

November 2024

Air Quality and Dust Monitoring Monthly Report – November 2024 Buckinghamshire Council

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High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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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 dust monitoring undertaken in the Buckinghamshire Council (BC) during November 2024.
- 1.1.2 Figures 1-7 in Appendix A present the current worksites together with the 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-environmentaleffects-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 worksites, as presented in Appendix A, Figures 1-7, include:

CVV LTP1 worksite

- North Embankment Compound: compound operation;
- DWSC Compound: compound operation;
- Haul Road and Jetty Maintenance River Colne to GUC: operation and maintenance;
- Haul Road and Jetty Maintenance GUC to Harvil Road: haul road and jetty maintenance;
- ATFS: site preparation, installation of ducts and earthworks, bulk earthworks fill, permanent drainage, soiling and seeding, ATFS access road construction;
- Pumping Water Management: pumping water management;
- Satellite Welfares;
- Generator Farms;
- South Abutment: earthworks, South Abutment construction stage 2, South Abutment construction stage 2, South Abutment construction stage 2 earthworks, yard supporting activities, soiling and seeding works, embankment FRC works;
- Environmental Maintenance;
- Stockpiling Activity HOAC: stockpile of material coming from other sites;
- Deck Finishes Logistics: preparation and operation of storage yards and installation of below deck access provision, traffic management on the deck surface, installation of parapets, noise barriers, troughs, pipes, steel works and other minor material to the storage yards and deck, installation of access at the top of the deck (HAKI stairs) and finishes support plan;
- Deck Finishes On-deck Construction: noise barrier installation, north abutment works, deck waterproofing and SFRC slab construction;
- Deck Finishes In-deck Construction: structural health monitoring;
- Landscaping: advanced works including removal of cofferdam, early earthworks including ground profiling and cut, initial ground drainage including manhole chamber,

early soil placement, hardstanding removal and tree removal & vegetation clearance; and

• Jetty Removal and associated earthworks: Earthworks excavation, backfill, and landscaping, jetty removal, cutting piles and steelworks.

Chalfont St Peter Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Ground Level Works (External Works Part 2);
- Building Trades: brickworks and internals; and
- Demobilisation.

Amersham Vent Shaft

- General Site Activities;
- Tunnel Connections;
- External Works Phases 1&2;
- Headhouse Superstructure Concrete Works;
- Precast Boundary Wall:
- Internal Works;
- Steel Works and Zinc Cladding; and
- MEP Works.

Chalfont St Giles Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- External Works Phase 2;
- Building Trades: brickworks and internal works; and
- Demobilisation.

Little Missenden Vent Shaft

- General site activity;
- Tunnel Connection;
- Internal Works;
- Steel Works and Cladding; and
- External Works Phase 1 and Phase 2.

Chesham Vent Shaft

- General site activity:
- External Works;
- Internal Works;
- Zinc Cladding Works
- Demobilisation; and
- Landscaping.

North Portal work site

- General Plant: Site Activities;
- Tracks Platform;
- Piling Platform Reinstatement;
- Porous Portal Structure;
- North Portal Building;
- Tunnel Support: Batching Plant operation and concrete distribution and tunnel walkway slipforming; and
- Tracks Drainage and Utilities.

South Heath

- General Plant: Site Activities;
- General Earthworks and Drainage;
- Construction and Installation of Utilities;
- Construction of the Great Missenden Compound;
- Havenfield Wood Drop Inlet Culvert Excavation and Installation;
- GMI/2 and GMI/12 Overbridge excavation and construction;
- Ground Investigation Works; and
- Site Access Road and Mass Haul Route construction, utilisation, and maintenance.

North Chilterns Area

<u>Grimms Ditch</u>

• Sheet piling for Grimms Ditch retaining wall.

Chesham Lane, Wendover Bus 55

- RLUB rebar fixing, formwork installation and concrete pouring south abutment wall and corbels, rebar fixing southeast wingwall, west drainage manhole installation
- GI works Drilling borehole monitoring points.
- Temporary surface water management across site.

Ellesborough Road

- Mobilised and initiated utilities diversion works. Excavated joining pits and commenced joining works and protection structure construction.
- Reinstated utilities bridge.

<u>Nash Lee Road, Nash Lee Lane</u>

- NLOB backfilling, shifting clay from WGT to AA
- AC8 Outlet Base Slab pour, erection of Outlet Headwall/Wingwall, erection of Inlet Base slab
- NLOB East Abutment erection of steel and shutters, West Abutment Erection of Starter bars for wall, completed cage for the base.
- KIS 1206 UKPN Diversion between CH56+350 and CH56+150

• Temporary surface water management across site

Bacombe Lane

- Installation of Link Road (road box, drainage, tarmac, bridleway)
- Installation of shaft POI-002 for Grove Farm Culvert
- Finish installing 12 rings.
- Grouting for rings.

Grove Farm

• CFA piling for Grove Farm Underbridge.

Small Dean Viaduct

- Precast installation
- Neoprene, sealant and backer rod installation
- Rebar installation inside deck
- Rebar prefabrication
- Bearing plinth pour
- Bearing plate grouting
- Stem and Hammerhead lifting in pier 2
- Prefabricated cages lifting and fixing for pier 2
- Pouring of Pier 2 stem and hammerhead
- Scaffold building on deck and around pier 2
- Backfill around A7 and A0.

<u>Wendover Town</u>

- Delivery of 8.3 million litres of water to the LPW water tank.
- Continued with LPW installation works. Continued pre-treatment both on main and northern extension scopes.
- Conducted platform and walkway maintenance.
- Made necessary alterations to the platform.
- Completed construction of three LPW protection slabs and diverted the SAR.
- Relocated and protected the clashing I&Ms.
- Constructed a new pre-treatment plant platform.
- Southern Bulkhead excavation and reinstatement works.
- Installed the missing parts of the guide wall.
- Completed guide wall installation for the Southern Bulkhead.
- Finished LPW slurry plant slab construction and managed plant lifting and installation works.

Calvert Area

<u>Quainton</u>

• Earthworks - Ongoing

- Platform for storage Completed
- Carpark extension Ongoing.

<u>Woodlands</u>

- Adams Accommodation underbridge construction of steel reinforcement cages for wing walls.
- River Ray diversion temporary works.
- Aggregate deliveries along the SAR.

FCC / School Hill (Calvert)

- School Hill batching plant production of concrete.
- School Hill culvert waterproofing and technical backfill.
- School Hill Overbridge dig and replace (D&R) under structure and piling platform completed. Excavation and technical backfill.
- Calvert Green overbridge FRC works.
- Aggregate deliveries along the site access road (SAR).
- Calvert Cutting earthworks drainage and general maintenance activities.
- CBGM batching plant production of CBGM.

Other works ongoing in Calvert not within proximity (greater than 1km) to dust monitors include:

- West Street overbridge
- Portway culvert
- Perry Hill overbridge
- EWR culvert
- IMD West culvert
- IMD East Culvert
- Addison Road highway
- Shepherds Furze earthworks (stockpile maintenance)
- Shepherds Furze culvert
- MCJ4 chord earthworks
- Infrastructure maintenance depot (IMD) earthworks
- Secant retaining wall
- Bat mitigation structure
- SCL/13 overbridge
- FCC Cell 6 earthworks (stockpile maintenance)
- FCC Access Road Retaining Wall
- Sheephouse Wood North culvert
- Greatmoor no. 4 culvert and CAG2 underbridge
- Megaditch retaining wall
- Greatmoor no. 3 culvert
- GUN28 overbridge
- QUA36 overbridge
- Hills farm earthworks (stockpile maintenance)

- Edgcott Road overbridge
- QUA26 Underbridge
- Woods drop inlet culvert
- Doddershall Embankment earthworks
- Doddershall No. 6 and No. 7 Culvert
- Quainton cutting
- QUA28 overbridge
- Station Road overbridge
- Station Road Network Rail overbridge.

Twyford to Greatworth

Turweston North

- Hauling
- Central Cutting Excavation
- Landscape bund creation
- Filter drain work
- Turweston Green Overbridge Construction including: Beam welding and installation, back of wall drainage, permanent formwork installation, deck steel prefabrication, platform maintenance, steel fixing deck steel installation.
- Turweston Viaduct: Installation of launching equipment in readiness for the viaduct launch. General concrete works and Installation of aggregate for Helmdon embankment.

<u>School End</u>

- School End Overbridge: West Wingwall formwork concrete (complete), Paratop installation, deck works, Steel Fixing and Formwork (Diaphragm-East, east and deck slabs), works on check walls.
- School End Highway Realignment: Excavate and Replace, KIS Utility works (excavation of cable trenches).

<u>Twyford</u>

- Twyford East Culvert: Placement of topsoil of watercouse diversion batters, Installation of FlexMsc bags at inlet and outlet.
- Twyford Viaduct: Construction of piling platforms (placement of 6C aggregate and compaction), preparation for sheet piling works.

<u>Hermitage</u>

- CHW18: Overbridge: Deck Works: Lifting of Paratops, Steel Fixing and Formworks (slab above diaphragm east/ west, side span east/west), works on check walls.
- CHW18 Highways Realignment: Excavate and Replace, Subbase Placement, KIS Utility works (excavation of cable trenches).

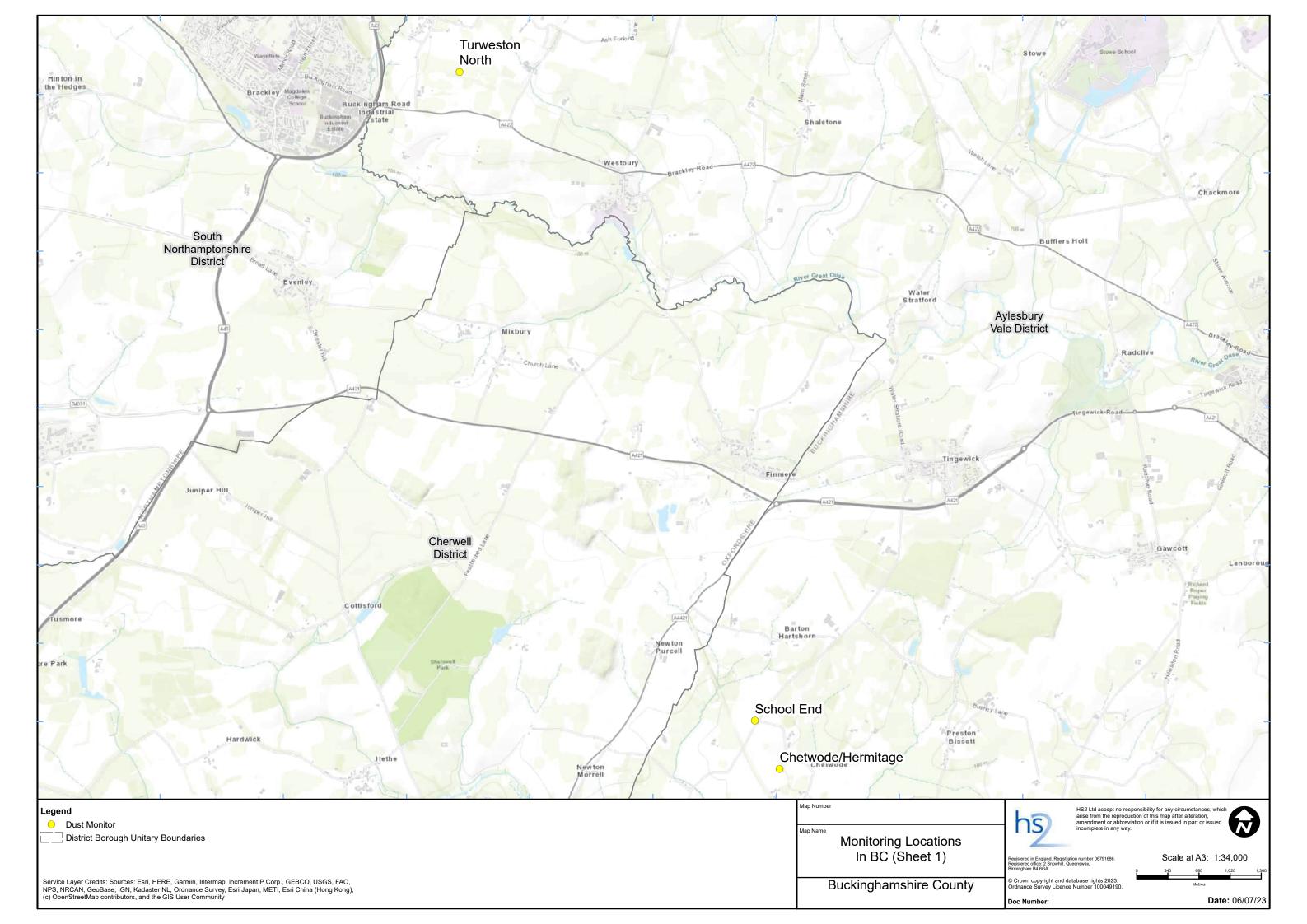
<u>General</u>

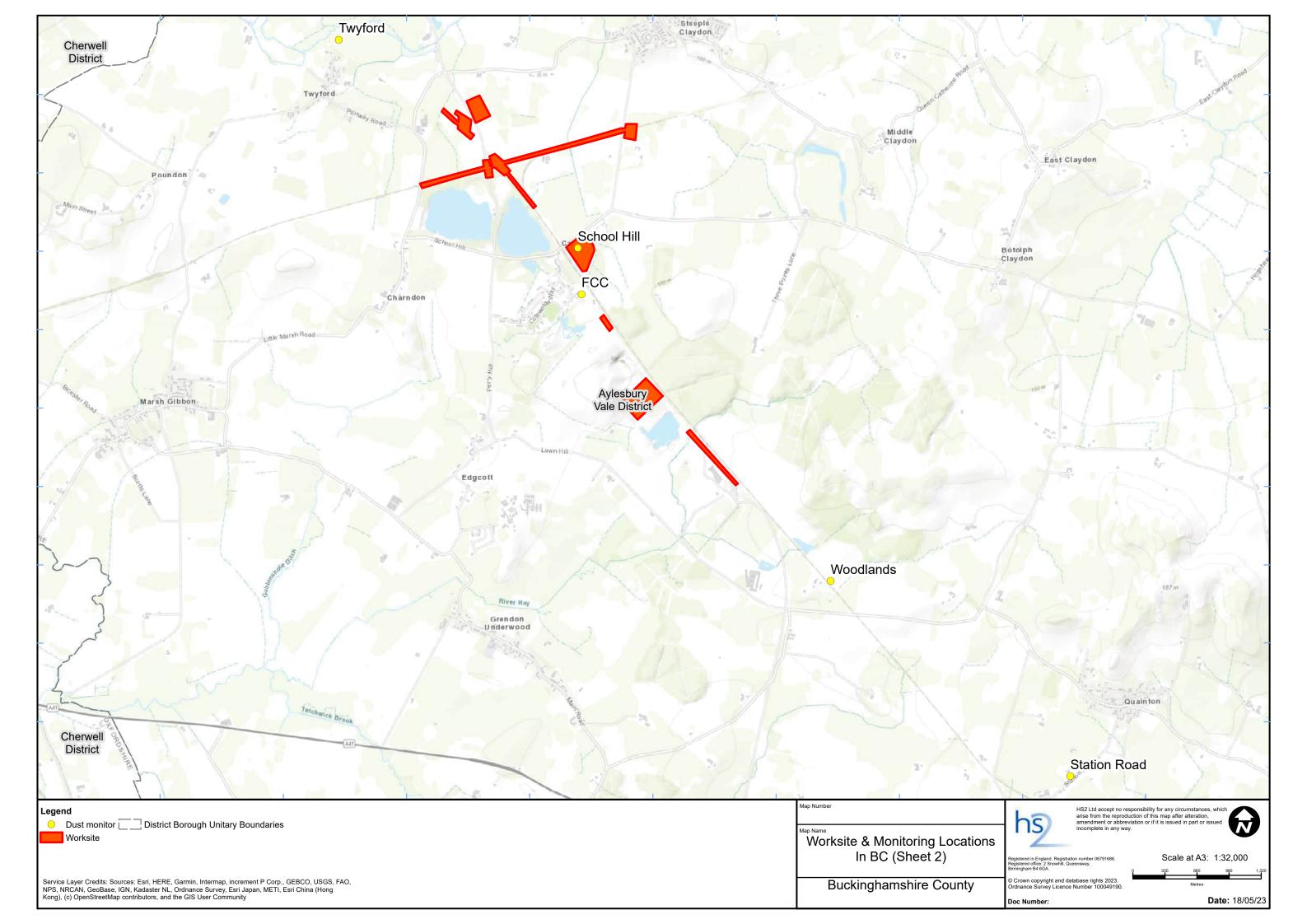
- Water management, Haul road maintenance, SAR maintenance.
- 1.1.5 Thirty-three (33) dust monitors are installed around these worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from each dust monitor presented in Figure 8. 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, measured as a 1-hour mean, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (December 2018)*' has been applied.
- 1.1.8 Details of the trigger alert investigations and remediations are presented in Appendix B, Table 2.
- 1.1.9 Data capture was below 90% for multiple monitors due to:
 - Grimms Ditch had intermittent data capture from 1st to 19th November due to fault with the power turbine and battery.
 - Chesham Lane, Wendover Bus 55, Nash Lee Road, Bacombe Lane, Grove Farm, School Hill, Woodlands, School End, Chetwode Hermitage and FCC had intermittent data capture due to battery faults throughout the month.
 - Ellesborough Road had intermittent data capture due to a PT10 issue followed by a battery fault throughout this month.
 - Nash Lee Lane had missing data from 3rd to 13th November due to a battery fault.
 - Small Dean Viaduct had very low data capture from 1st to 19th November due to a battery fault.
 - Wendover Town had no data capture from 6th to 11th November due to a battery fault.
 - Station Road dust monitor had no data captured from 1st to 18th November due to noise monitor retrieved for another location. New monitor installed on 18th November. No data from 18th to 21st November due to a synchronisation issue with the new monitor.

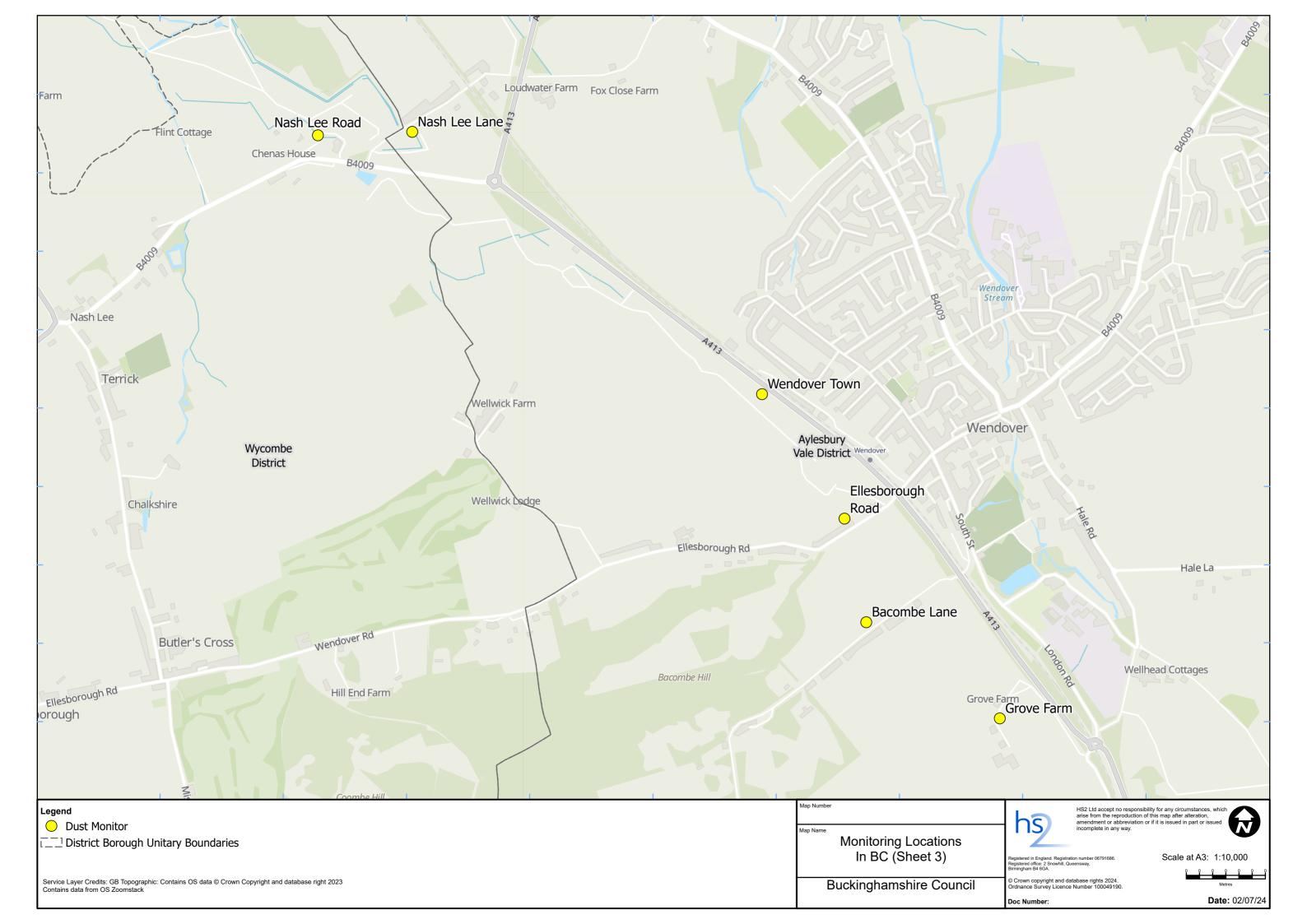
- Twyford had intermittent data capture from 1st to 25th November was due to a battery fault.
- Turweston North had very low data capture from 1st to 28th November due to a battery fault. Access to location was unsafe and difficult to replace batteries.
- The low data capture at CHStP-AQMP2 is due to the dust module becoming disconnected. This has been rectified.
- CHStG-AQMP1 has been disconnected from the power due to ongoing utilities work on the site. A return is still to be confirmed.
- NP-AQMP suffered a transmission failure, which has since been rectified.
- 1.1.10 There were no (0) complaints received during the reporting period (November 2024).

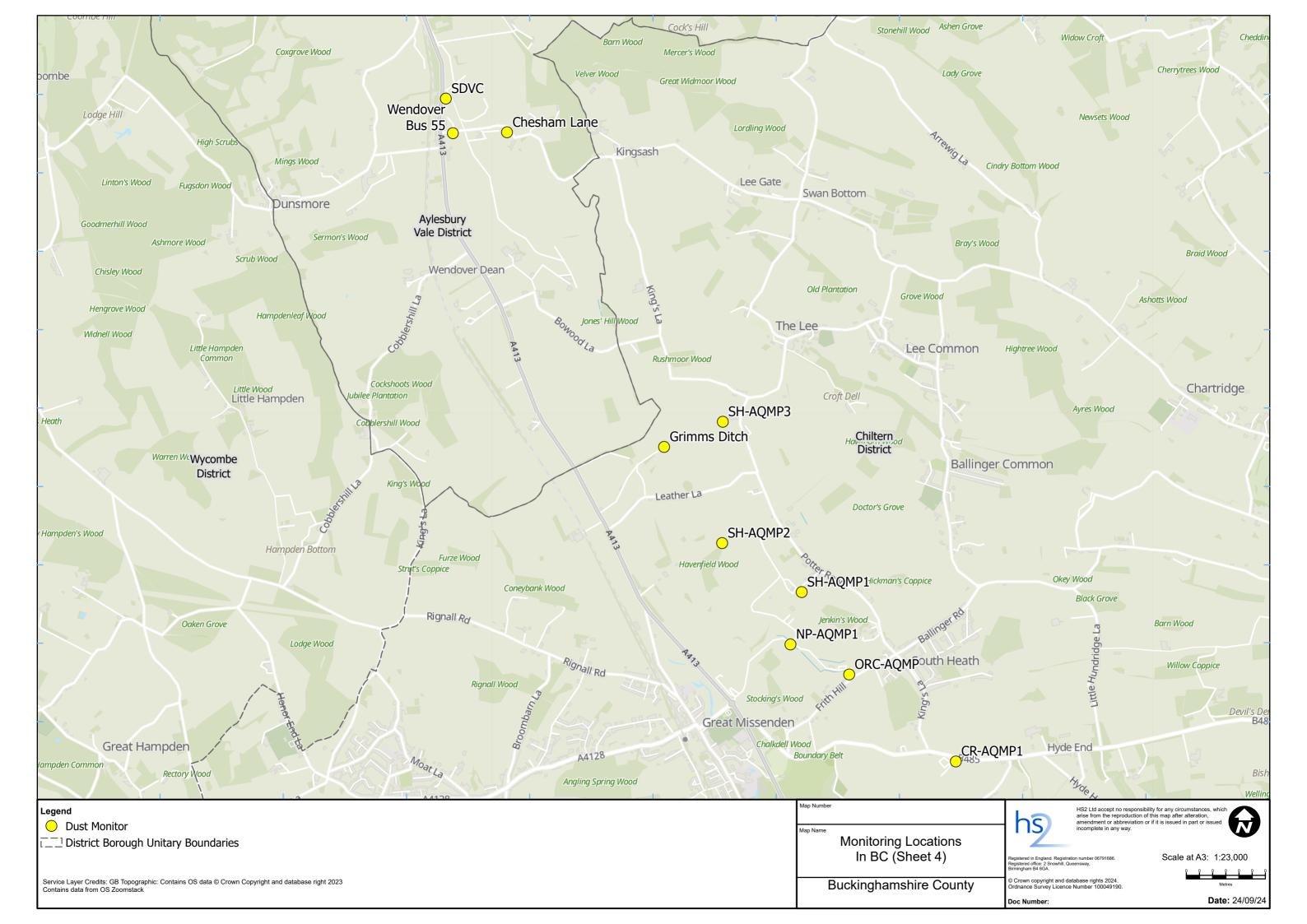
Appendix A – Worksite and Dust Monitoring Locations

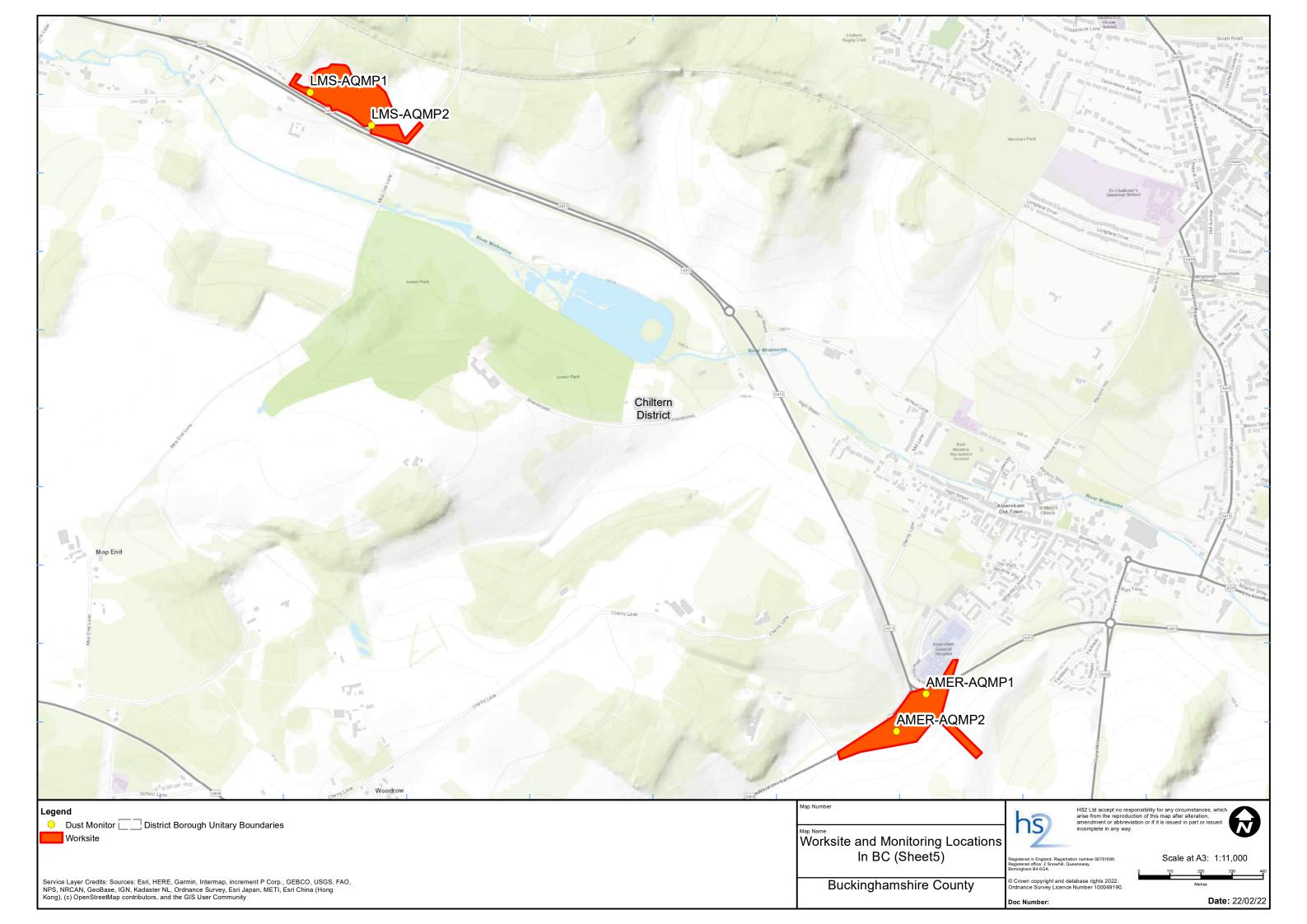
Figures 1-7: Worksite and Monitoring locations within BC

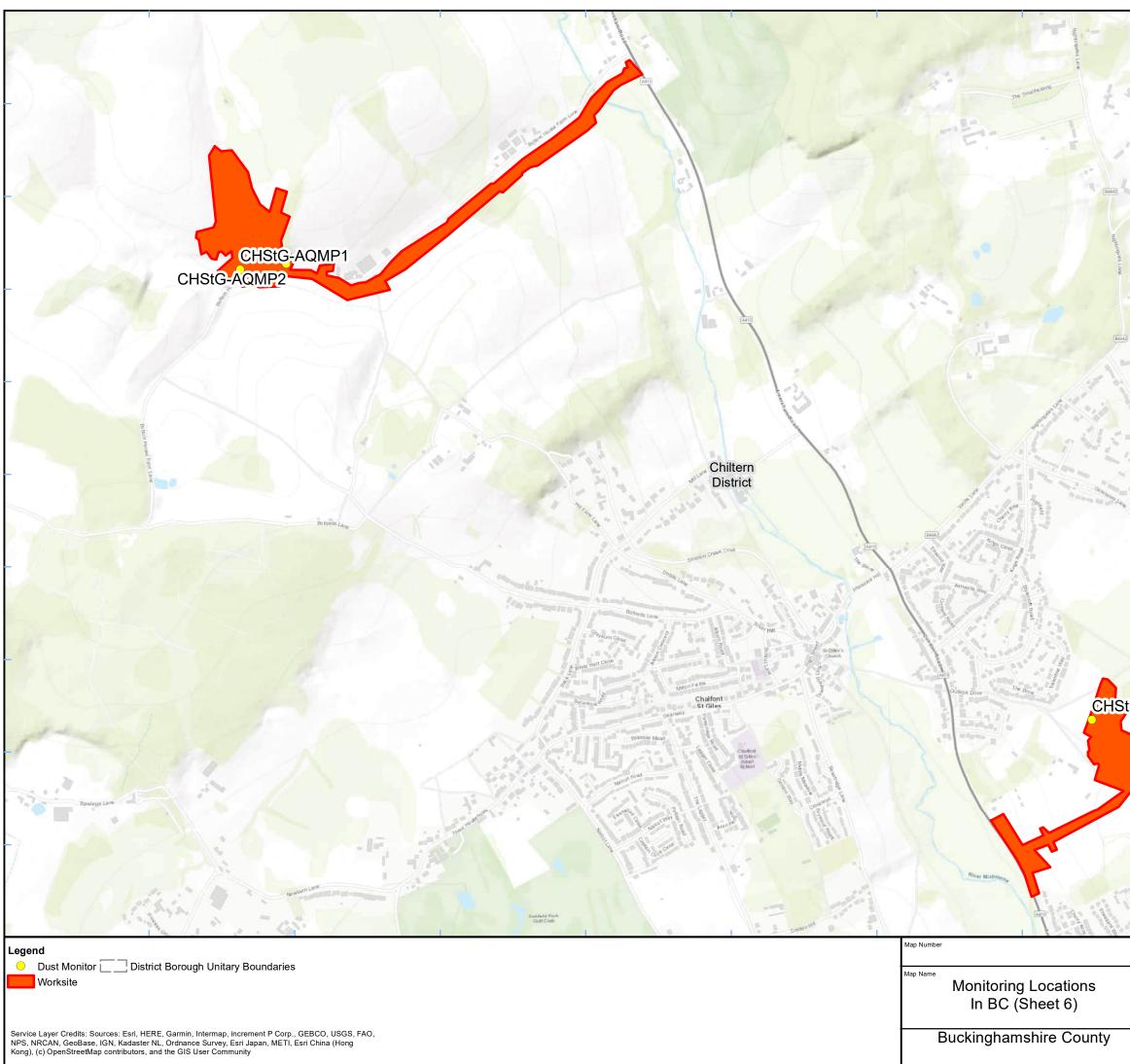




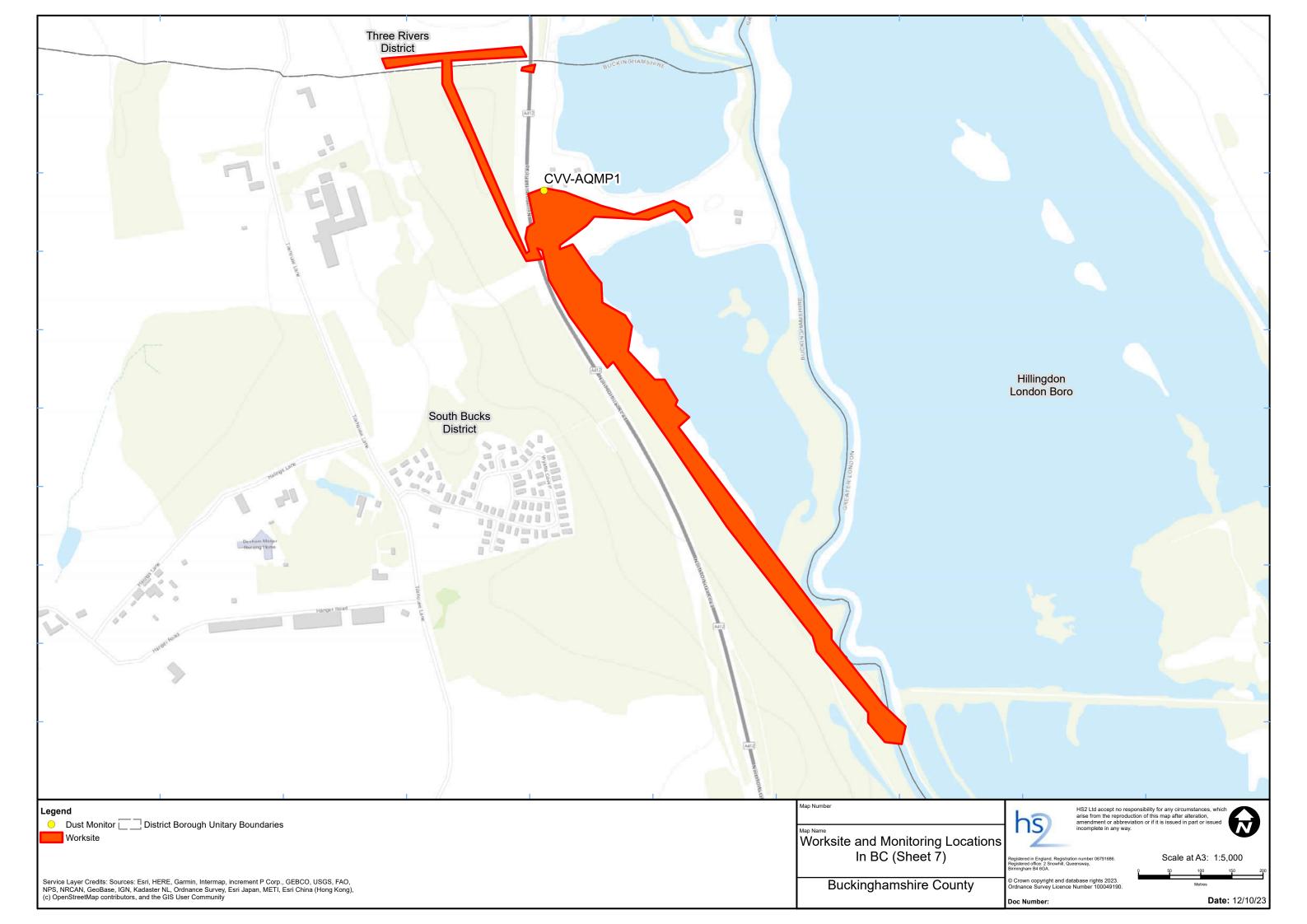








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Appendix B – Dust Monitoring Results

Table 1: Dust Monitoring Locations and 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/m ³	Data capture (%)
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	М	Yes	No	12.0	1.0	71.0	0	100.0
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	М	Yes	Yes	13.0	1.0	67.0	0	100.0
CHStP-AQMP2	499951, 193282	On the western boundary of the site	М	Yes	Yes	11.1	1.0	72.0	0	78.1
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	М	Yes	Yes	13.4	1.0	67.0	0	98.3
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	М	Yes	Yes	12.3	1.0	68.0	0	98.5
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	М	Yes	Yes	20.1	2.0	72.0	0	42.1
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	М	Yes	Yes	12.3	1.0	75.0	0	97.9
LMS-AQMP1	493190, 198848	On the south-west of the site	м	Yes	Yes	12.3	1.0	72.0	0	100.0
LMS-AQMP2	493407, 198731	On the south-east of the site	М	Yes	Yes	13.0	1.0	71.0	0	99.2
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	М	Yes	Yes	12.9	1.0	72.0	0	99.4

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ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Yes	10.7	1.0	68.0	0	100.0
NP-AQMP1	490069, 202008	North Portal Site Entrance	М	Yes	Yes	13.4	1.0	76.0	0	86.9
SH-AQMP1	490152, 202395	Park Farm	М	Yes	Yes	29.0	8.2	108.0	0	99.4
SH-AQMP2	489564, 202757	King's Lane	М	Yes	Yes	17.7	6.7	44.9	0	99.6
SH-AQMP3	489569, 203654	Leather Lane	М	Yes	Yes	34.6	7.7	131.5	0	99.4
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Yes	13.5	1.0	71.0	0	60.1
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Yes	12.7	1.0	894.0	1	67.9
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Yes	9.0	1.0	62.0	0	74.7
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Yes	7.9	1.0	45.0	0	40.3
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Yes	3.9	1.0	25.0	0	42.1
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Yes	9.9	1.0	454.0	2	50.4
Chetwode/Hermitage – Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Yes	7.6	1.0	69.0	0	72.8
Turweston North - Dust	460439 , 237140	Turweston, Buckinghamshire	М	Yes	Yes	13.9	1.0	55.0	0	22.6
FCC - Dust	469042 , 224263	Adjacent Red Kite View, Calvert	М	Yes	Yes	10.8	1.0	73.0	0	40.0
Ellesborough Road - Dust	486458 , 207550	Ellesborough Road, Wendover	М	Yes	Yes	12.3	2.0	55.0	0	24.0

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/m ³	Data capture (%)
Nash Lee Road - Dust	484766 , 208782	Nash Lee Lane (west)	М	Yes	Yes	12.6	1.0	78.0	0	74.7
Nash Lee Lane - Dust	485069 , 208793	Nash Lee Lane (east)	М	Yes	Yes	10.0	1.0	75.0	0	72.8
Bacombe Lane – Dust	486528 , 207217	Bacombe Lane, Wendover	М	Yes	Yes	15.5	1.0	79.0	0	70.0
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	М	Yes	Yes	9.0	1.0	54.0	0	52.5
Station Road – Dust	474068, 219307	Station Road, Quainton	М	Yes	Yes	6.9	1.0	35.0	0	28.3
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	М	Yes	Yes	10.1	1.0	59.0	0	74.9
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	М	Yes	Yes	10.3	1.0	81.0	0	59.7
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	М	Yes	Yes	13.7	1.0	82.0	0	45.8

Table 2: Summary of exceedances during period (November 2024)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
School End	25/11/2024 15:01 – 16:00; 894 μg/m³	False readings. No works occurred near the monitor at this time. The Southdowns daily checks on the 26 th confirm that the monitor has been sending out intermittent dust data resulting in false readings.	N/A
Twyford	16/11/2024 13:01 – 14:00; 413 μg/m³ 14:01 – 15:00; 454 μg/m³	Outside of working hours so exceedances are not to do with HS2 works.	N/A

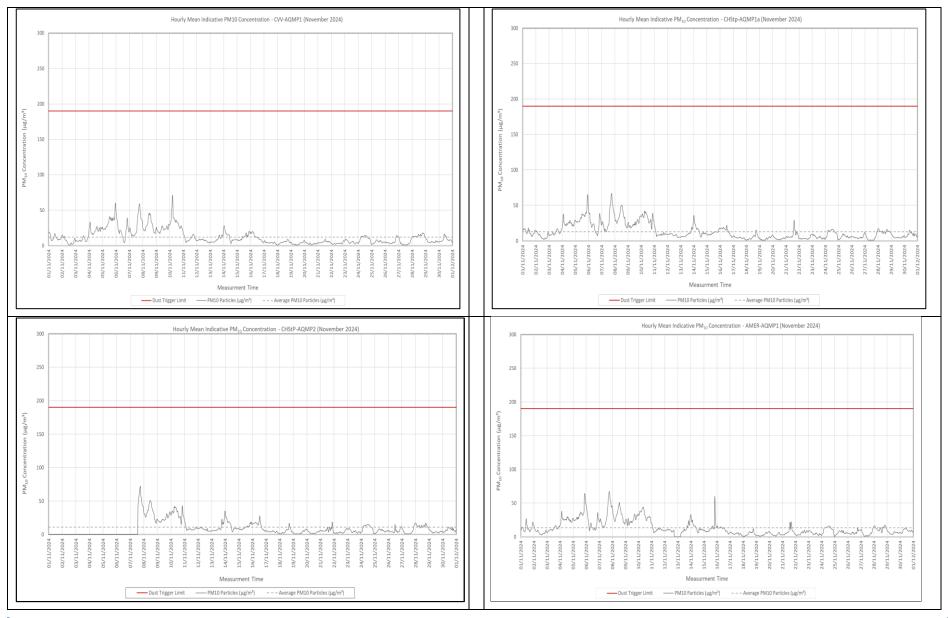


Figure 8: Continuous dust 1-hour mean indicative PM₁₀ concentration for all dust monitors

