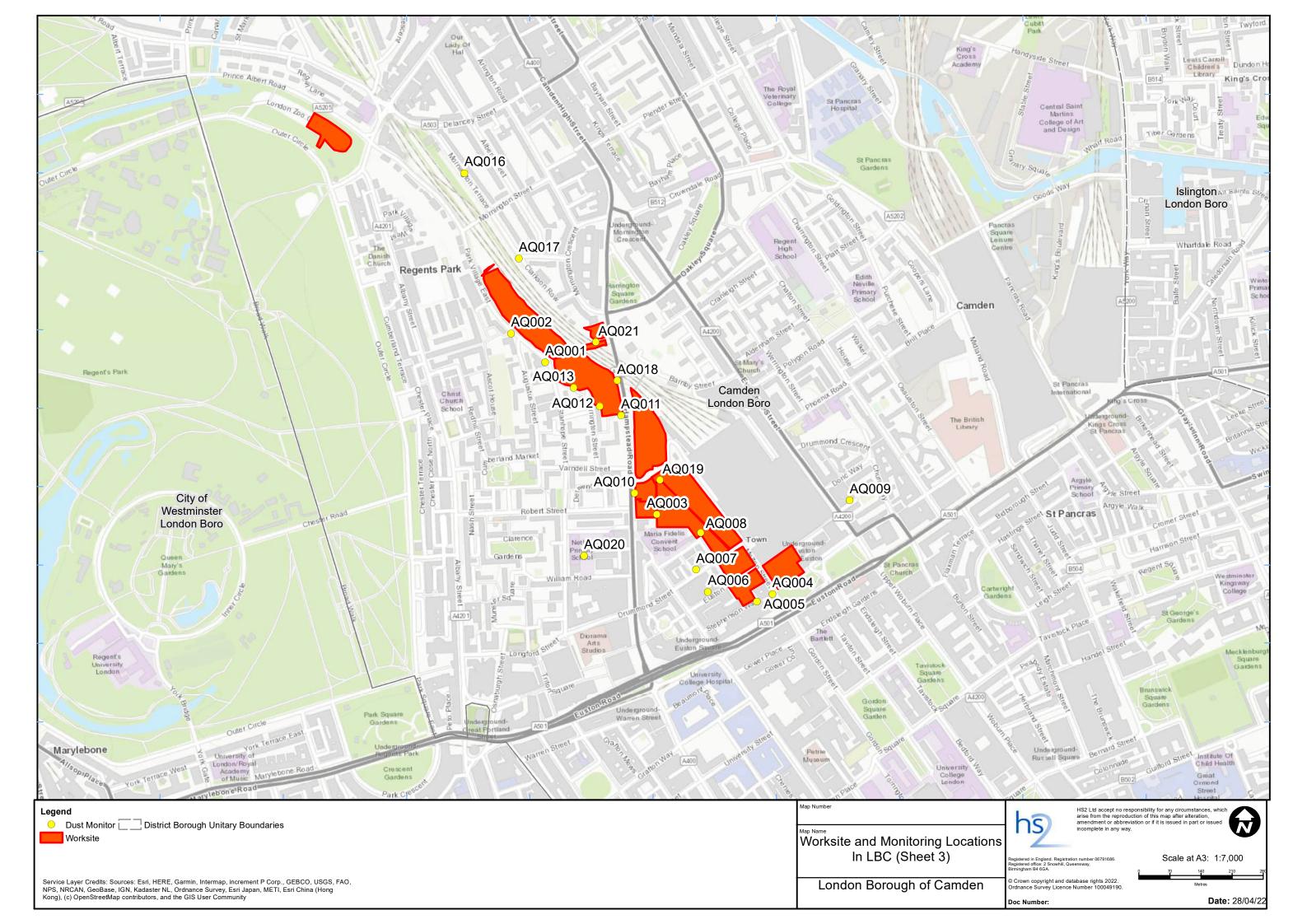
Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-22-43677-C	n/a	Dust pollution stemming from hoarding enclosing a deep pit outside Euston station.	The stakeholder was written to by Mace Dragados on 09 June 2022 and HS2 on 16 June 2022 to request details regarding the date and time the dust incident took place. They were also asked to confirm the location of the incident and advised about dust mitigation measures in the area. In the absence of a response from the stakeholder, the complaint was closed on 23 June 2022.

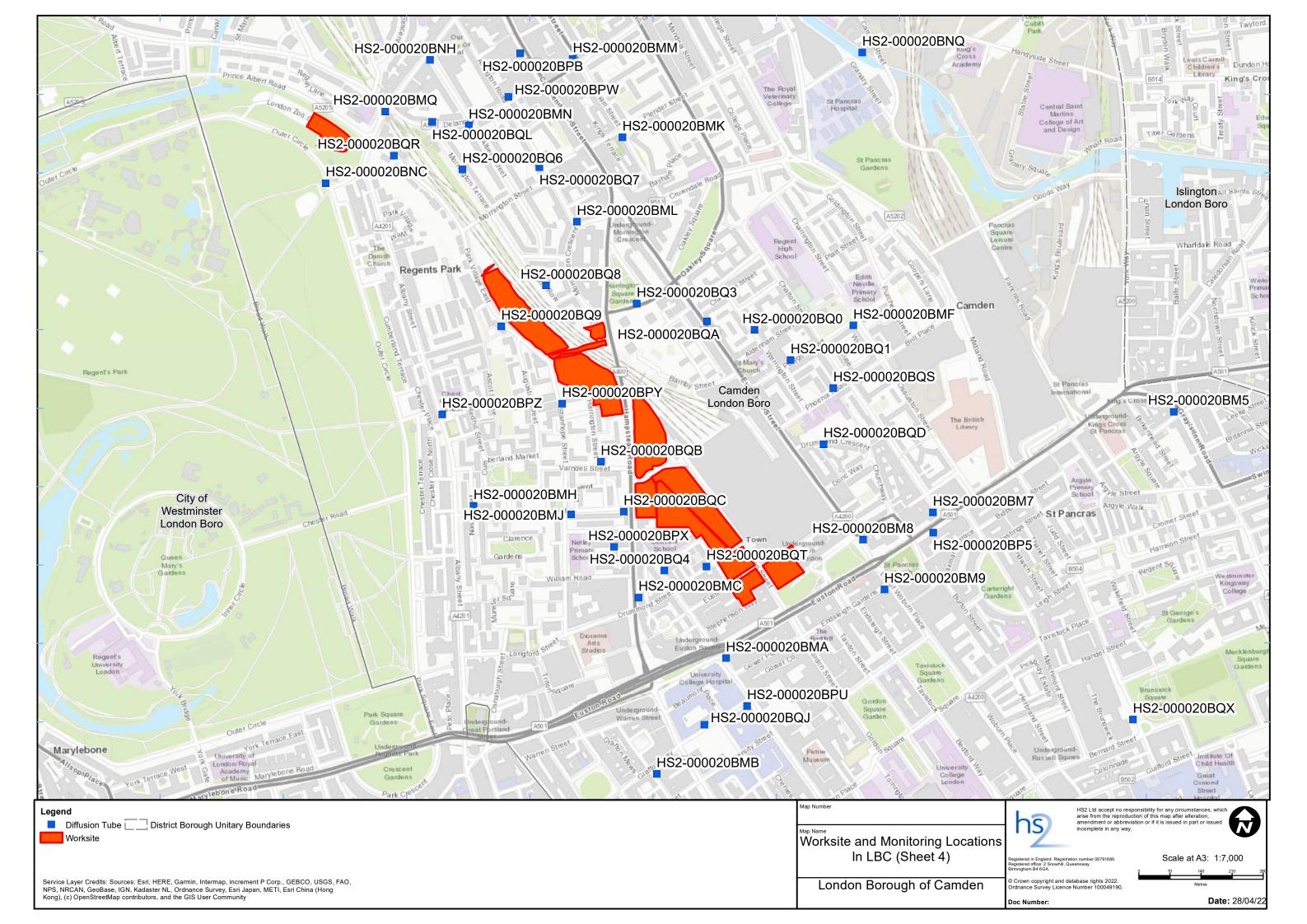
Appendix A - Worksites and Monitoring Locations

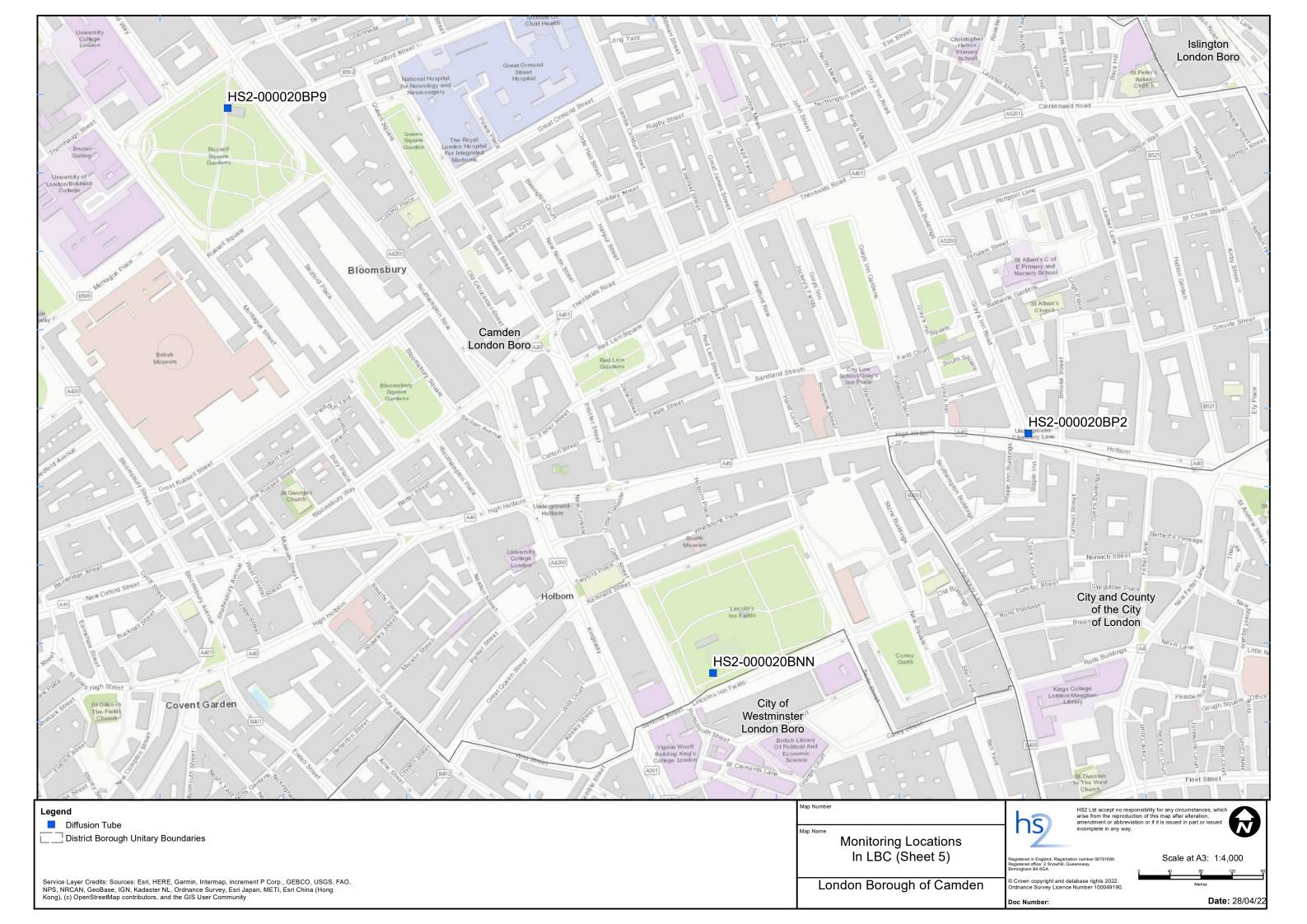
Figure 1 to Figure 5: Worksites and monitoring locations within the LBC











Appendix B - Dust Monitoring Results

Table 2: Dust monitoring locations and March 2022 Results

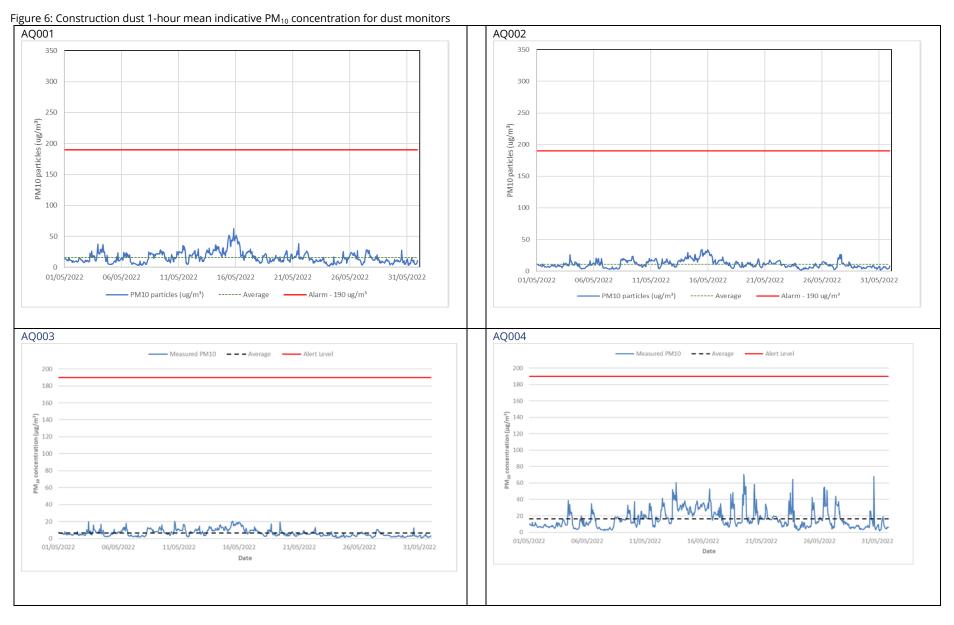
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (μg/m³)	Minimum 1- hour PM ₁₀ concentration (μg/m³)	Maximum 1- hour PM ₁₀ concentration (μg/m³)	Number of 1- hour periods exceeding trigger level of 190 µg/m³	Data capture (%)
AQ001	529016, 183049	Junction of Park Village East, Stanhope Street and Granby Terrace	М	Yes	N	15.8	2.0	62.7	0	100.0
AQ002	528924, 183130	Park Village East	М	Yes	N	11.1	1.4	34.1	0	100.0
AQ003	529273, 182698	St James' Gardens	М	Yes	N/A	6.5	0.7	20.1	0	100.0
AQ004	529533, 182519	Melton Street	Н	Yes	N/A	16.4	1.9	70.5	0	100.0
AQ005	529498, 182502	Stephenson Way	Н	No ^a	N/A	-	-	-	-	-
AQ006	529388, 182524	Euston Street	Н	Yes	N/A	12.6	2.3	34.4	0	100.0
AQ007	529361, 182574	Drummond Street	Н	Yes	N/A	14.0	2.2	51.3	0	100.0
AQ008	529372, 182657	Cobourg Street	Н	Yes	N/A	12.1	1.5	45.3	0	100.0
AQ009	529707, 182730	Eversholt Street	Н	Yes	N/A	14.0	1.9	47.1	0	100.0
AQ010	529223, 182746	Hampstead Road South	М	Yes	N/A	16.9	1.5	116.3	0	100.0
AQ011	529176, 182922	Hampstead Road	М	Yes	N	13.4	1.6	288.0	2	100.0

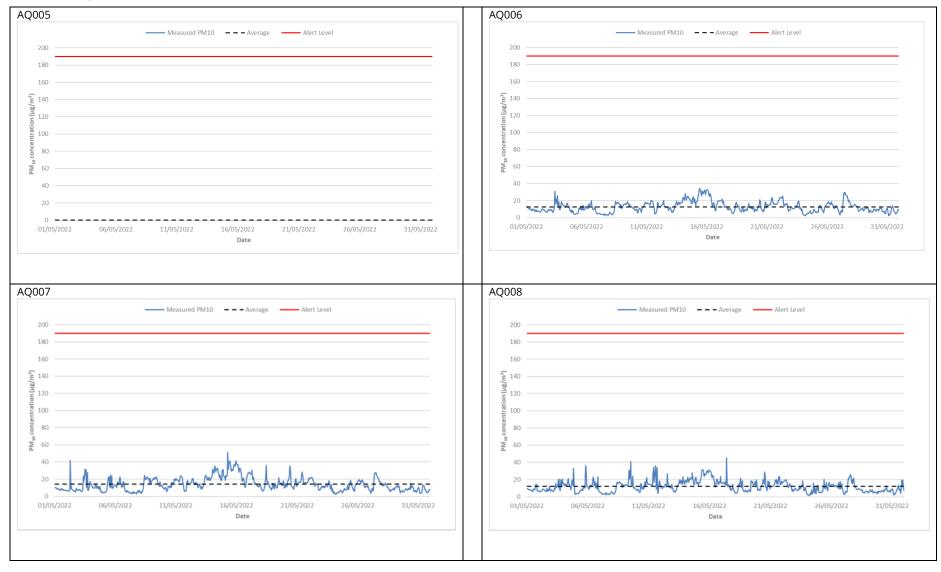
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (μg/m³)	Minimum 1- hour PM ₁₀ concentration (μg/m³)	Maximum 1- hour PM ₁₀ concentration (μg/m³)	Number of 1- hour periods exceeding trigger level of 190 µg/m³	Data capture (%)
AQ012	529144, 182941	Rear of Coniston House	М	Yes	N	12.7	2.2	57.5	0	42.1
AQ013	529066, 182990	Regents Park Estate	М	Yes	N	20.3	2.2	295.4	3	100.0
AQ016	528820, 183498	Mornington Terrace North	М	Yes	N	11.6	1.7	41.6	0	100.0
AQ017	528962, 183274	Mornington Terrace South	М	Yes	N	10.7	6.1	27.9	0	12.2
AQ018	529192, 183071	Hampstead Road North	М	Yes	N	10.5	1.5	40.5	0	100.0
AQ019	528689, 183500	Park Village East (North)	М	Yes	N	10.8	1.8	119.8	0	100.0
AQ020	529109, 182605	Netley School	n/a	Yes	N/A	8.7	1.1	29.0	0	100.0
AQ021	529136, 183086	Site compound at the Junction of Hampstead Road & Granby Terrace Bridge	М	Yes	N	10.5	1.4	49.0	0	100.0
AQ044	527725, 184369	Adelaide Road	М	Yes	N	13.1	1.4	165.0	0	100.0
AQ045	527826, 184375	Adelaide Road 2	М	Yes	N	10.2	1.6	68.1	0	100.0

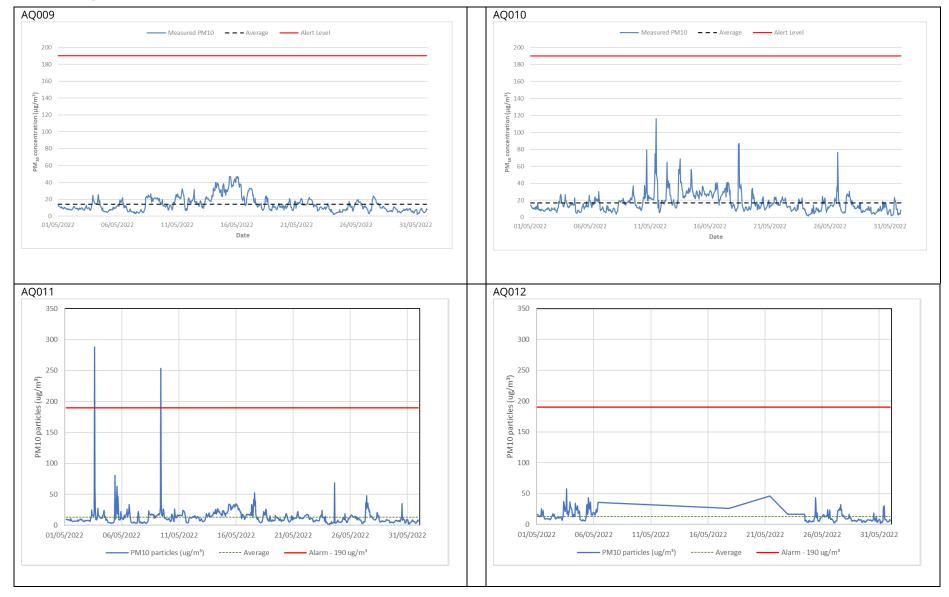
Table 3: Summary of exceedances of trigger level in May 2022

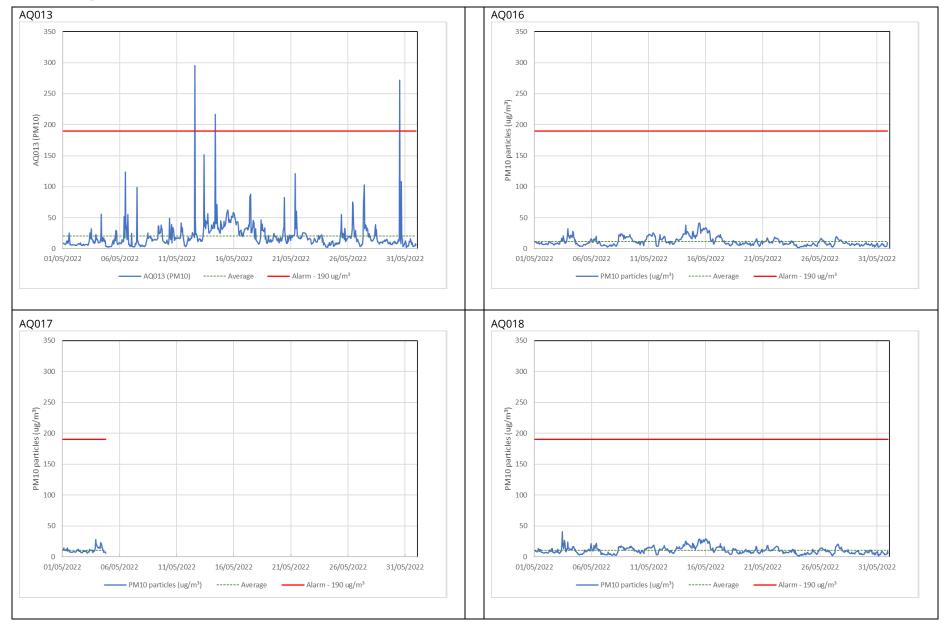
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ011	03/05/2022 14:00-15:00; 288.0 μg/m³	At the time of the trigger alert from dust monitor (AQ011), which is located on the southern boundary of the Euston Throat Retained Cut (ETRC) near to Cartmel House deep excavation works, as part of utilities diversions, were being carried out directly adjacent to the monitor. The same works had been underway during the preceding week without elevated levels but it is thought manoeuvring of the large excavator by the excavation was the cause of the trigger. Dust suppression was in place for the immediate works with a dust canon used for the nearby materials spoil area. No obvious increased levels of dust were observed during the activity and the monitored dust levels before and after the trigger were significantly lower. Over the same period the nearby monitor, AQ012 at the rear of Coniston House, measured no elevated levels, so it is considered the monitor was picking up levels from the immediate activities.	Dust suppression continued to be applied throughout works activity and the area around it. Monitored dust levels subsequent to the trigger and over the subsequent days were regularly checked to ensure they remained low and that the dust suppression being employed was effective.
AQ011	09/05/2022 09:00-10:00; 253.6 μg/m ³	No works were underway at the excavation adjacent to the monitor. A dust cannon, approximately 30m away was operational at the start and end of the relevant hour and intermittently before and subsequent. No other elevated levels were measured, and no obvious dusty activity was observed. Material handling with a large excavator was underway further away, along with passing on-site machinery/vehicles but both (the activity and ground) were damped down by the dust cannon.	The site team will remain vigilant but the cause was identified.
AQ013	12/05/2022 13:00-14:00; 295.4 μg/m³		It is considered that the elevated levels were not experienced beyond the immediate vicinity of the monitor or
AQ013	14/05/2022 08:00-09:00; 216.9 μg/m³	At the time of the two isolated trigger alerts from dust monitor (AQ013), which is located on the south-western boundary of the Euston Throat Retained Cut (ETRC) carpentry (wood cutting) was being carried out on the Thursday followed by anti-climb spikes being fitted to the hoarding – both activities were being carried out directly next to the monitor and above. It is considered that the triggers were associated with the sawdust being generated by the cutting and fixings, both immediately next to or within metres of the monitor.	beyond the boundary of the site given the height of the monitor within the site boundary (<2m). Such works will be undertaken at a more suitable location in future where feasible. Subsequent monitored readings dropped and remained low on both occasions even during continued activities in the intervening period on Friday.

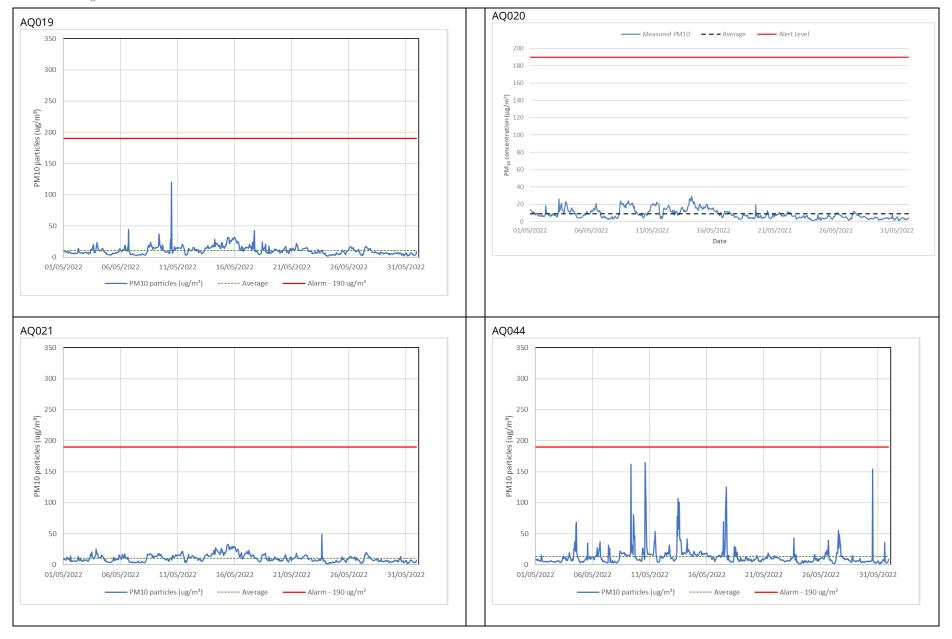
Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ013	30/05/2022 12:00-13:00; 271.9 μg/m ³	At the time of the isolated trigger alerts from dust monitor (AQ013), which is located on the south-western boundary of the Euston Throat Retained Cut (ETRC) there was no works activities in the vicinity of the monitor. Wider activities involved steel fixing in the concrete cutting, not dusty activity though. The haul road beyond was damped down as regularly undertaken throughout each day. It is considered the spike may have been caused by loose debris/particles within the monitor's inlet and not associated with site activities.	Monitored readings were low before and after the isolated spike. Dust suppression will continue to be an integral part of general site and housekeeping activities.

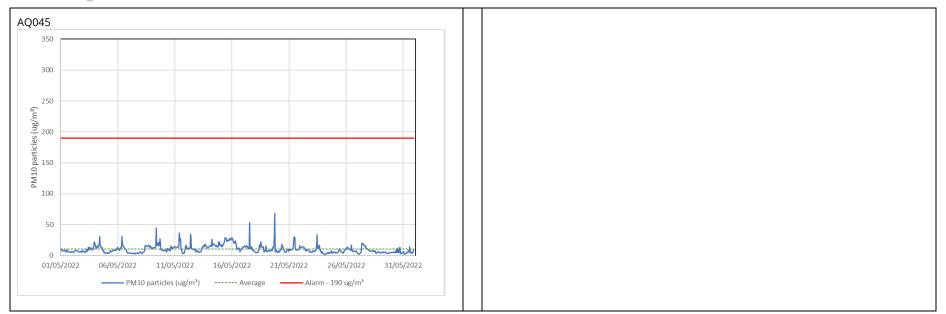












Appendix C - Air Quality Monitoring Results

Table 4: NO₂ monitoring locations around highways, NO₂ concentrations and monthly monitoring results with running mean for 2022 (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- 000020BM5	Junction of St Chad's Street and Grays Inn Road	530436, 182929	55	40	48	42									46
HS2- 000020BM7	Chalton Street	529894, 182702	Tube Missing	Tube Missing	62	46									54
HS2- 000020BM8	Junction of Euston Square and Grafton Place	529737, 182641	Tube Missing	51	59	49									53
HS2- 000020BM9	Junction of Endsleigh Gardens and Upper Woburn Place	529785, 182529	61	44	58	47									53
HS2- 000020BMA	Junction of Euston Road and Gower Street	529429, 182375	Tube Missing	44	57	43									48
HS2- 000020BMB	Whitfield Street	529273, 182114	51	37	50	35									43
HS2- 000020BMC	Hampstead Road	529232, 182511	70	52	71	55									62
HS2- 000020BMF	Junction of Polygon Road and Ossulston Street	529715, 183123	42	27	55	28									38
HS2- 000020BMH	Nash Street	528861, 182717	46	31	45	28									38

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.

Monitoring	Location	Coordinates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
Site ID	description	(X, Y)	Jan	reb	Mar	Apr	Way	Jun	Jui	Aug	Sep	OCL	NOV	Dec	Weam
HS2-000020BMJ	Junction on Robert Street and Stanhope Street	529080, 182698	41	31	47	33									38
HS2- 000020BMK	Junction of Plender Street and Bayham Street	529196, 183546	56	Tube Missing	54	37									49
HS2- 000020BML	Junction of Arlington Road and Mornington Crescent	529093, 183356	48	30	44	28									38
HS2- 000020BMM	Junction of Bayham Street and Pratt Street	529084, 183722	Tube Missing	49	52	37									46
HS2- 000020BMN	Junction of Delancey Street and Albert Street	528850, 183573	53	34	43	32									40
HS2- 000020BMQ	Junction of Parkway and Delancey Street	528662, 183604	51	30	60	40									45
HS2- 000020BMR	Junction of Oval Road and Jamestown Road	528548, 183967	49	31	43	29									38
HS2- 000020BMS	Junction of Chalk Farm Road and Castlehaven Road	528685, 184188	50	41	50	38									45
HS2- 000020BMT	Junction of Camden Road and Camden Street	529079, 184043	60	Tube Missing	53	44									53
HS2- 000020BMU	Junction of Southampton Road and Fleet Road	527783, 185407	53	37	53	37									45
HS2- 000020BMV	Primrose Hill Road	527538, 184250	57	Tube Missing	42	28									42

Monitoring	Location	Coordinates	lan	Tab.	Max	Amu	Mey	Lun	11	A	Com	0-4	New	Des	Manu1
Site ID	description	(X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2- 000020BMW	Junction of Finchley Road and Hilgrove Road	526619, 184081	66	52	64	48									58
HS2- 000020BMZ	Junction of Finchley Road and Hendon Way	525102, 186042	88	62	83	59									73
HS2- 000020BNA	Junction of Regent's Park Road and Rothwell Street	527884, 183980	48	33	38	Tube Missing									40
HS2- 000020BNC	Junction of Outer Circle and Gloucester Gate	528528, 183443	38	19	39	25									30
HS2- 000020BNH	Junction of Parkway and Albert Street	528763, 183720	50	Tube Missing	Tube Missing	Tube Missing									50
HS2- 000020BNN	Lincoln's Inn Fields	530744, 181308	47	34	39	26									36
HS2- 000020BNQ	Camley Street	529735, 183737	62	Tube Missing	42	32									46
HS2- 000020BNY	Junction of Mill Lane and Hillfield Road	524839, 185136	60	39	43	34									44
HS2- 000020BNZ	Mansfield Road	528050, 185508	50	36	37	26									37
HS2-000020BP0	Junction of Camden Road and Torriano Avenue	529708, 184871	63	Tube Missing	56	42									53
HS2-000020BP2	Junction of Grays Inn Road and Holborn	531149, 181616	59	40	48	33									45
HS2- 000020BPB	Camden High Street	528966, 183735	78	Tube Missing	65	50									64
HS2- 000020BPC	Castlehaven Road	528788, 184591	52	Tube Missing	39	27									39
HS2- 000020BPD	Prince of Wales Road	528571, 184683	46	32	37	25									35

Monitoring	Location	Coordinates	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
Site ID	description	(X, Y)	Jan	reb	IVIAI	Aþi	iviay	Juli	Jui	Aug	Sep	OCT	INOV	Dec	iviean
HS2-000020BPE	Haverstock Hill	527710, 184749	55	41	39	28									41
HS2-000020BPF	Junction of Primrose Gardens and England's Lane	527549, 184640	54	38	49	31									43
HS2- 000020BPU	Junction of Gower Street and Grafton Way	529476, 182267	Tube Missing	37	49	38									42
HS2- 000020BPW	Junction of Delancey Street and Arlington Road	528939, 183637	53	34	49	36									43
HS2-000020BPX	Netley Street	529177, 182625	48	30	50	34									40
HS2-000020BPY	Stanhope Street	529060, 182947	47	Tube Missing	46	31									42
HS2-000020BPZ	Albany Street	528790, 182923	31	29	45	31									34
HS2- 000020BQ0	Werrington Street	529493, 183113	44	28	40	26									34
HS2- 000020BQ1	Polygon Road	529574, 183045	44	31	42	28									36
HS2- 000020BQ2	Alexandra Place	526320, 183980	45	30	42	26									36
HS2- 000020BQ3	Harrington Square	529228, 183172	55	Tube Missing	60	41									52
HS2- 000020BQ4	Junction of North Gower Street and Starcross Street	529290, 182572	52	25	52	33									40
HS2- 000020BQ5	Adelaide Road	527713, 184392	53	41	48	30									43
HS2- 000020BQ6	Mornington Terrace	528836, 183474	47	30	42	25									36
HS2- 000020BQ7	Arlington Road	529009, 183479	46	28	38	25									34

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2- 000020BQ8	Clarkson Row	529024, 183213	48	33	44	27									38
HS2- 000020BQ9	Park Village East	528923, 183121	Tube Missing	28	44	31									34
HS2- 000020BQA	Eversholt Street	529386, 183132	50	52	60	39									50
HS2- 000020BQB	Junction of Harrington Street and Varndell Street	529147, 182816	45	27	42	32									36
HS2- 000020BQC	Junction of Robert Street and Hampstead Road	529199, 182704	51	30	53	37									43
HS2- 000020BQD	Drummond Crescent	529648, 182856	52	35	51	34									43
HS2-000020BQJ	Grafton Way	529380, 182225	Tube Missing	47	50	43									46
HS2- 000020BQL	Delancey Street	528768, 183581	60	37	57	43									49
HS2- 000020BQR	Lamp post on Park Village East	528682, 183505	47	29	47	27									38
HS2- 000020BQS	Opposite Maria fidelis school on Phoenix Road	529670, 182982	39	28	45	27									35
HS2- 000020BQT	Drummond Street	529385, 182581	50	32	52	33									41
HS2- 000020BQX	Lamp post on Brunswick Square	530344, 182236	56	37	45	30									42
HS2-000020BP4	Triplicate site on Finchley Road next to Swiss Cottage kerbside automatic monitoring station	526633, 184392	74	50	76	49									62

Air Quality and Dust Monitoring Summary Report, May 2022 London Borough of Camden

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BP5	Triplicate site next to the Euston Road roadside automatic monitoring stations	529895, 182657	Tube Missing	Tube Missing	67	Tube Missing									67
HS2-000020BP9	Triplicate site in Russell Square next to Bloomsbury urban background automatic monitoring station	530120, 182034	54	36	42	34									42