August 2024

HS2

Air Quality and Dust Monitoring Monthly Report - August 2024 Buckinghamshire Council

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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 August 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-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 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;
- Ground Investigation works
- Pier Construction: arch from deck for FRC works for pile cap and pier, standard piers FRC works for pile cap and pier, post-tensioning of AFD legs and tower crane mob / demob;
- ATFS: site preparation, bulk earthworks fill, permanent drainage, soiling and seeding,
 ATFS access road construction;
- Pumping Water Management: pumping water management ch 25.900 to 29.500;
- Satellite Welfares;
- Generator Farms:
- South Abutment: earthworks, CFA piling, pile trimming and pile hat installation, FRC early works on SE and drainage works, South Abutment construction stage 2, South Abutment construction stage 2 earthworks, yard supporting activities, piling platform construction (Harvil Road) and load transfer platform construction (7-8), soiling and seeding works, embankment FRC works;
- Environmental Maintenance;
- Stockpiling Activity HOAC: stockpile of material coming from other sites;
- River Colne Crossing: Emergency removal of obstruction to RC crossing;
- Launching Girder and Deck Works: span segmental erection with launching gantry, shoring steel structure erection and dismantling, external PT, internal PT stressing & grouting and crane assembly/disassembly;
- 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: construction of robust kerbs, installation of parapets, construction of concrete stitch, filling of voids and top openings, verge deck waterproofing, trough installation and noise barrier installation;
- Deck Finishes In-deck Construction: diaphragm walls, concrete works within the deck, drainage works within the deck and steel works within the deck;
- 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;
- RC Footbridge installation; 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;
- Connection to Tunnels; and
- Building Trades: internal works including steel and zinc cladding.

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;
- Steel works and zinc cladding;
- Road Maintenance Works; and
- Building Trades: brickworks and internal works.

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:
- Ground Level Works: headhouse ATS concrete works and external works;
- Building Trades: External works; and
- Zinc and Cladding Works.

North Portal work site

- General Plant: Site Activities;
- Building Platform;
- Tracks Platform;
- Piling Platform Reinstatement: scraping/hardstanding/earthworks and dismantling piling platforms;
- Porous Portal Structure: Construct reinforced concrete frame and concrete works;
- TBM dismantling portal and compound works;
- North Portal Building; and
- Batching Plant installation & operation.

South Heath work site

- 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

Grimms Ditch

HERDS works/survey

Chesham Lane, Wendover Bus 55

- Construction of access ramp and geotextile installation (Rocky Lane Underbridge)
- Earthworks (hauling of material)

Ellesborough Road

- Earthworks (hauling of materials)
- Completion of Ellesborough Rd west substation following 1205T diversion
- Stoning and compacting of carpark and access area to new pond
- Stoning up and backfilling around newly installed welfare units

Nash Lee Road, Nash Lee Lane

- Earthworks (Stoke Mandeville south embankment excavate and replace).
- Backfilling of Nash Lee Orchard Culvert.
- Hauling of material across to AA.
- Construction of pile cap blinding Nash Lee overbridge East Abutment.
- Excavation around pile cap to reach formation for blinding, Pile cropping Nash Lee overbridge West Abutment.
- Construction of pile cap blinding, Nash Lee overbridge West Abutment.
- Pre-grouting and Piling for Nash Lee overbridge pier piles
- De-vegetation works across works area
- Dewatering across site
- Topsoil strip of material laydown area.

Bacombe Lane

- Earthworks (dig for shaft 2 Grove Farm Culvert).
- Earthworks (Hauling of materials)
- Topsoil strip and installation of 6f5 for access road widening
- Bacombe Lane surface water management excavate and install 3no. Length of pipes
- De-vegetation across site.

Grove Farm

- Site access road widening
- SDNE ground investigation works rotary drilling
- De-vegetation across site.

Small Dean Viaduct

- Earthworks (movement of material across conveyor).
- Completion of A413 phase 2 diversion
- Installation of the P2 piling platform and protection slabs
- Installation and welding of viaduct Fins
- Installation of A0 steel
- Blinding of A0
- Delivery of precast Viaduct slabs.

Wendover Town

- Earthworks (excavation of chalk under Ellesborough Rd bridge).
- Diversion and stoning up of Folly Bridge.
- Pre-grouting for Slurry Wall
- Installation of Slurry Wall
- Installation of Slurry Wall platform South.

Calvert Area

Quainton

- Earthworks Ongoing
- Platform for storage Completed
- Carpark extension Ongoing.

Woodlands

- 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.

Twyford to Greatworth

Chetwode Cutting

• Installation of drainage layer along batters.

School End O/B

- Steel fixing at wingwalls and abutments.
- Formwork
- Mobilisation of crawler crane.
- Lifting of middle deck paratops.
- General site maintenance including reorganisation of material laydown area, skips etc.

CHW18 O/B

- Steel fixing.
- Formwork
- General lifting.
- Site maintenance.

Padbury Brook WC Diversion

- Pump mobilisation,
- Overpumping of existing watercourse
- Bulk dig and placement of 6C layer.

Cowley Embankment

- CSS surcharge placement
- Lime stabilisation.

Twyford Embankment

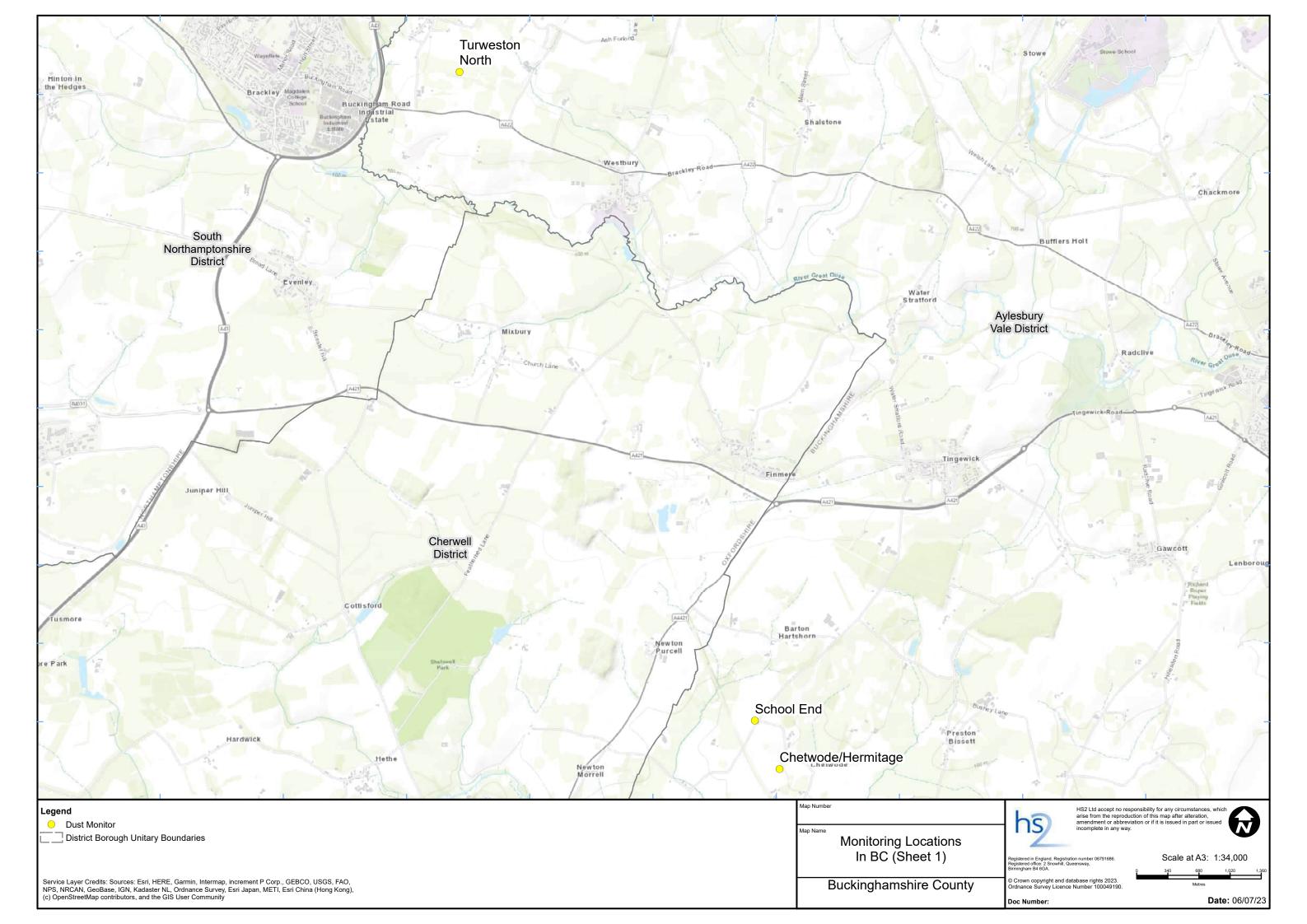
- Compaction of 6C,
- CSS lime stabilisation.
- Deveg of landscape bund.

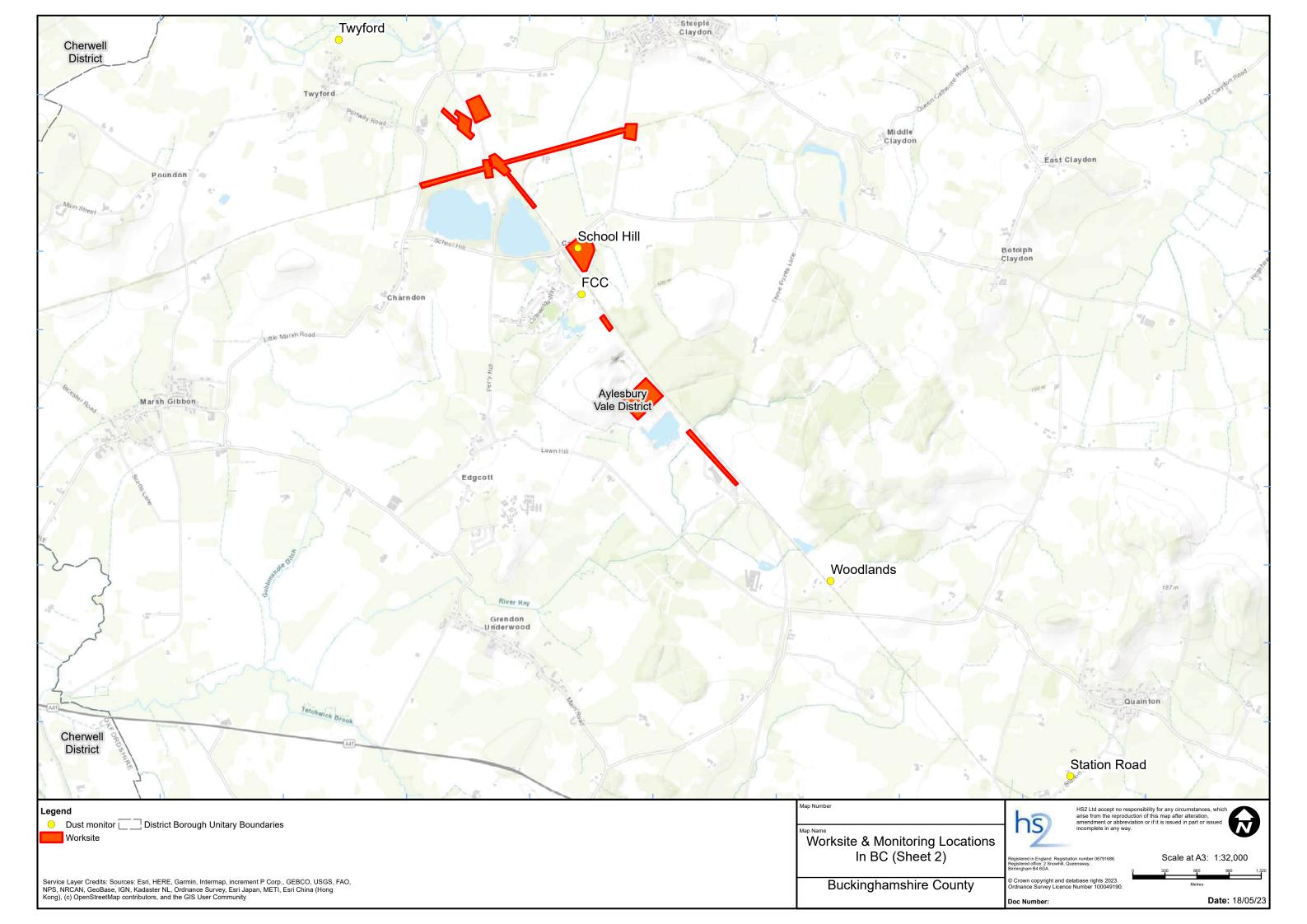
General

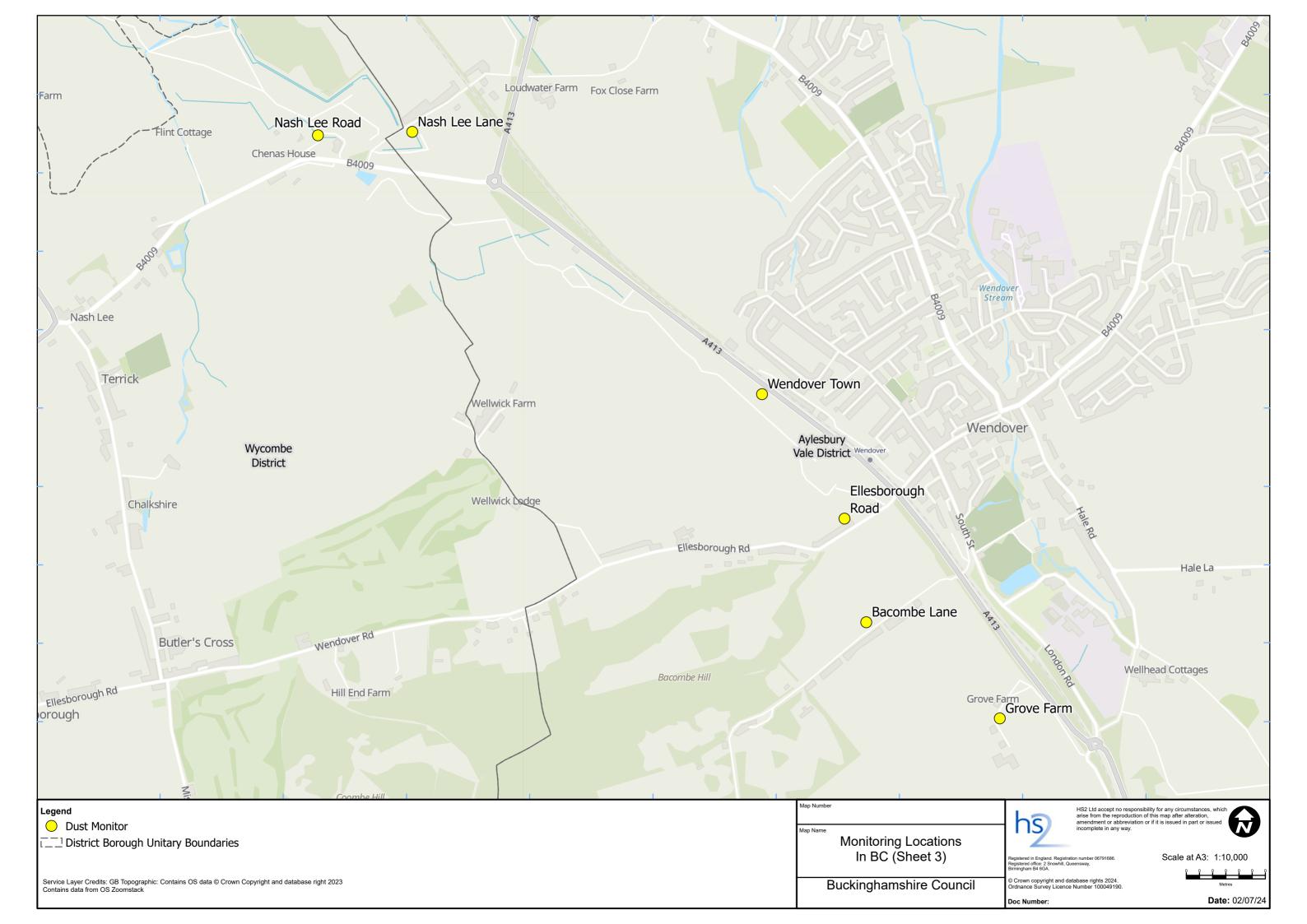
- MHR realignment over Twyford East Culvert.
- 1.1.5 Thirty-three (33) dust monitors are installed around these worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts 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 PM_{10} concentrations of 190 μ g/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 No (0) dust trigger alerts were recorded during the monitoring period (August 2024).
- 1.1.9 Data capture was below 90% for multiple monitors due to:
 - Wendover Bus 55 had configuration issues with the monitor from 16th to 19th August. This has since been resolved.
 - FCC dust monitor had a vandalised power and communications cable on 11th July. This has since been resolved.
 - School End had a blown PT10 controller on 30th August. Due to this occurring near the end of the month the data capture for August did not fall below 90%.
 - Twyford monitor was reinstalled on 8th August following repairs for damaged microphone on the noise monitor. The dust monitor is powered by the noise monitor.
 - South Heath monitors (SH-AQMP1, SH-AQMP2 & SH-AQMP3) were commissioned part-way through the month. Any sporadic loss of data can be attributed to technical issues and/or loss of power due to insufficient sunlight/wind for monitors using solar/wind power.
- 1.1.10 There were no (0) complaints received during the reporting period (August 2024).

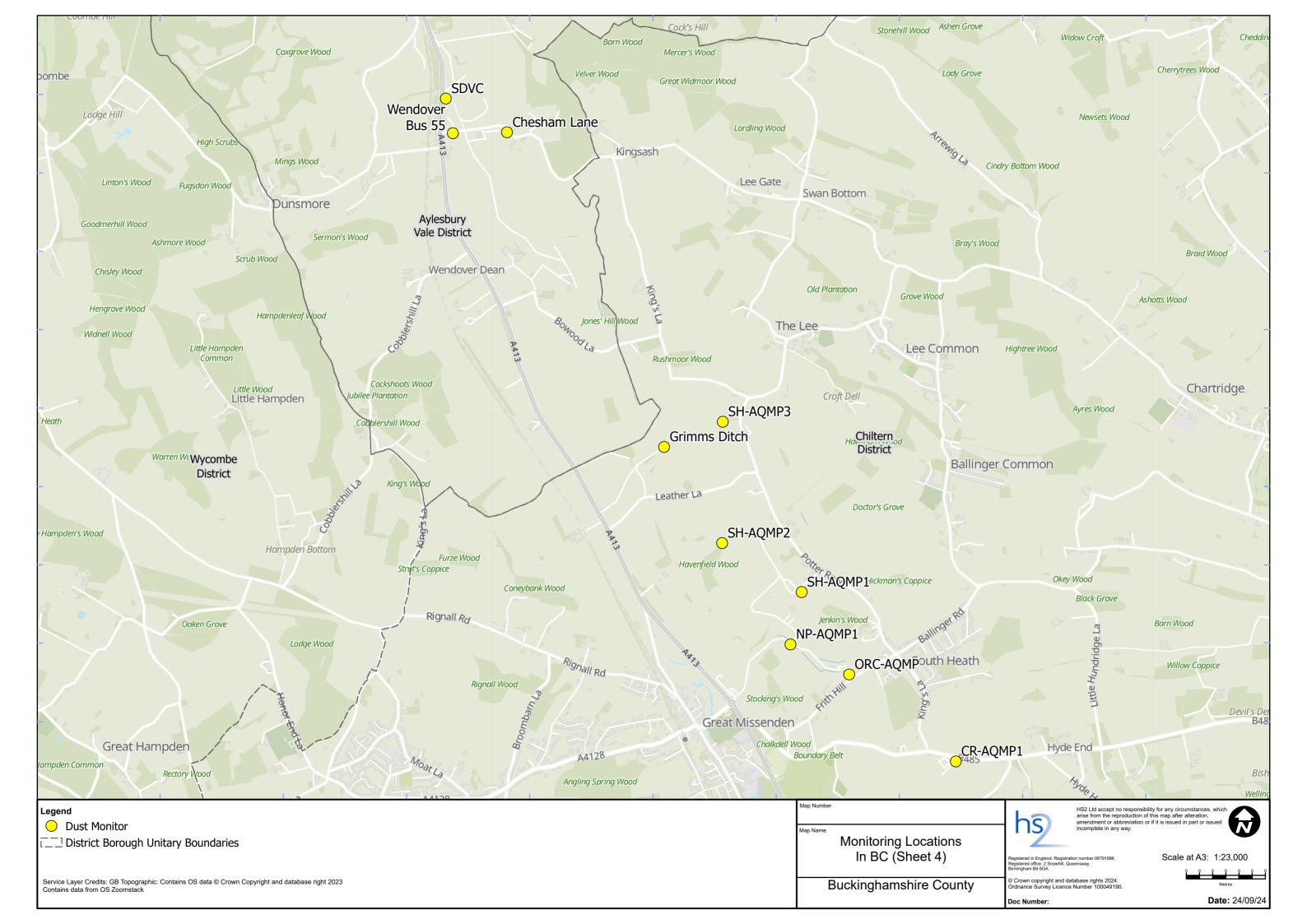
Appendix A - Worksite and Dust Monitoring Locations

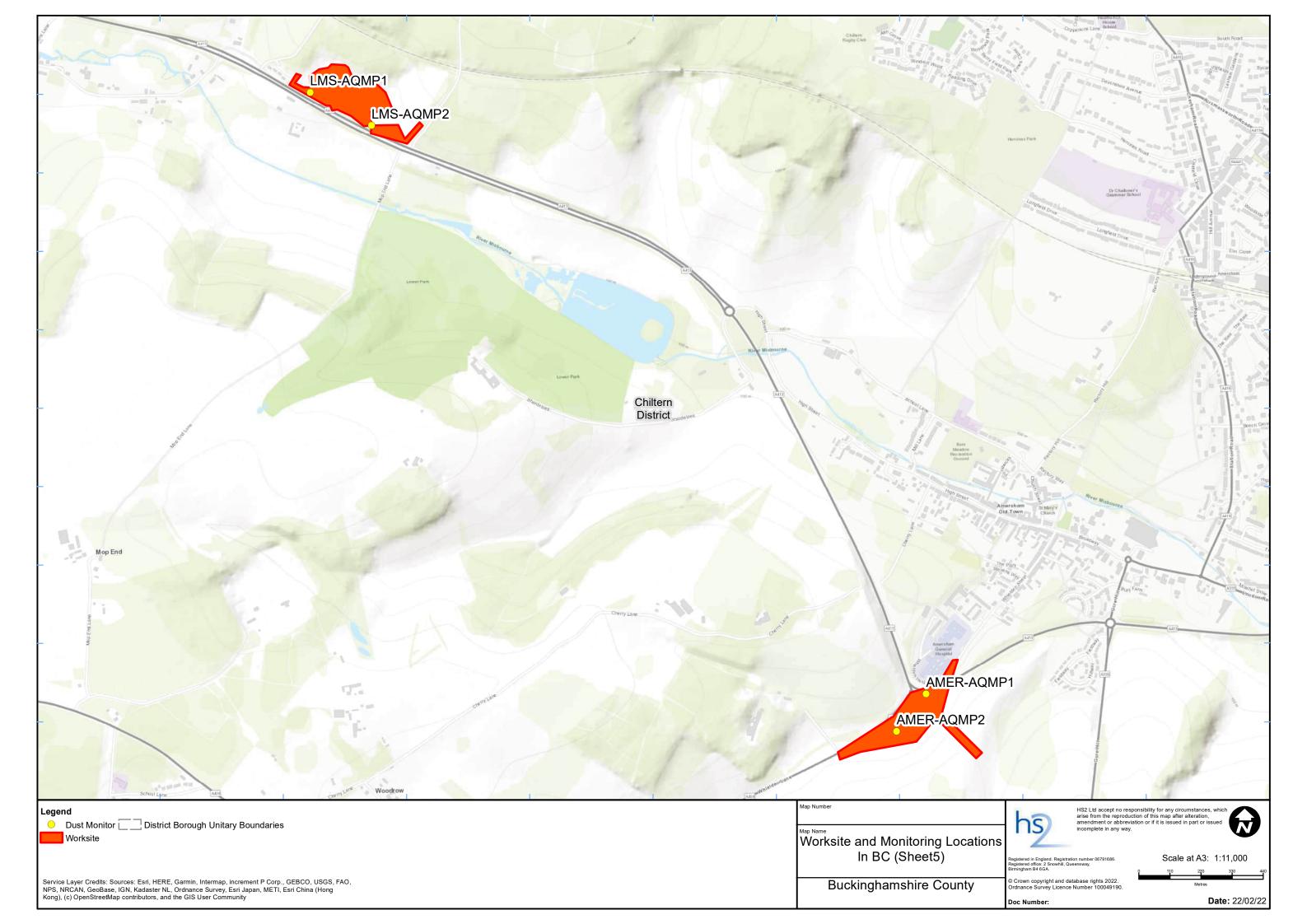
Figures 1-7: Worksite and Monitoring locations within BC

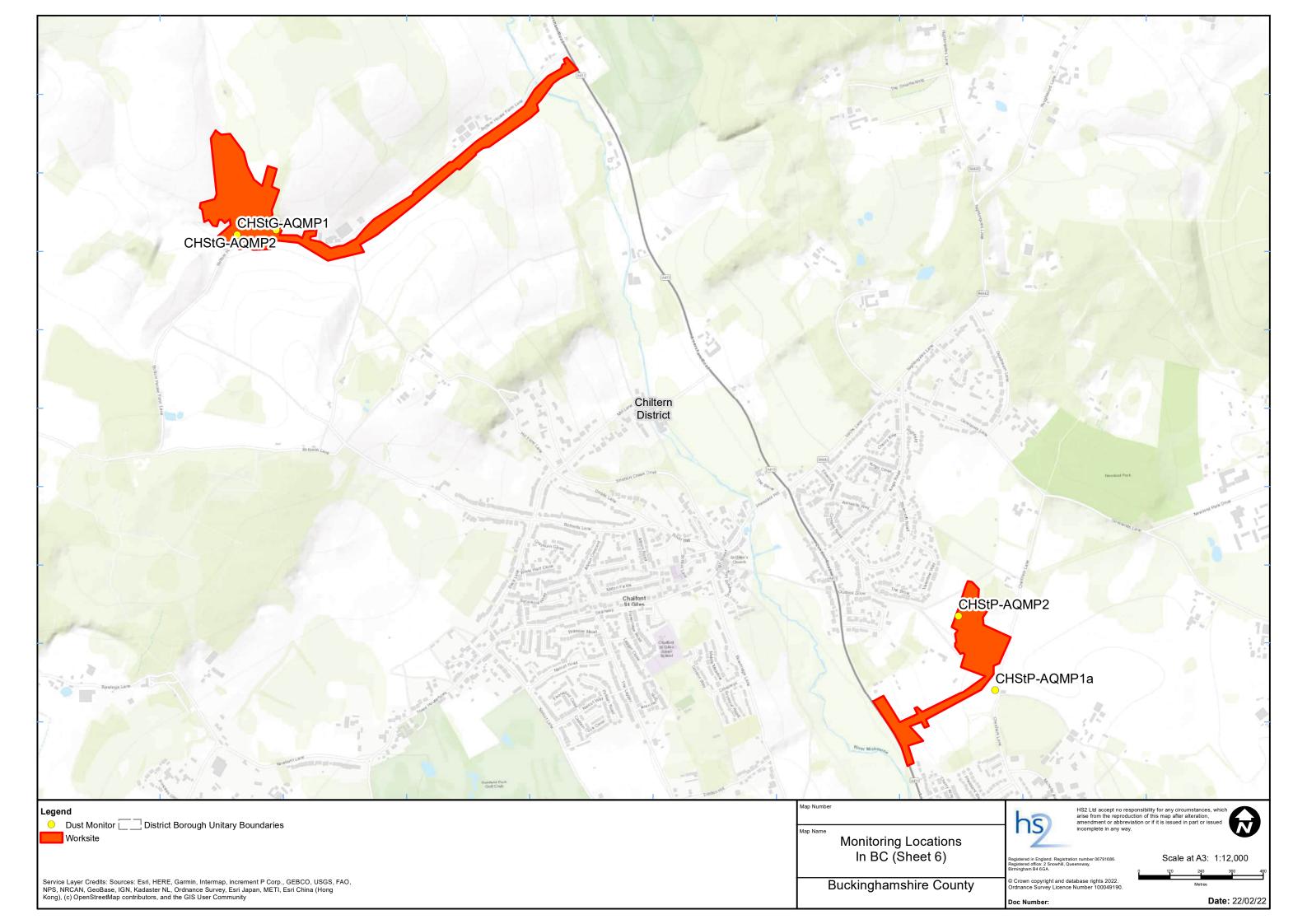


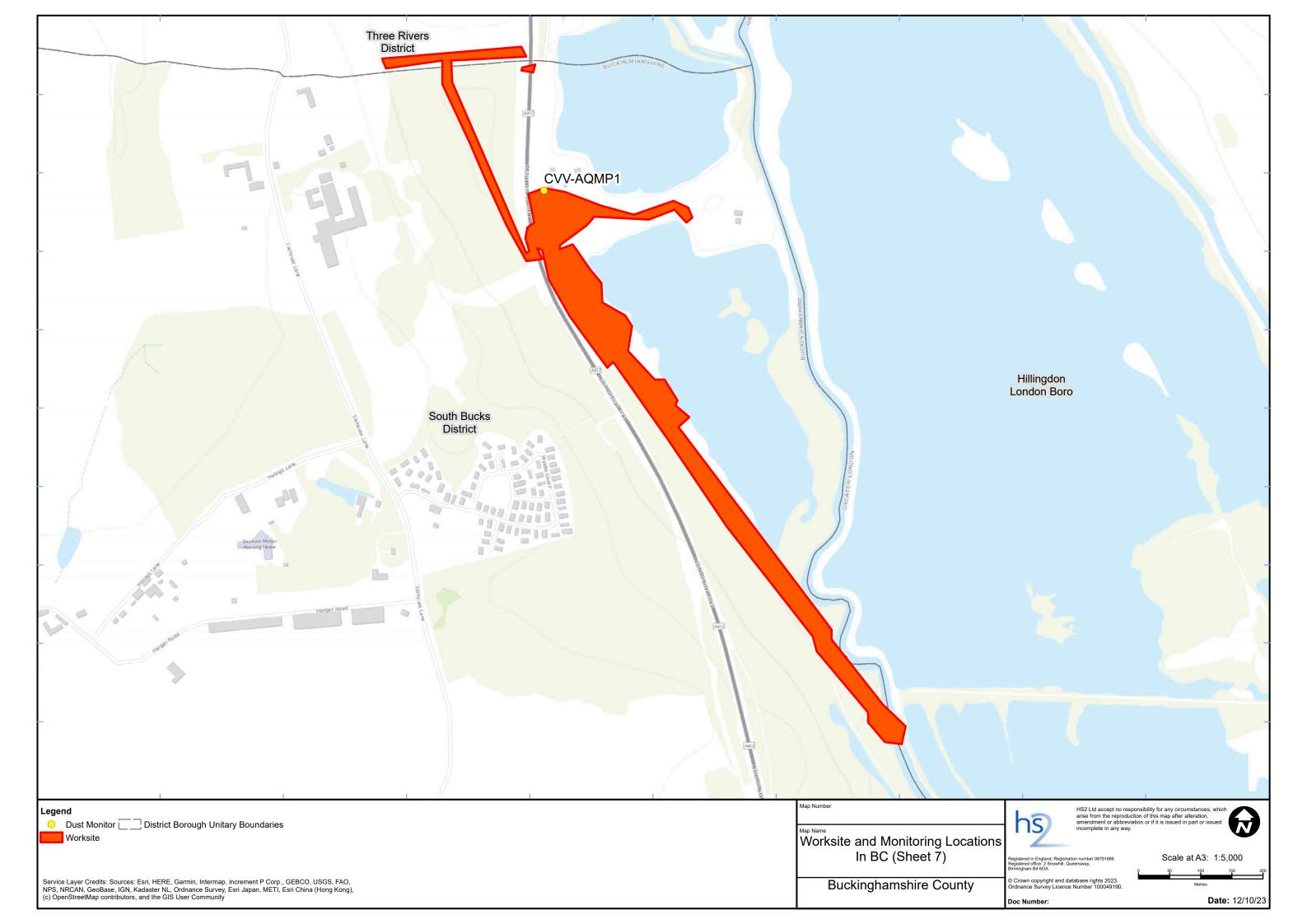












Appendix B - Dust Monitoring Results

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/m³	Data capture (%)
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	М	Yes	No	5.6	1.0	66.0	0	99.6
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	М	Yes	Yes	6.3	1.0	41.0	0	100.0
CHStP-AQMP2	499951, 193282	On the western boundary of the site	М	Yes	Yes	6.8	1.0	45.0	0	100.0
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	М	Yes	Yes	7.9	1.0	60.0	0	98.1
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	М	Yes	Yes	7.1	1.0	56.0	0	97.8
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	М	Yes	Yes	5.6	1.0	43.0	0	100.0
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	М	Yes	Yes	6.3	1.0	44.0	0	98.3
LMS-AQMP1	493190, 198848	On the south-west of the site	М	Yes	Yes	7.1	1.0	65.0	0	99.9
LMS-AQMP2	493407, 198731	On the south-east of the site	М	Yes	Yes	6.0	1.0	49.0	0	96.6
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	М	Yes	Yes	6.5	1.0	43.0	0	91.1

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 (%)
ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Yes	5.9	1.0	52.0	0	99.6
NP-AQMP1	490069, 202008	North Portal Site Entrance	М	Yes	Yes	7.6	1.0	48.0	0	100.0
SH-AQMP1	490152, 202395	Park Farm	М	Yes	Yes	16.3	8.4	53.9	0	87.0
SH-AQMP2	489564, 202757	King's Lane	М	Yes	Yes	16.5	7.1	52.0	0	87.0
SH-AQMP3	489569, 203654	Leather Lane	М	Yes	Yes	16.4	7.4	51.9	0	87.0
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Yes	7.8	1.0	46.0	0	100.0
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Yes	8.4	1.0	55.0	0	94.8
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Yes	5.5	1.0	36.0	0	100.0
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Yes	7.6	1.0	56.0	0	100.0
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Yes	2.9	1.0	21.0	0	89.5
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Yes	8.8	1.0	139.0	0	75.1
Chetwode/Hermitage - Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Yes	8.5	1.0	52.0	0	100.0
Turweston North - Dust	460439 , 237140	Turweston, Buckinghamshire	М	Yes	Yes	6.3	1.0	43.0	0	98.8
FCC - Dust	469042 , 224263	Adjacent Red Kite View, Calvert	М	Yes	Yes	6.5	1.0	26.0	0	33.2
Ellesborough Road - Dust	486458 , 207550	Ellesborough Road, Wendover	М	Yes	Yes	7.6	1.0	55.0	0	99.7

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 (%)
Nash Lee Road - Dust	484766 , 208782	Nash Lee Lane (west)	М	Yes	Yes	8.4	1.0	48.0	0	100.0
Nash Lee Lane - Dust	485069 , 208793	Nash Lee Lane (east)	М	Yes	Yes	8.4	1.0	50.0	0	100.0
Bacombe Lane – Dust	486528 , 207217	Bacombe Lane, Wendover	М	Yes	Yes	8.6	1.0	58.0	0	100.0
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	М	Yes	Yes	7.7	1.0	62.0	0	100.0
Station Road – Dust	474068, 219307	Station Road, Quainton	М	Yes	Yes	7.7	1.0	47.0	0	100.0
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	М	Yes	Yes	8.1	1.0	57.0	0	100.0
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	М	Yes	Yes	8.3	1.0	79.0	0	100.0
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	М	Yes	Yes	8.4	1.0	59.0	0	99.9

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

