

Air Quality and Dust Monitoring Monthly Report – March 2022

London Borough of Camden



Department for Transport

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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 February and March 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 current phase of works commenced in 2019 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 5, include:

Skanska Costain Strabag Joint Venture (SCSjv)

Adelaide Road Vent Shaft

- Piling works to provide ground stability and support during future works to build the ventilation shaft;
 - Installation of access gates and additional welfare facilities;
 - Installation of working platforms for future works;
 - On-site utility connections;
 - Installation of ground anchors; 1
 - Excavation works on the embankment for future works to build the ventilation shaft and headhouse;
 - Ongoing ground investigations and utility surveys in your area; and • Ongoing vegetation clearance within the site.
-
- 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.

Mace Dragados Joint Venture (MDjv)

TSS

- Completed capping beam construction & installed first level of props
- Started first stage of excavation of the box
- Continuing waterproofing in both tunnels

- Continue secondary lining reinforced concrete

NTH/ME

- Construction of Manholes and pipeworks
- Structural Soils set up compound in St James Gardens

Zone 5

- 140 basement installing piling matt
- Removed stock pile into area 140
- Removing spoil/concrete from site
- Breaking out 132 foundations
- Removal of pile caps Hampstead Road elevation

Two Towers

- Concrete ramp for wheel washing area to west access
- Propping to north elevation slab
- Demo works to north east elevation
- Sheet pile extraction to north east upstand
- Cutting off exposed rebar on demo works
- Saw cutting to north elevation
- Works to piazza step (brickwork retaining wall & setting void former, dpc, rebar mesh)

ITR

- Pipework has been installed into Thames Water main Sewer and jointed
- Tunnel has been backfilled and RESS has been closed out
- Base of shaft has been backfilled with concrete up to invert level
- Invert benching has been completed
- Back drop and two Chamber rings have been installed

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 5. 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.

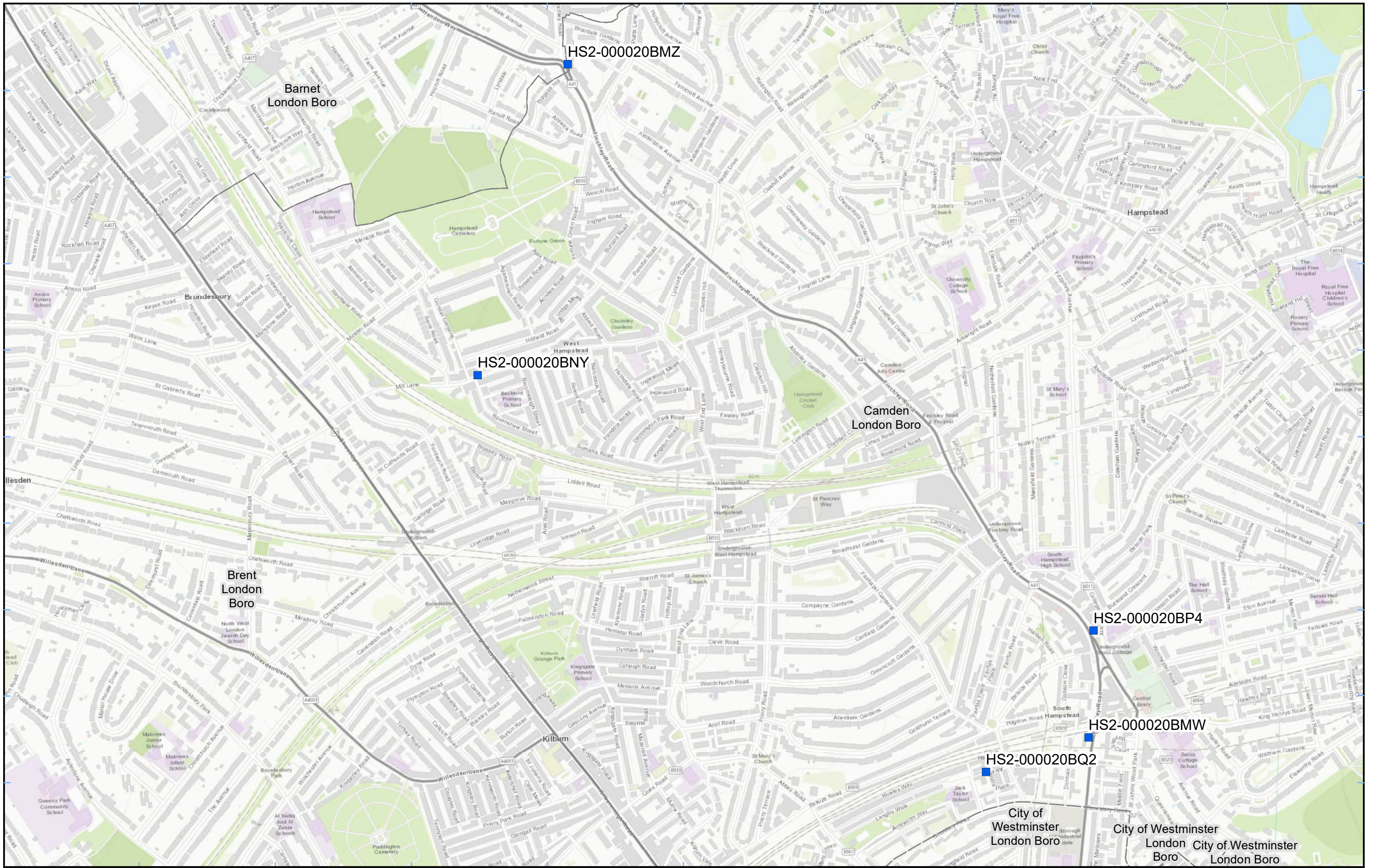
- 1.1.8 Dust trigger alerts were recorded during the monitoring period (March 2022) and are reported in Appendix B, Table 3.
- 1.1.9 Data capture was below 90% for multiple monitors in March 2022 due to monitor faults, monitor removal and monitor relocation.
- 1.1.10 Diffusion tube monitoring of Nitrogen 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 March 2022

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-22-43415-C	n/a	Dirt and dust has appeared on balcony.	Mitigation explained including damping down and monitors in place. Also explained that during this period there was dust deposition associated with a Saharan dust episode.

Appendix A – Worksites and Monitoring Locations

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



Legend
 Diffusion Tube
 District Borough Unitary Boundaries

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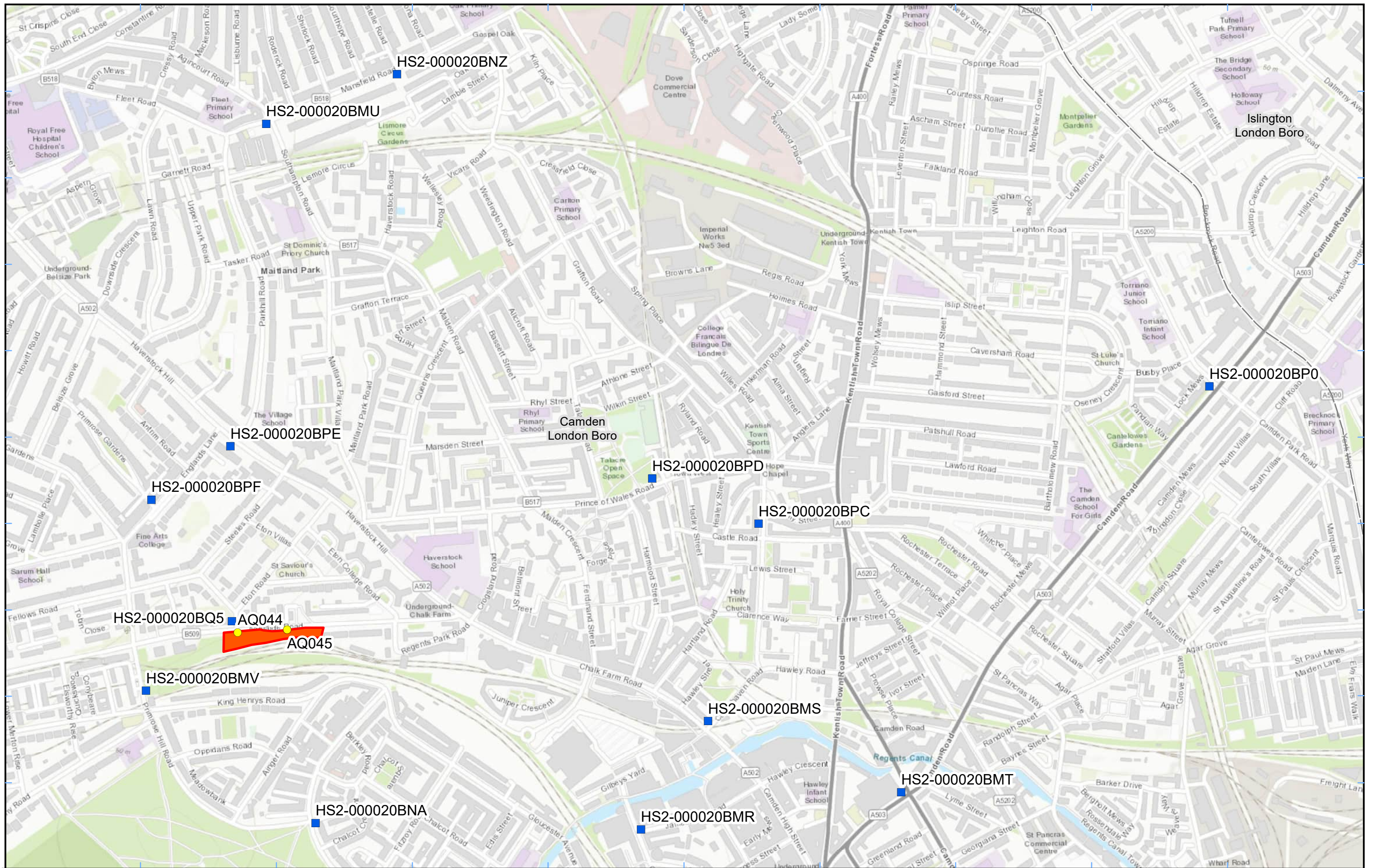
Map Number
 Map Name
**Monitoring Locations
 In LBC (Sheet 1)**
 London Borough of Camden

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Legend

- Diffusion Tube
- Worksite
- Dust Monitor
- District Borough Unitary Boundaries

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Map Number

Map Name
**Worksite and Monitoring Locations
 In LBC (Sheet 2)**

London Borough of Camden

hs2

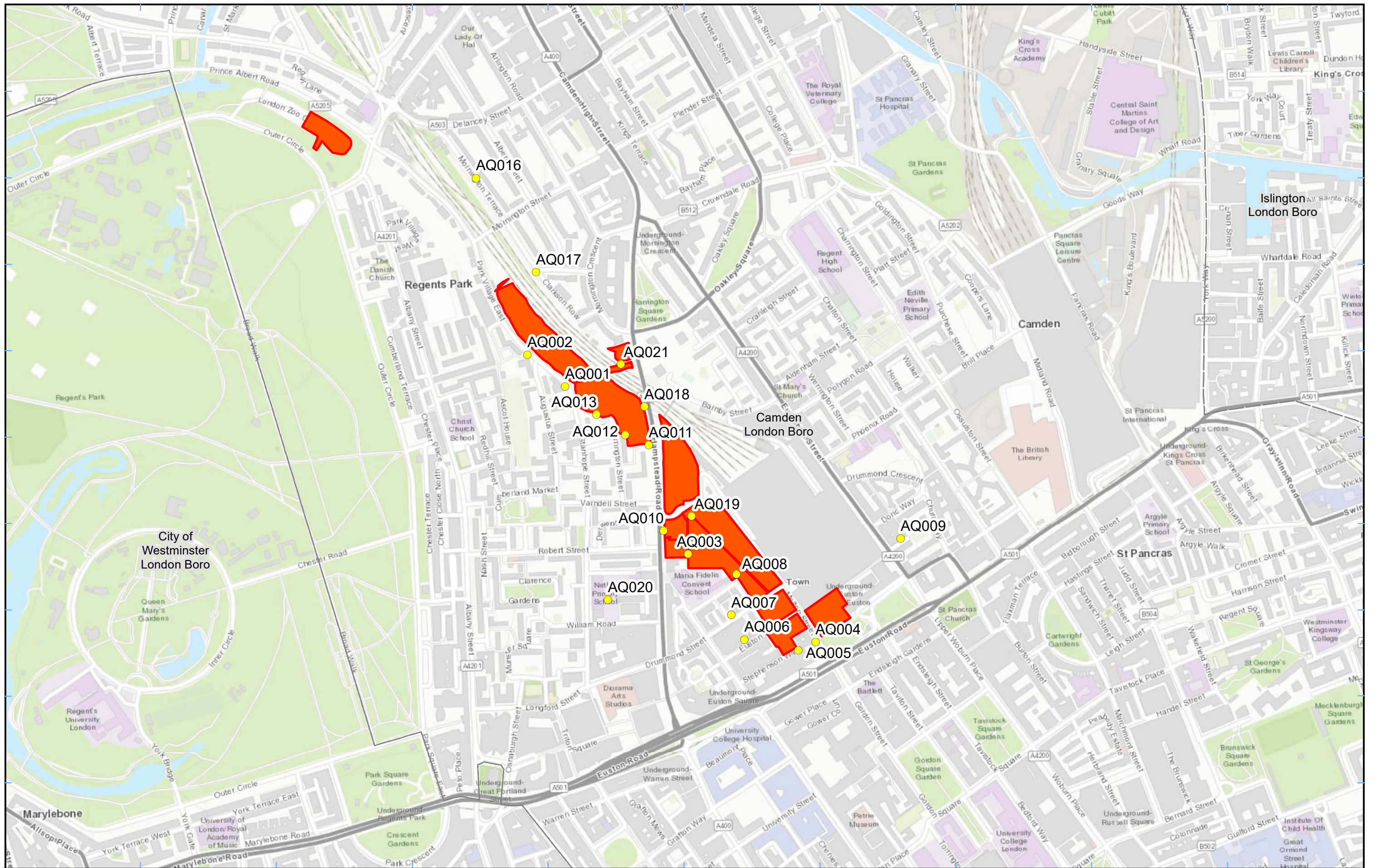
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Legend
 ● Dust Monitor □ District Borough Unitary Boundaries
 ■ Worksite

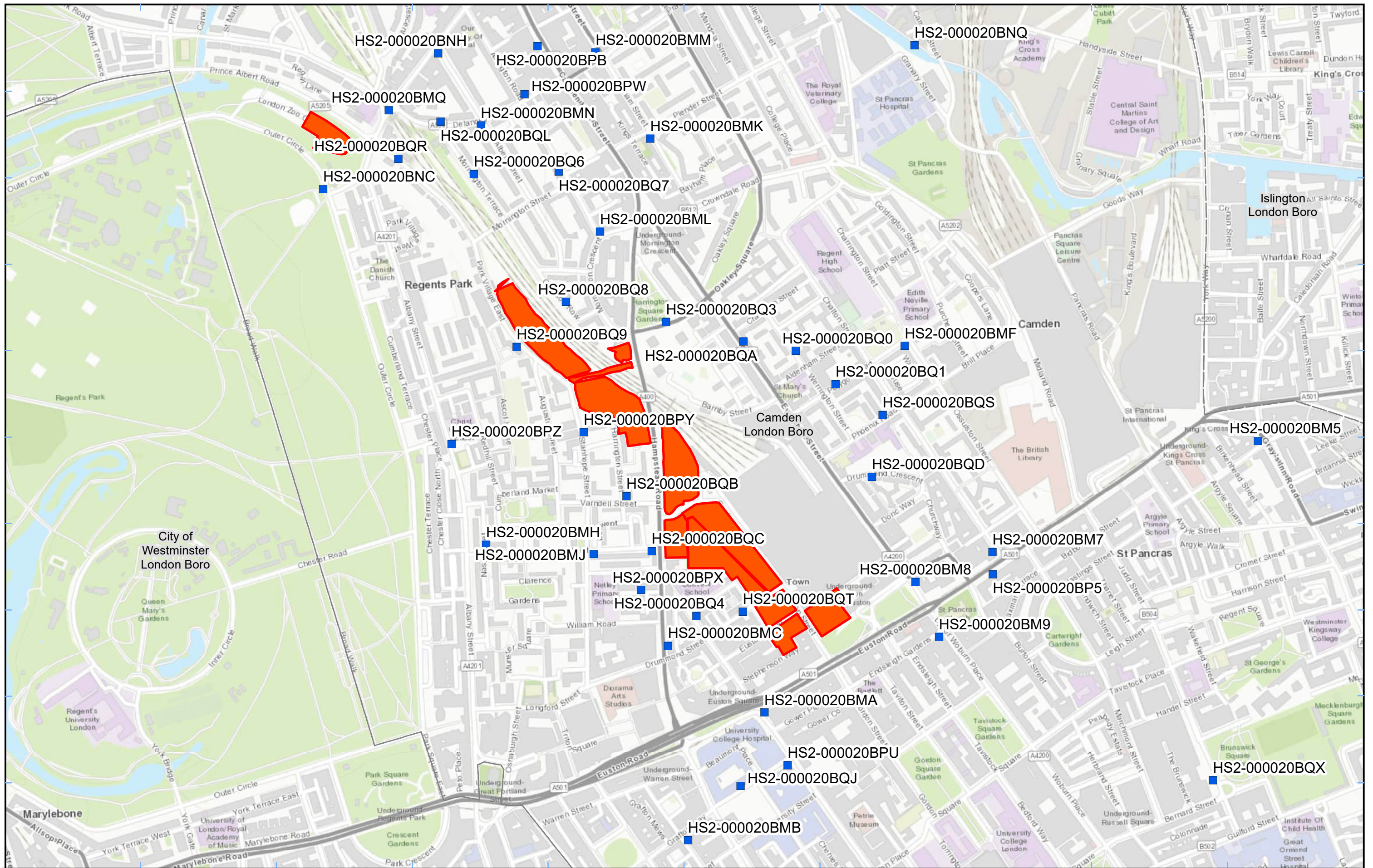
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Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBC (Sheet 3)**

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Legend
■ Diffusion Tube District Borough Unitary Boundaries
 Worksite

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Map Number
 Map Name
**Worksite and Monitoring Locations
 In LBC (Sheet 4)**
 London Borough of Camden

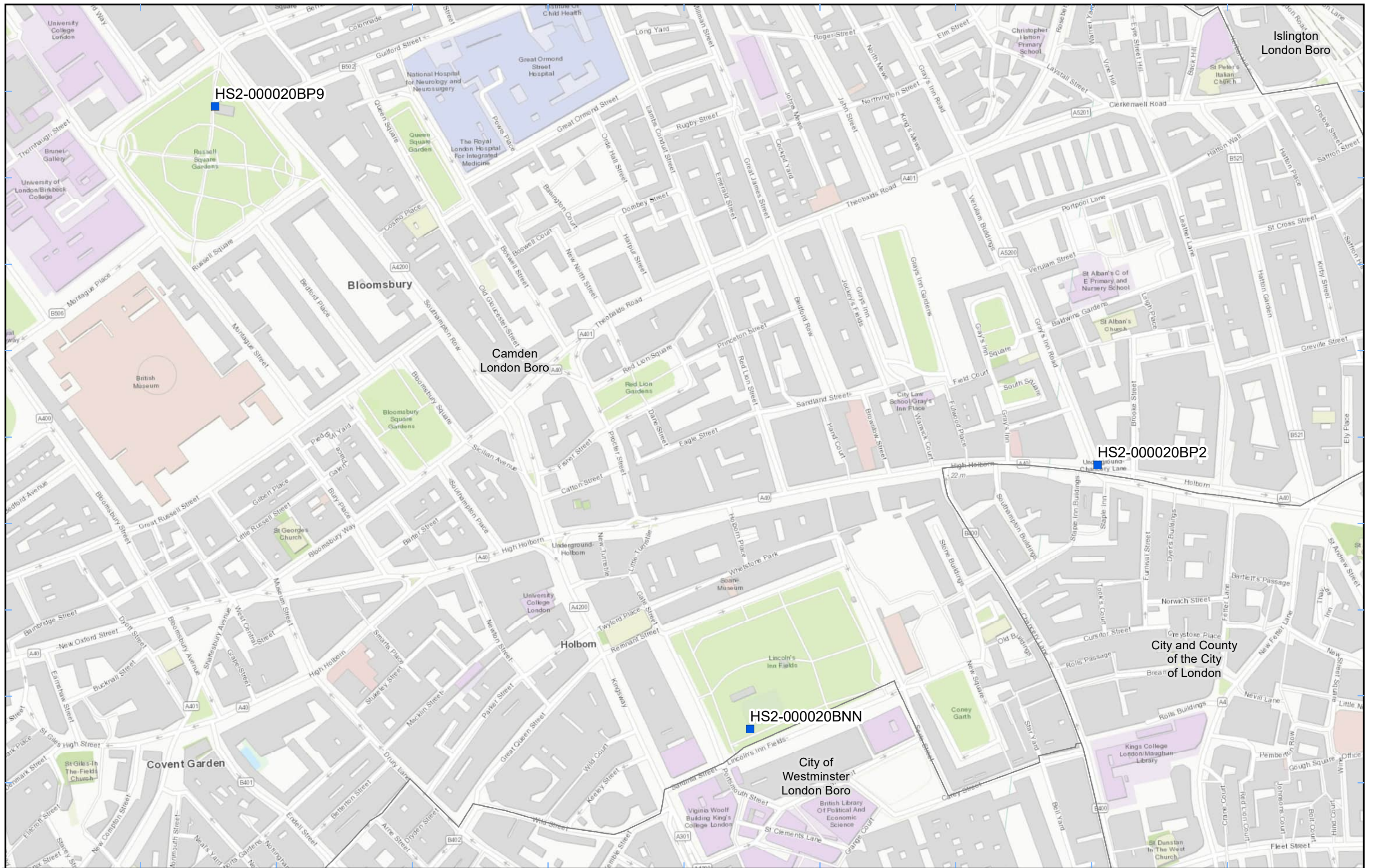
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Legend
 ■ Diffusion Tube
 □ District Borough Unitary Boundaries

Map Number
 Map Name
**Monitoring Locations
 In LBC (Sheet 5)**
 London Borough of Camden

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Appendix B – Dust Monitoring Results

Table 2: Dust monitoring locations and March 2022 results

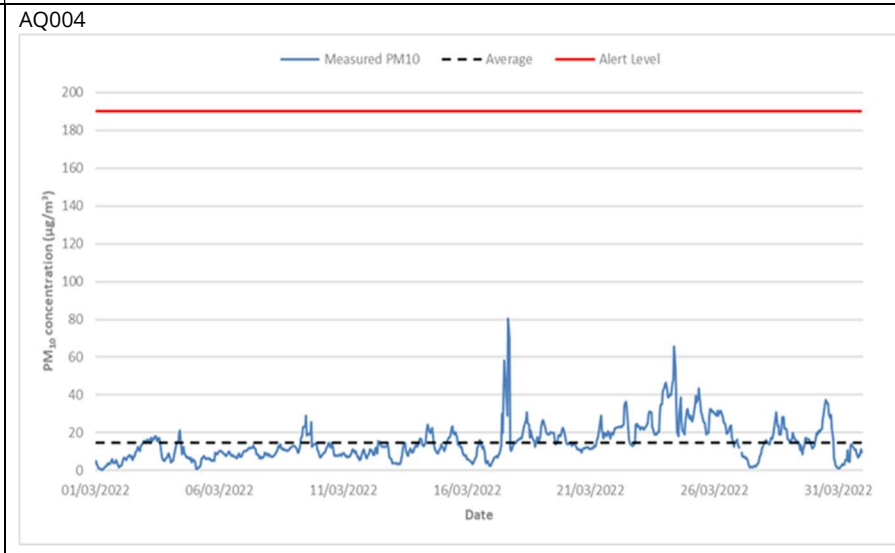
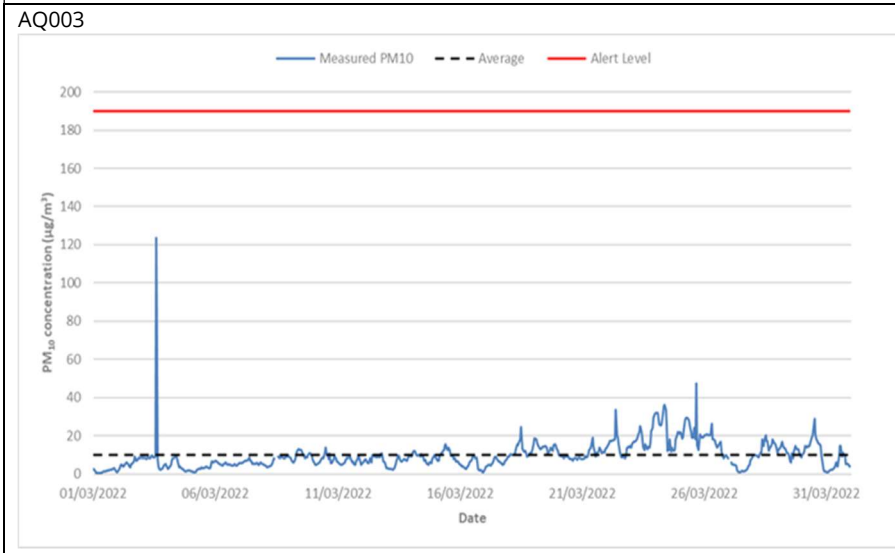
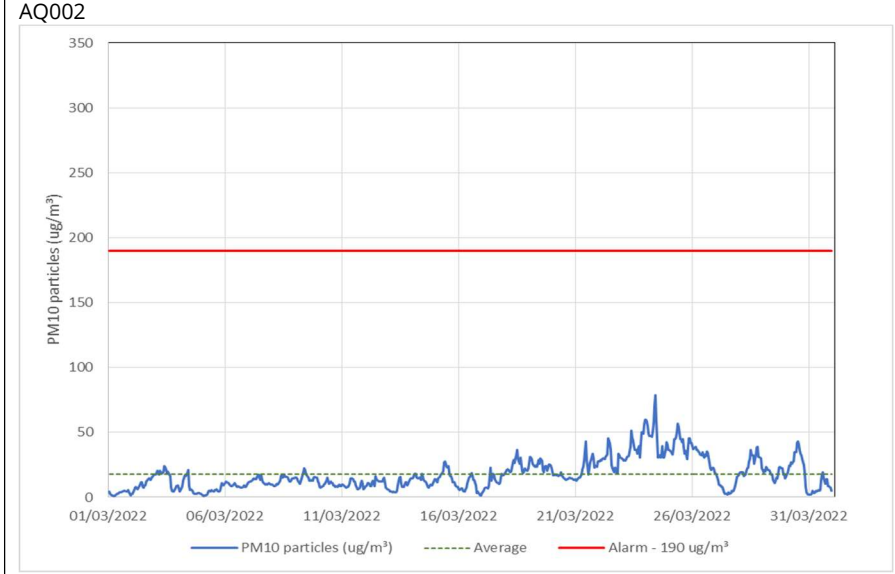
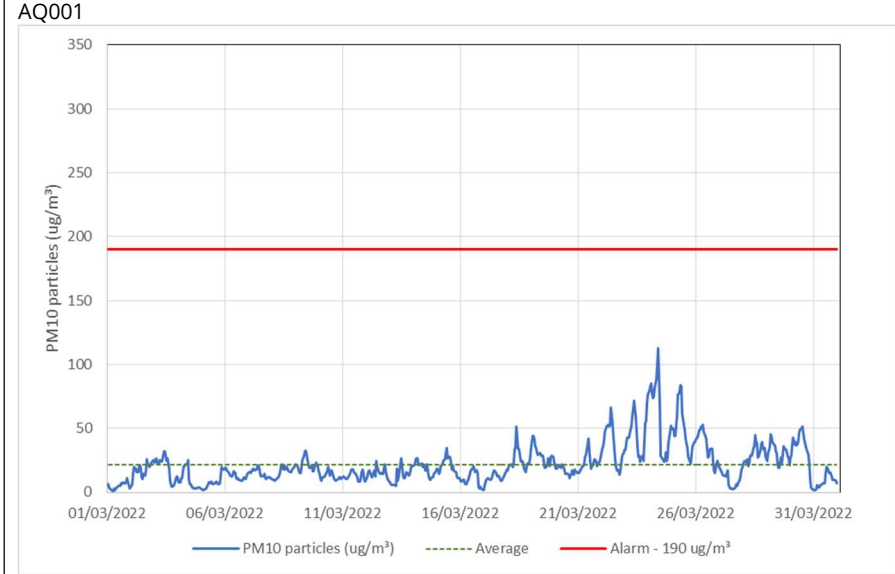
Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1- hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
AQ001	529016, 183049	Junction of Park Village East, Stanhope Street and Granby Terrace	M	Yes	N	21.9	1.1	112.6	0	100.0
AQ002	528924, 183130	Park Village East	M	Yes	N	17.4	0.9	78.8	0	100.0
AQ003	529273, 182698	St James' Gardens	M	Yes	N/A	9.7	0.3	123.7	0	99.7
AQ004	529533, 182519	Melton Street	H	Yes	N/A	14.9	0.6	80.4	0	100.0
AQ005	529498, 182502	Stephenson Way	H	No a	N/A	-	-	-	-	0.0
AQ006	529388, 182524	Euston Street	H	Yes	N/A	16.5	0.6	92.4	0	83.3
AQ007	529361, 182574	Drummond Street	H	Yes	N/A	12.3	0.6	42.2	0	100.0
AQ008	529372, 182657	Cobourg Street	H	Yes	N/A	14.7	0.5	67.3	0	99.9
AQ009	529707, 182730	Eversholt Street	H	Yes	N/A	15.2	0.7	61.4	0	100.0
AQ010	529223, 182746	Hampstead Road South	M	Yes	N/A	14.3	0.8	56.1	0	100.0
AQ011	529176, 182922	Hampstead Road	M	Yes	N	17.0	1.0	180.5	0	88.3

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 (%)
AQ012	529144, 182941	Rear of Coniston House	M	Yes	N	21.2	1.2	108.9	0	90.4
AQ013	529066, 182990	Regents Park Estate	M	Yes	N	18.6	1.2	440.2	3	91.0
AQ016	528820, 183498	Mornington Terrace North	M	Yes	N	19.6	1.0	82.1	0	100.0
AQ017	528962, 183274	Mornington Terrace South	M	Yes	N	12.1	0.6	46.3	0	100.0
AQ018	529192, 183071	Hampstead Road North	M	Yes	N	13.8	0.5	63.1	0	100.0
AQ019	528689, 183500	Park Village East (North)	M	Yes	N	13.0	0.6	52.7	0	100.0
AQ020	529109, 182605	Netley School	n/a	Yes	N/A	15.0	0.6	64.5	0	100.0
AQ021	529136, 183086	Site compound at the Junction of Hampstead Road & Granby Terrace Bridge	M	Yes	N	18.2	0.9	86.8	0	100.0
AQ044	527725, 184369	Adelaide Road 1	M	Yes	N	18.1	0.7	78.0	0	97.4
AQ045	527826, 184375	Adelaide Road 2	M	Yes	N	14.5	0.6	81.2	0	99.5

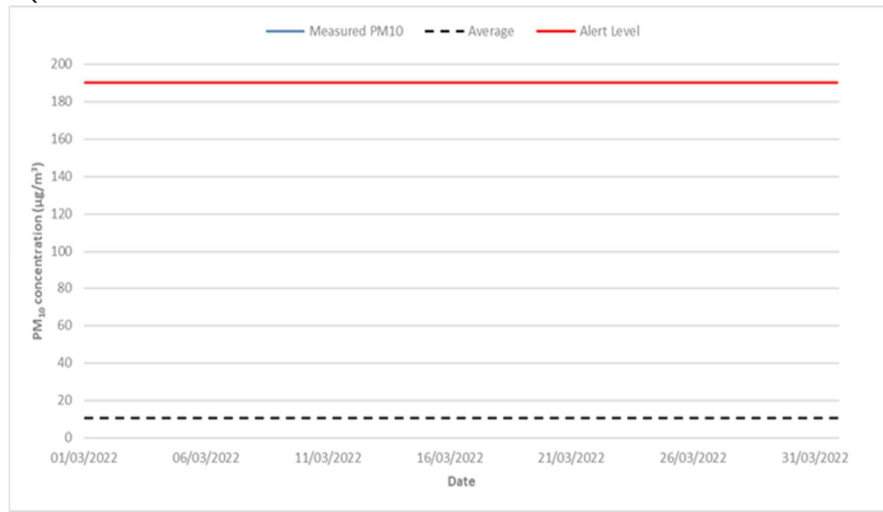
Table 3: Summary of exceedances of trigger level in March 2022

Monitoring site ID	Period exceeding trigger level	Investigation	Outcomes / Resolution / Remedial measures implemented
AQ013	20/03/2022 16:01 – 17:00; 261.5 µg/m ³ 17:01 – 18:00; 440.2 µg/m ³ 18:01 – 19:00; 197.1 µg/m ³	The triggers followed a power outage (the fuse had tripped on the transformer) from 18/03/2022 -20/03/2022. The triggers were caused by debris in the inlet and the internal heater not reaching the correct temperature.	The cut-out device was reset on the transformer and power restored to the monitor

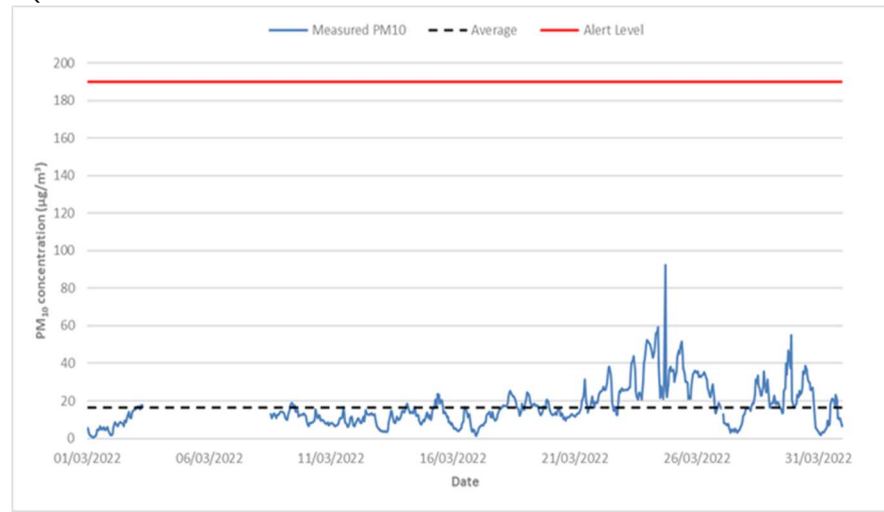
Figure 4: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors



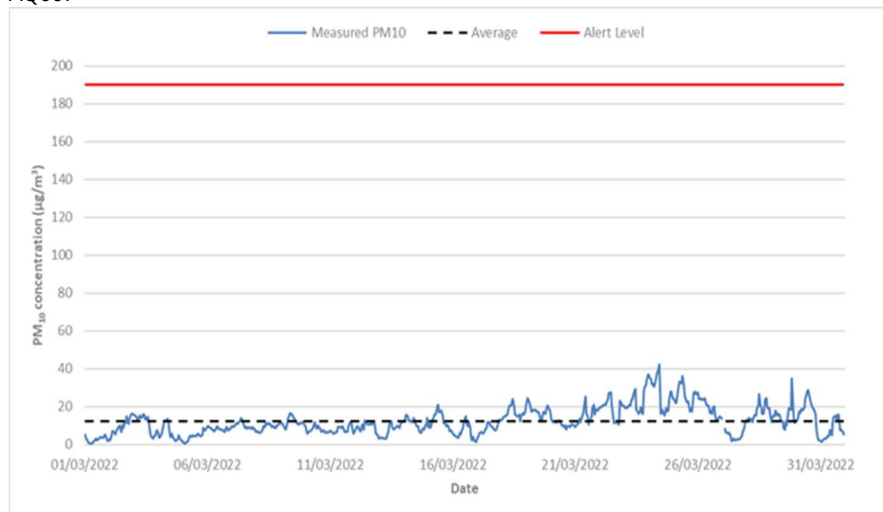
AQ005



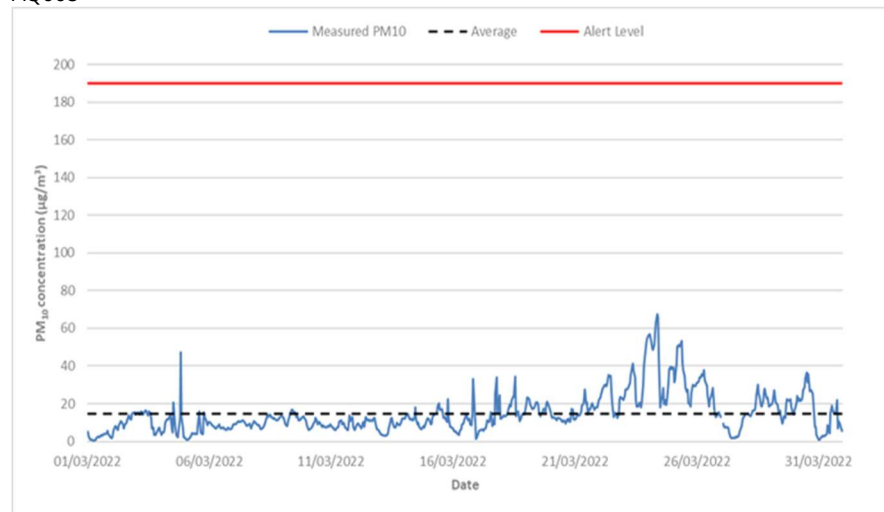
AQ006



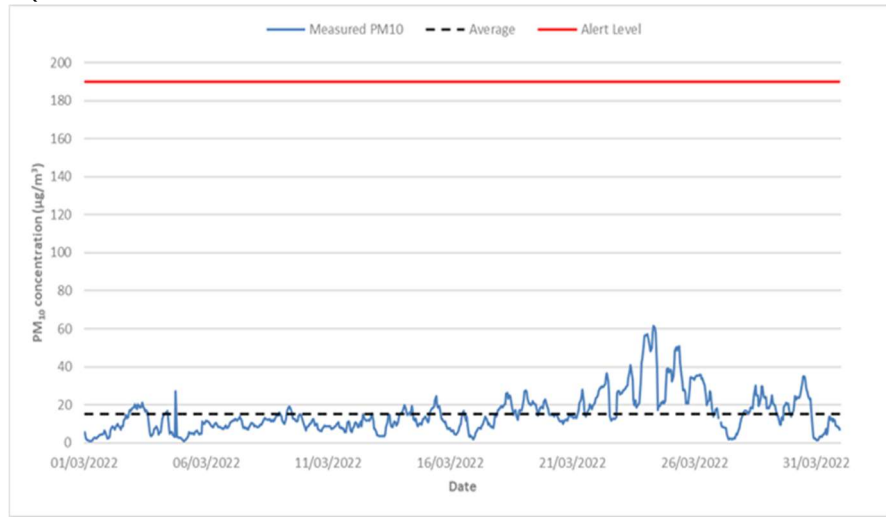
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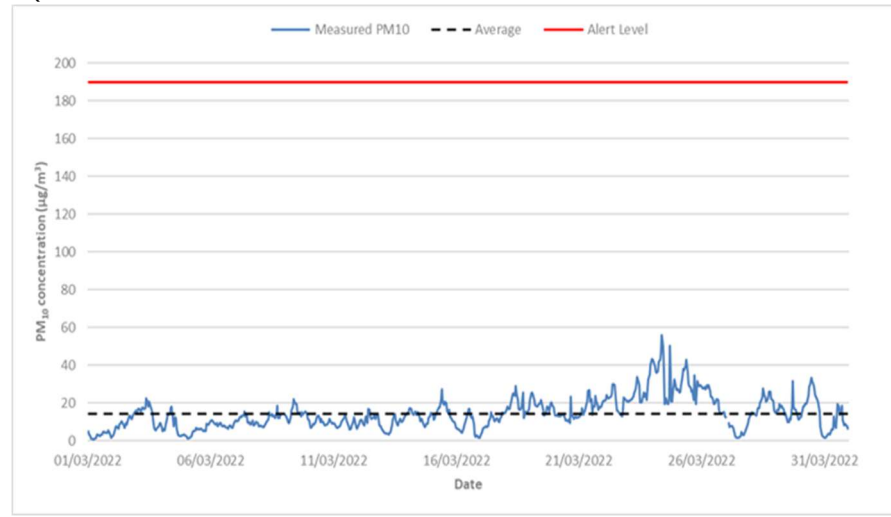
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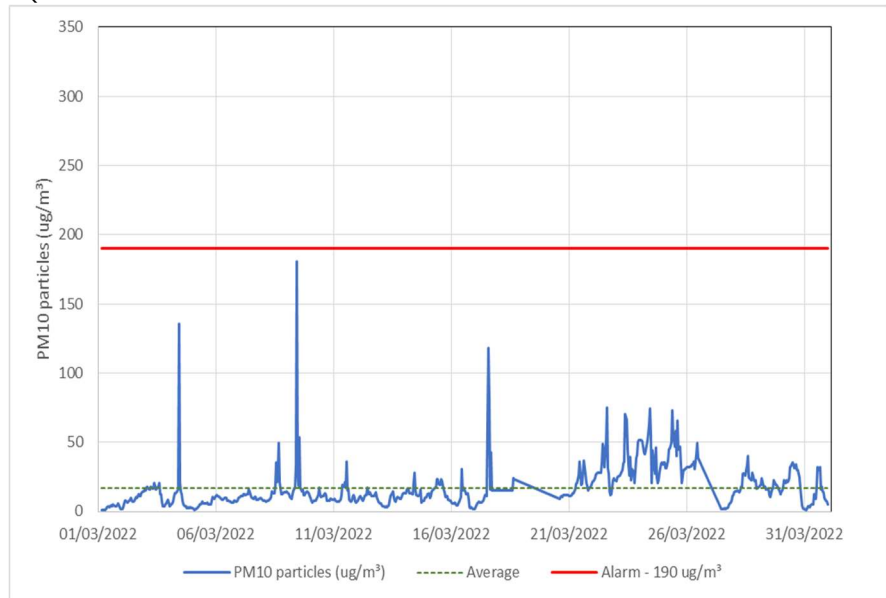
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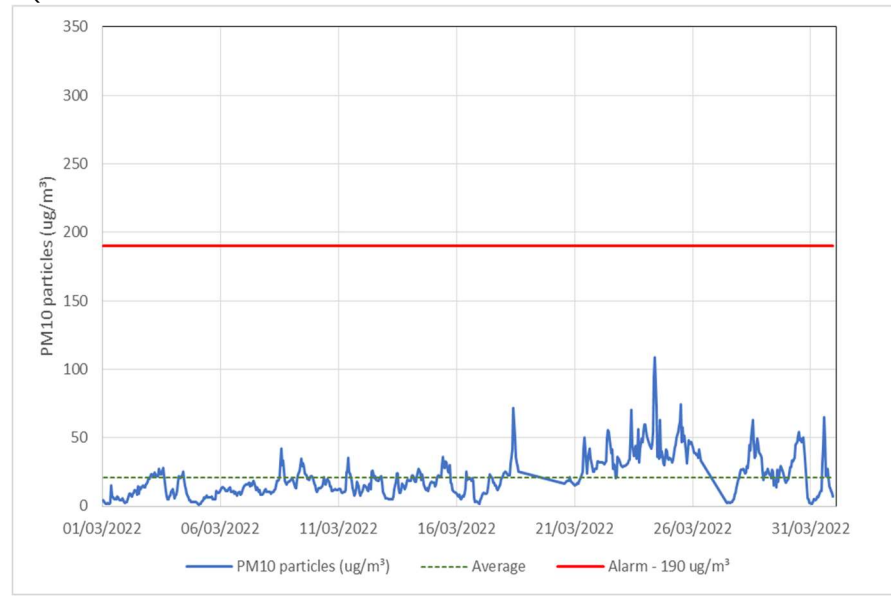
AQ010



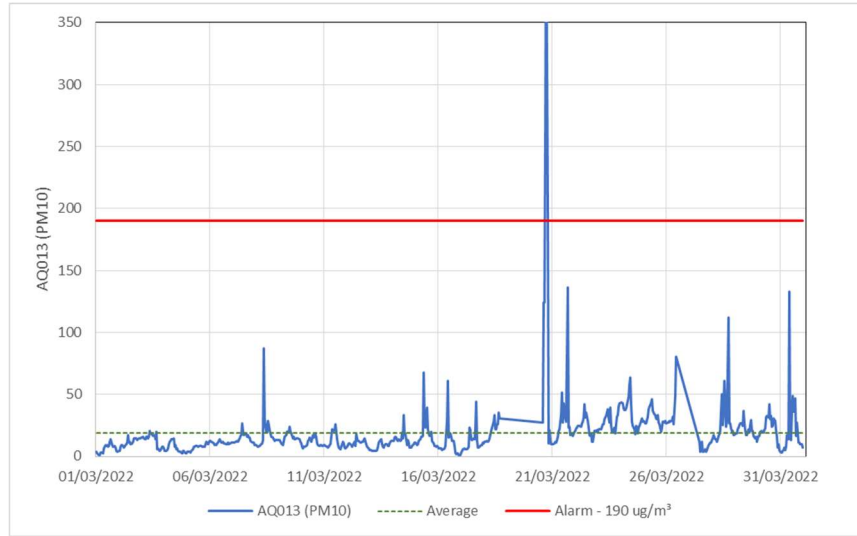
AQ011



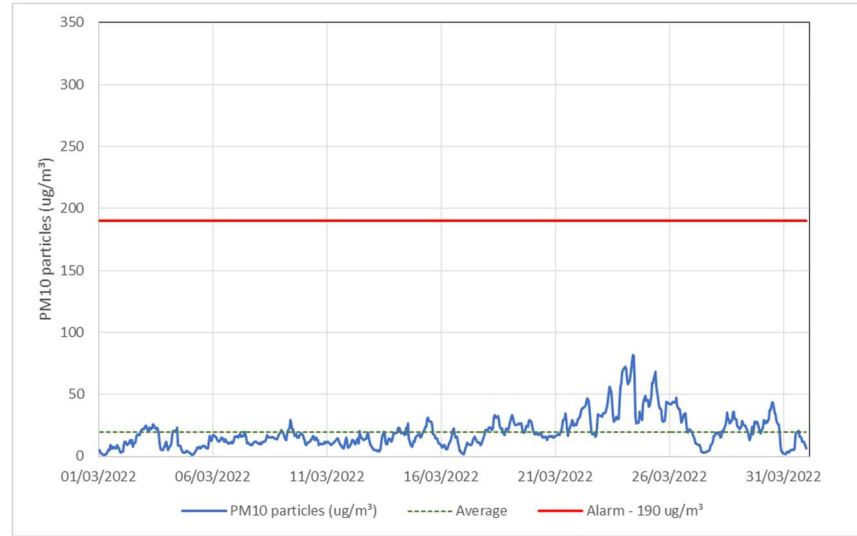
AQ012



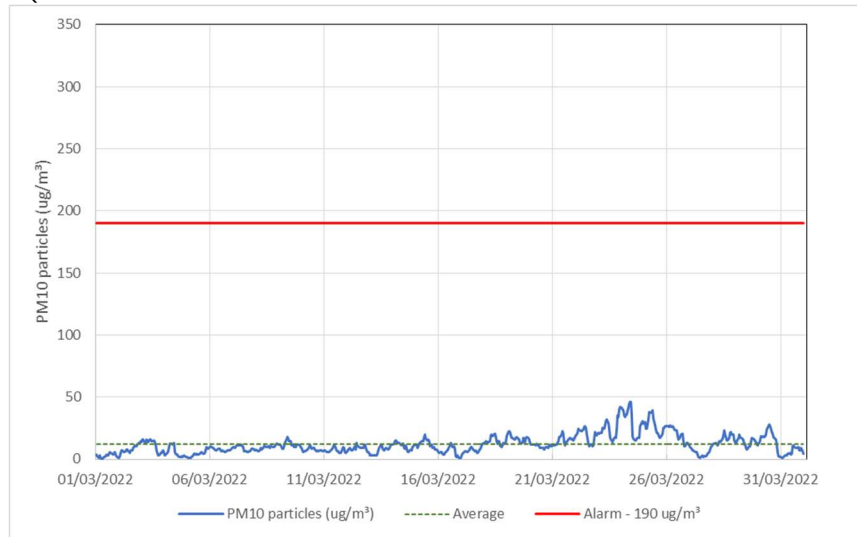
AQ013



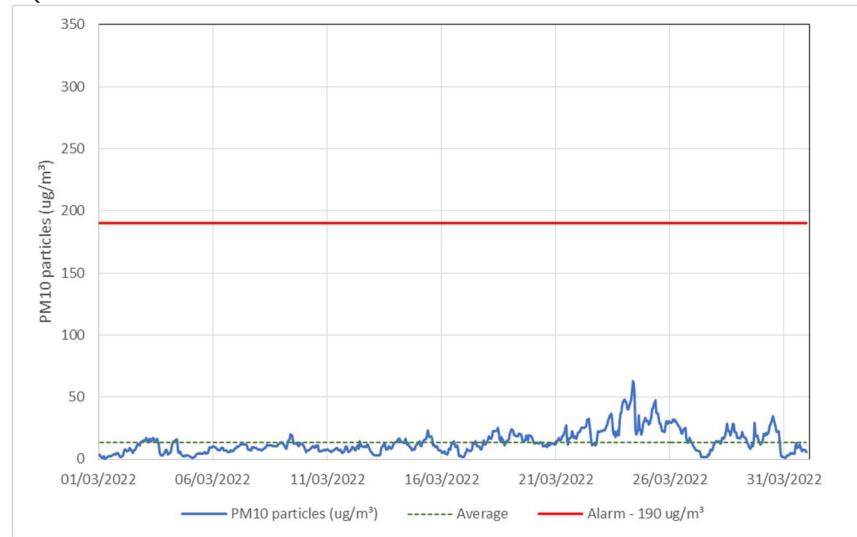
AQ016



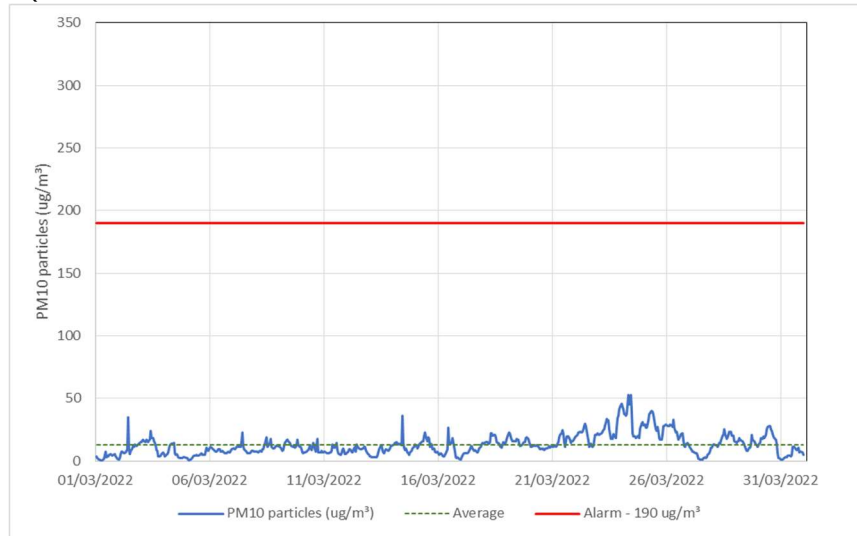
AQ017



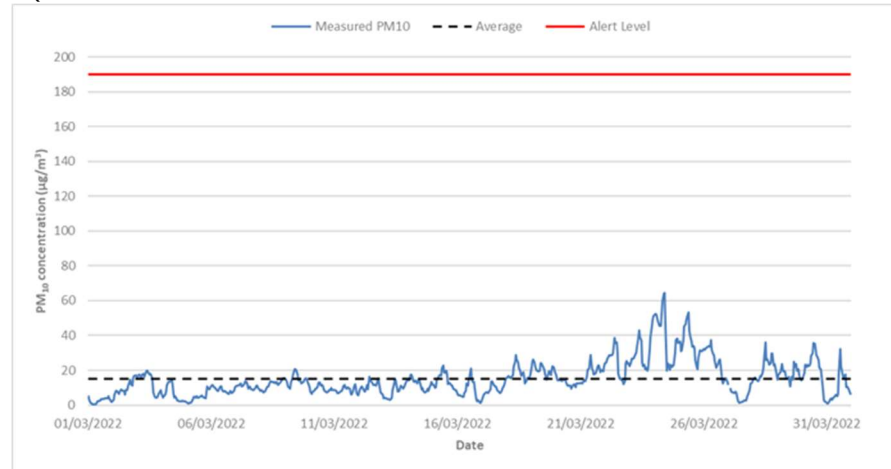
AQ018



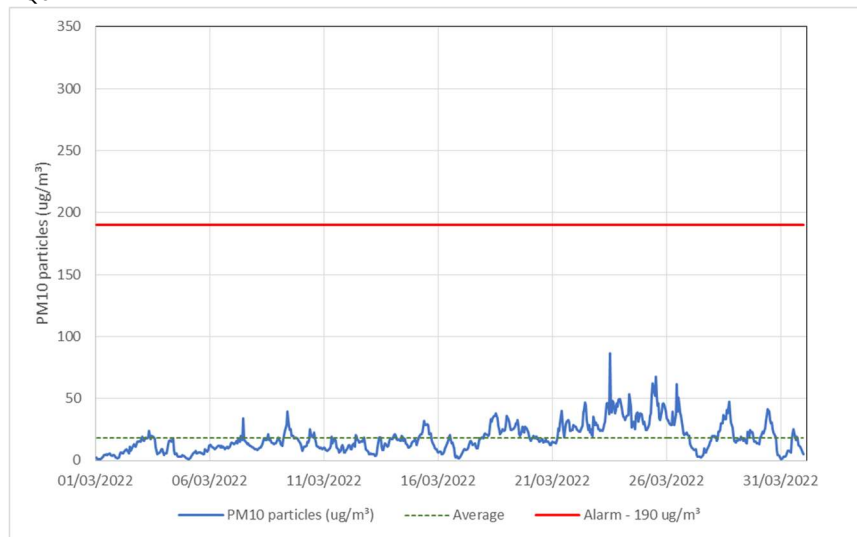
AQ019



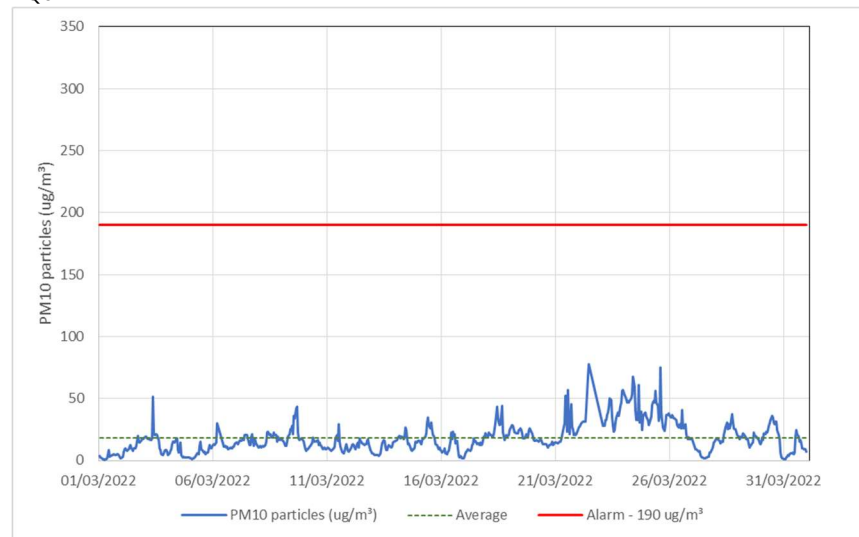
AQ020



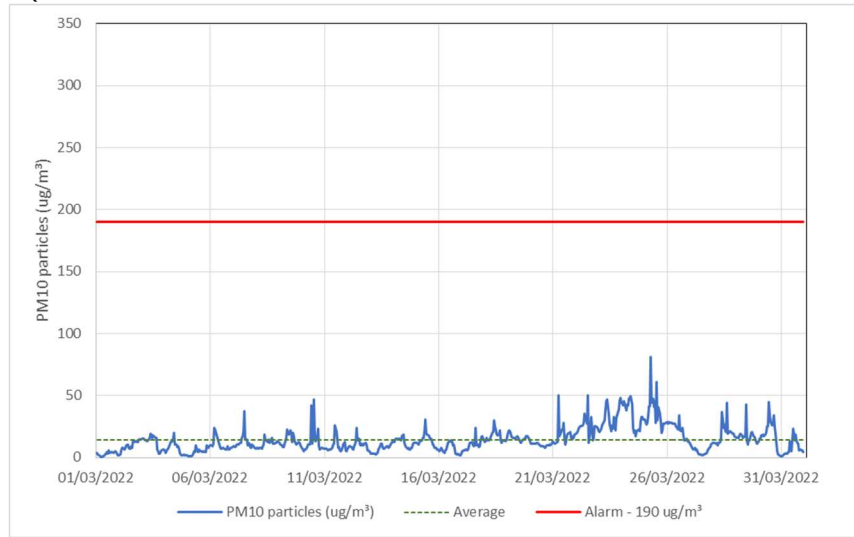
AQ021



AQ044



AQ045



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
HS2-000020BM7	Chalton Street	529894, 182702	Tube Missing	Tube Missing											N/A
HS2-000020BM8	Junction of Euston Square and Grafton Place	529737, 182641	Tube Missing	51											51
HS2-000020BM9	Junction of Endsleigh Gardens and Upper Woburn Place	529785, 182529	61	44											52
HS2-000020BMA	Junction of Euston Road and Gower Street	529429, 182375	Tube Missing	44											44
HS2-000020BMB	Whitfield Street	529273, 182114	51	37											44
HS2-000020BMC	Hampstead Road	529232, 182511	70	52											61
HS2-000020BMF	Junction of Polygon Road and Ossulston Street	529715, 183123	42	27											35
HS2-000020BMH	Nash Street	528861, 182717	46	31											39
HS2-000020BMJ	Junction on Robert Street and Stanhope Street	529080, 182698	41	31											36

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 Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BMK	Junction of Plender Street and Bayham Street	529196, 183546	56	Tube Missing											56
HS2-000020BML	Junction of Arlington Road and Mornington Crescent	529093, 183356	48	30											39
HS2-000020BMM	Junction of Bayham Street and Pratt Street	529084, 183722	Tube Missing	49											49
HS2-000020BMN	Junction of Delancey Street and Albert Street	528850, 183573	53	34											43
HS2-000020BMQ	Junction of Parkway and Delancey Street	528662, 183604	51	30											41
HS2-000020BMR	Junction of Oval Road and Jamestown Road	528548, 183967	49	31											40
HS2-000020BMS	Junction of Chalk Farm Road and Castlehaven Road	528685, 184188	50	41											45
HS2-000020BMT	Junction of Camden Road and Camden Street	529079, 184043	60	Tube Missing											60
HS2-000020BMU	Junction of Southampton Road and Fleet Road	527783, 185407	53	37											45
HS2-000020BMV	Primrose Hill Road	527538, 184250	57	Tube Missing											57
HS2-000020BMW	Junction of Finchley Road and Hilgrove Road	526619, 184081	66	52											59

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BMZ	Junction of Finchley Road and Hendon Way	525102, 186042	88	62											75
HS2-000020BNA	Junction of Regent's Park Road and Rothwell Street	527884, 183980	48	33											41
HS2-000020BNC	Junction of Outer Circle and Gloucester Gate	528528, 183443	38	19											28
HS2-000020BNH	Junction of Parkway and Albert Street	528763, 183720	50	Tube Missing											50
HS2-000020BNN	Lincoln's Inn Fields	530744, 181308	47	34											40
HS2-000020BNQ	Camley Street	529735, 183737	62	Tube Missing											62
HS2-000020BNY	Junction of Mill Lane and Hillfield Road	524839, 185136	60	39											49
HS2-000020BNZ	Mansfield Road	528050, 185508	50	36											43
HS2-000020BP0	Junction of Camden Road and Torriano Avenue	529708, 184871	63	Tube Missing											63
HS2-000020BP2	Junction of Grays Inn Road and Holborn	531149, 181616	59	40											50
HS2-000020BPB	Camden High Street	528966, 183735	78	Tube Missing											78
HS2-000020BPC	Castlehaven Road	528788, 184591	52	Tube Missing											52
HS2-000020BPD	Prince of Wales Road	528571, 184683	46	32											39
HS2-000020BPE	Haverstock Hill	527710, 184749	55	41											48

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BPF	Junction of Primrose Gardens and England's Lane	527549, 184640	54	38											46
HS2-000020BPU	Junction of Gower Street and Grafton Way	529476, 182267	Tube Missing	37											37
HS2-000020BPW	Junction of Delancey Street and Arlington Road	528939, 183637	53	34											43
HS2-000020BPX	Netley Street	529177, 182625	48	30											39
HS2-000020BPY	Stanhope Street	529060, 182947	47	Tube Missing											47
HS2-000020BPZ	Albany Street	528790, 182923	31	29											30
HS2-000020BQ0	Werrington Street	529493, 183113	44	28											36
HS2-000020BQ1	Polygon Road	529574, 183045	44	31											37
HS2-000020BQ2	Alexandra Place	526320, 183980	45	30											38
HS2-000020BQ3	Harrington Square	529228, 183172	55	Tube Missing											55
HS2-000020BQ4	Junction of North Gower Street and Starcross Street	529290, 182572	52	25											39
HS2-000020BQ5	Adelaide Road	527713, 184392	53	41											47
HS2-000020BQ6	Mornington Terrace	528836, 183474	47	30											39
HS2-000020BQ7	Arlington Road	529009, 183479	46	28											37
HS2-000020BQ8	Clarkson Row	529024, 183213	48	33											41

Monitoring Site ID	Location description	Coordinates (X, Y)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean ¹
HS2-000020BQ9	Park Village East	528923, 183121	Tube Missing	28											28
HS2-000020BQA	Eversholt Street	529386, 183132	50	52											51
HS2-000020BQB	Junction of Harrington Street and Varndell Street	529147, 182816	45	27											36
HS2-000020BQC	Junction of Robert Street and Hampstead Road	529199, 182704	51	30											40
HS2-000020BQD	Drummond Crescent	529648, 182856	52	35											44
HS2-000020BQJ	Grafton Way	529380, 182225	Tube Missing	47											47
HS2-000020BQL	Delancey Street	528768, 183581	60	37											48
HS2-000020BQR	Lamp post on Park Village East	528682, 183505	47	29											38
HS2-000020BQS	Opposite Maria fidelis school on Phoenix Road	529670, 182982	39	28											34
HS2-000020BQT	Drummond Street	529385, 182581	50	32											41
HS2-000020BQX	Lamp post on Brunswick Square	530344, 182236	56	37											47
HS2-000020BP4	Triplicate site on Finchley Road next to Swiss Cottage kerbside automatic monitoring station	526633, 184392	74	50											62

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											N/A
HS2-000020BP9	Triplicate site in Russell Square next to Bloomsbury urban background automatic monitoring station	530120, 182034	54	36											45