

May 2024

# Air Quality and Dust Monitoring Monthly Report – May 2024 Buckinghamshire Council

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A report prepared by EWCs and MWCCs on behalf of HS<sub>2</sub> 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 May 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 <a href="https://www.gov.uk/government/collections/monitoring-the-environmentaleffects-of-hs2">www.gov.uk/government/collections/monitoring-the-environmentaleffects-of-hs2</a>, 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, 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; and
- RC Footbridge installation;
- 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;
- Headhouse Superstructure Concrete Works;
- Phase 1 of external works; and

• Both internal and external Building Trades.

## **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.

## North Chilterns Area

#### Potters Row, Grimms Ditch

- Earthworks (movement of materials).
- Use of SAR

## Chesham Lane, Wendover Bus 55

- Excavation for abutment base slab RLUB
- Excavation for East wing wall and tie slab RLUB
- Compound Maintenance, Surface Water Management.

## Ellesborough Road

- Utilities protection slab construction
- Works on substation and water mains installation
- Vegetation clearance
- Ellesborough Road white lining.

## Nash Lee Road, Nash Lee Lane

- Stoke Brook Diversion 2B: Excavation of clean ditch and turbid ditch.
- UKPN 1207/Stoke brook 2C Diversion completed
- Nash Lee Orchard:
  - Completed all 17 box installations
  - Internal and external waterproofing
  - Base slab pour completed both inlet and outlet

- Rebar for Outlet Headwall completed
- Started rebar erection for inlet
- Backfilling of Mill House North Culvert up to top of boxes

#### <u>Bacombe Lane</u>

- Installation of Kerbs
- Installation of Fence
- Trimming of Farmers Access
- Stoning of Bridleway and Access Road
- Deveg of bush and tree
- Sheath Test Completed by Clancy on 33kv cables

#### <u>Grove Farm</u>

- Stabilization of Haul Road
- Moving of Stockpiles / Stockpile Management
- Access Road Construction near Bacombe Lane

#### Small Dean Viaduct

- Hammerhead pours
- Pier plinths
- Scaffold removal
- Duct and chamber installation for the compound
- Welding of diaphragms, installation of fins, moving of welding shelter and roofs
- Excavation of A7 pile cap
- Stockpile movement

#### Wendover Town

- Mogford Farm Fence installation and water connection
- Construction new NVAQ monitoring station.
- SAR/MHR maintenance
- Extension of site carpark

#### **Calvert Area**

#### Station Road (Quainton)

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

#### Woodlands Farm (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. Piling ongoing.
- Calvert Green overbridge piling works and Production of bentonite.
- Aggregate deliveries along the site access road (SAR).
- Calvert Cutting earthworks drainage and general maintenance activities.

## 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

## Twyford to Greatworth

## Turweston North

- I&M works- soil engineering
- Stabilising works
- Turweston cutting excavation
- Hauling activities
- Turweston Viaduct Construction
- Turweston Green Overbridge Construction

## <u>Twyford</u>

- Stockpiling, maintenance of stockpiles, transfer of materials.
- SAR and MHR use and maintenance.
- Cowley Excavate and Replace
- Use of alternative access to Twyford via old railways cutting.
- Padbury Brook Watercourse Diversion 1: bulk excavation, structural backfill and compaction.

## <u>Hermitage</u>

- CHW18 Overbridge: Steel structure lifting and assembly.
- Chetwode Cutting: Bulk excavation of cutting.
- Stockpiling, maintenance of stockpiles, transfer of materials.
- SAR and MHR use and maintenance
- Chetwode Embankment: Excavate and replace (1a1).
- Topsoil stripping
- CHW18 utilities/ highways: Green Highway realignment
- Placement of sheet piles on ground.

## <u>School End</u>

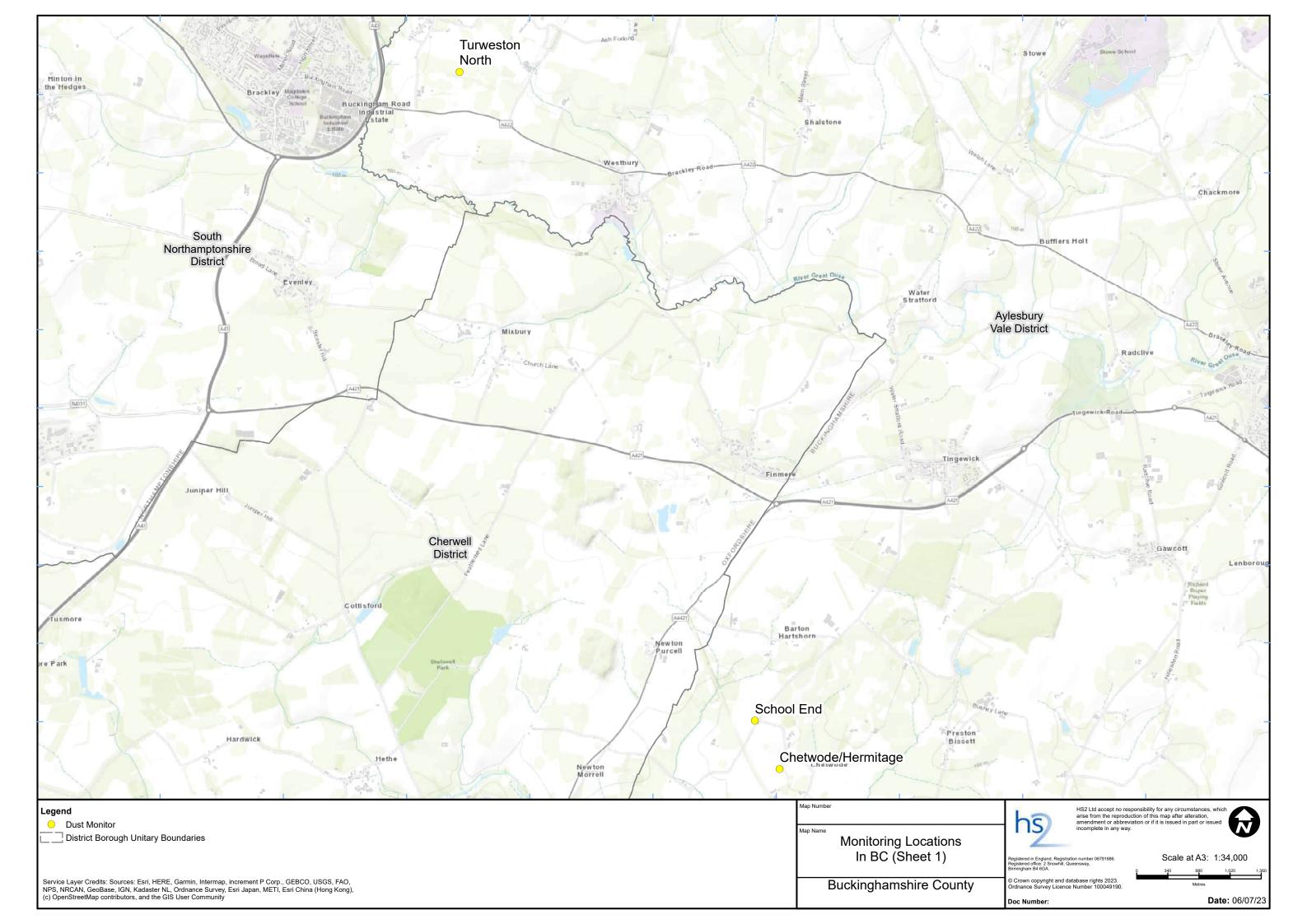
- School End Overbridge: Steel structure lifting and assembly.
- Chetwode Cutting: Bulk excavation of cutting.
- Stockpiling, maintenance of stockpiles, transfer of materials.
- SAR and MHR use and maintenance
- Lifting of sheet pilings and placement of sheet piles to another area.
- School end utilities/ highways welfare mobilisation
- 1.1.5 Thirty-two (32) 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

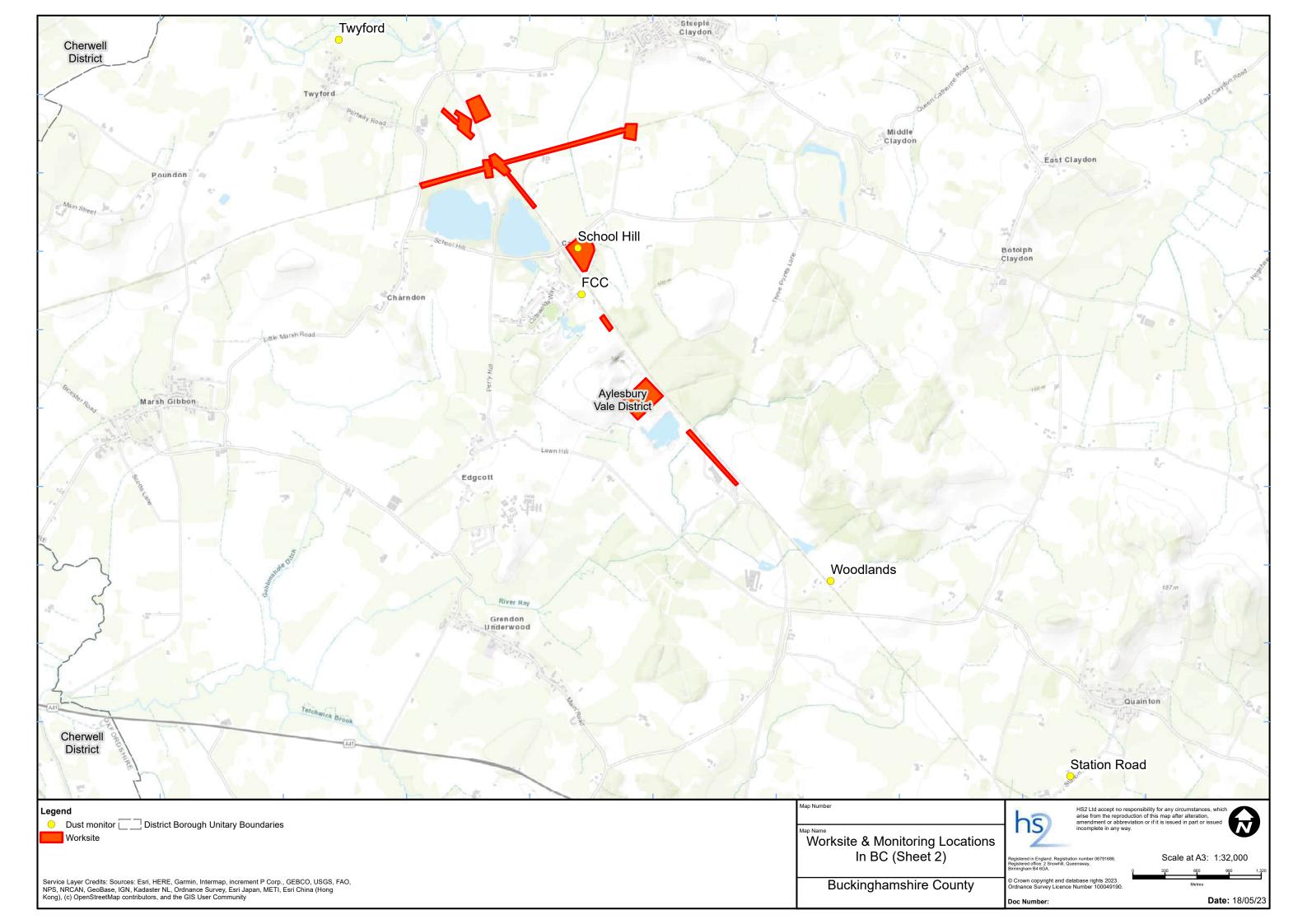
for human health and the environment. The purpose of the monitoring undertaken is to ensure the effectiveness of the on-site mitigation.

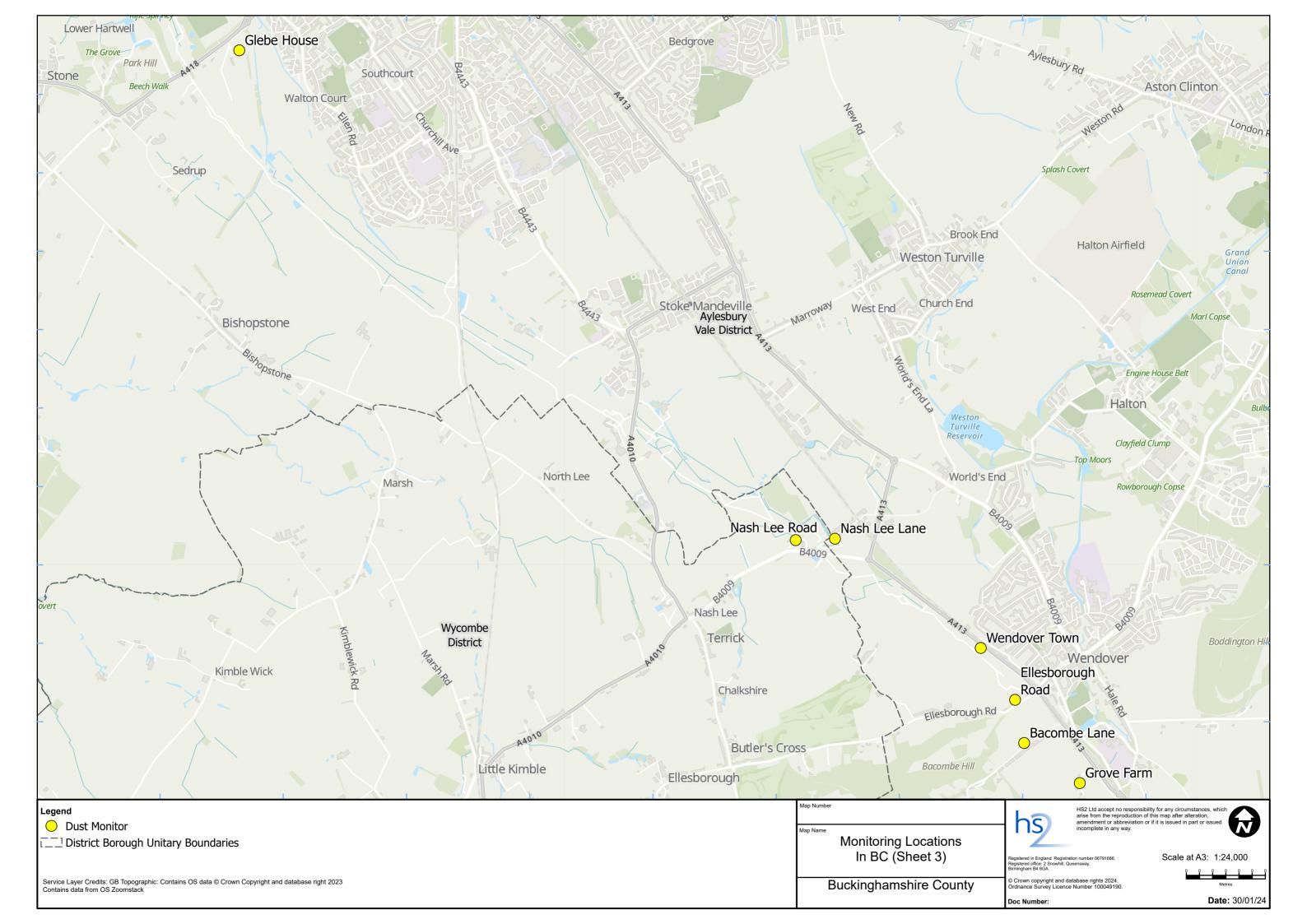
- 1.1.7 The trigger level for PM<sub>10</sub> concentrations of 190 μg/m<sup>3</sup>, measured as a 1-hour mean, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (December 2018)*' has been applied.
- 1.1.8 Details of the trigger alert investigations and remediations are presented in Appendix B, Table 2.
- 1.1.9 Data capture was below 90% for multiple monitors:
  - Nash Lee Road was likely due to a blockage within the airflow of the monitor. Monitor retrieved for investigation and repair. New dust monitor installed on 17th May 2024.
  - Low data capture for Nash Lee Lane was due to battery fault. Battery was swapped on 8th May 2024.
  - Low data capture for Small Dean Viaduct was due to the noise monitor being retrieved for repair on 8th May 2024 due to a faulty microphone. The dust monitor is powered by the noise monitor. Noise monitor was re-installed on 17th May 2024.
  - Low data capture at Twyford was due to noise monitor retrieved for repair due to SD card error on 17th April 2024. Noise monitor was reinstalled on 16th May 2024. The dust monitor is powered by the noise monitor.
  - Low data capture for Turweston North was due faulty battery cable and battery fault. A new battery and cable were installed on 30th May 2024.
  - Low data for Glebe House was due to the turbine, solar controller and battery being stolen on 25th May 2024.
- 1.1.10 There were no (0) complaints received during the reporting period (May 2024).

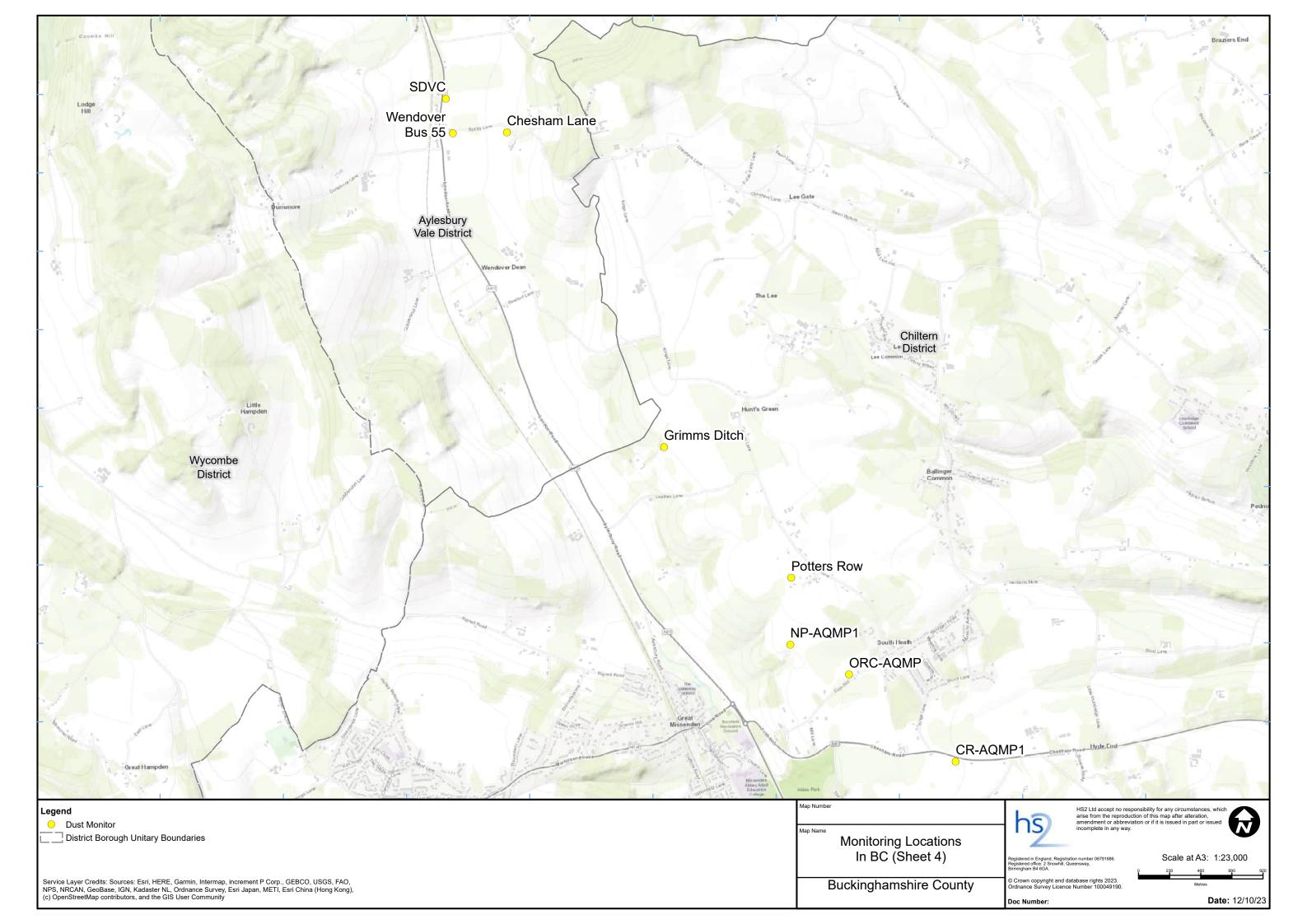
## **Appendix A – Worksite and Dust Monitoring Locations**

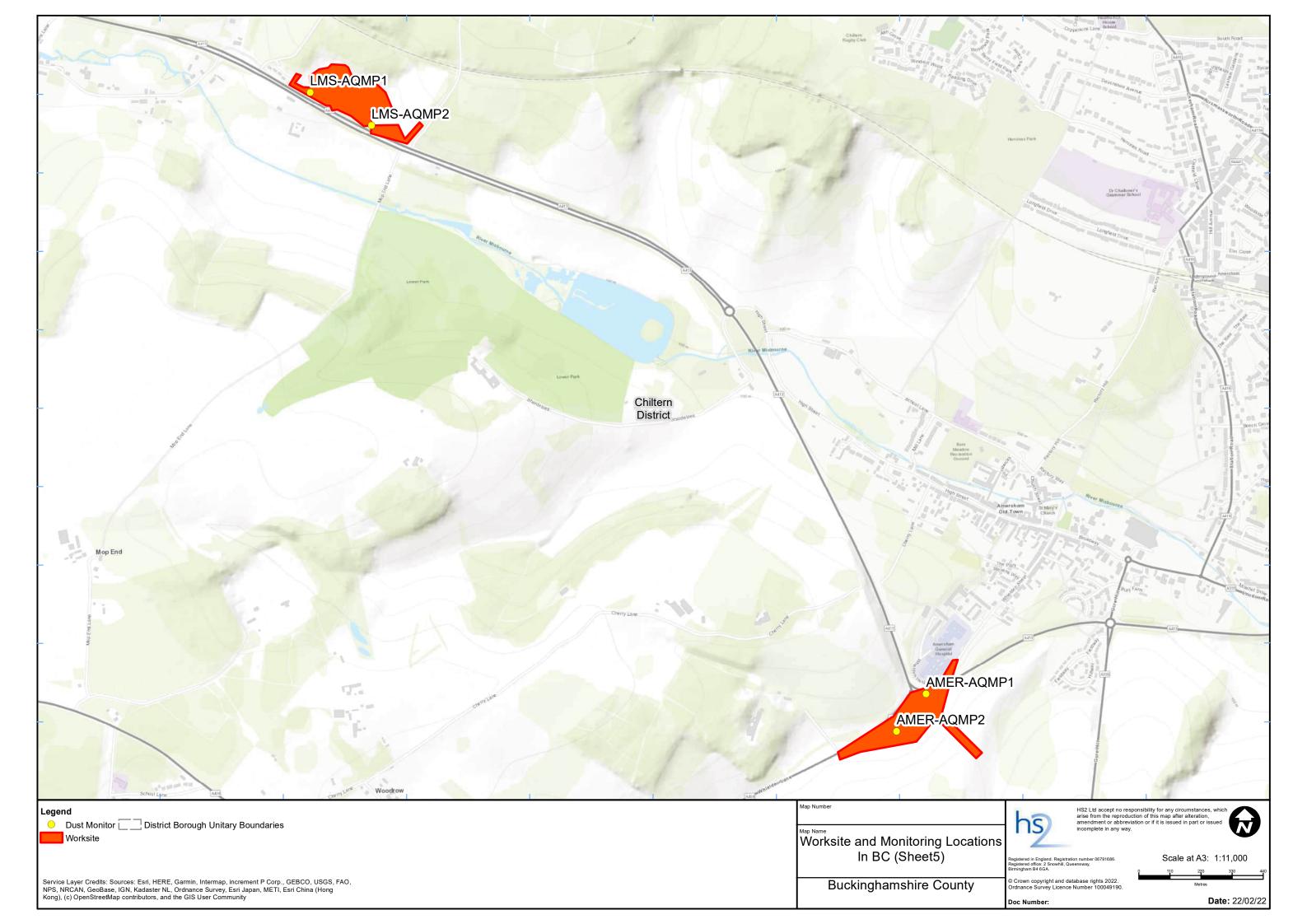
Figures 1-7: Worksite and Monitoring locations within BC

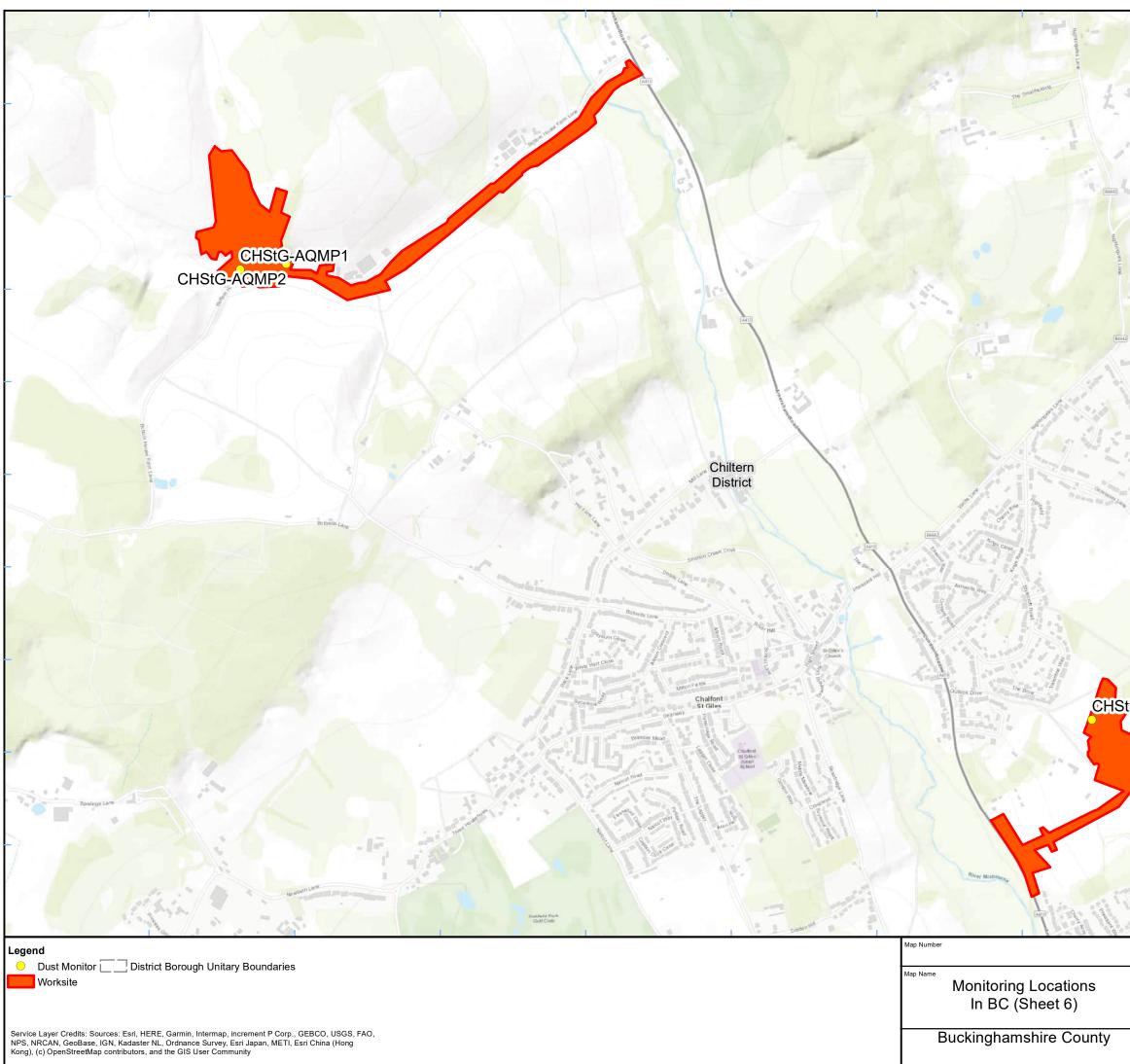




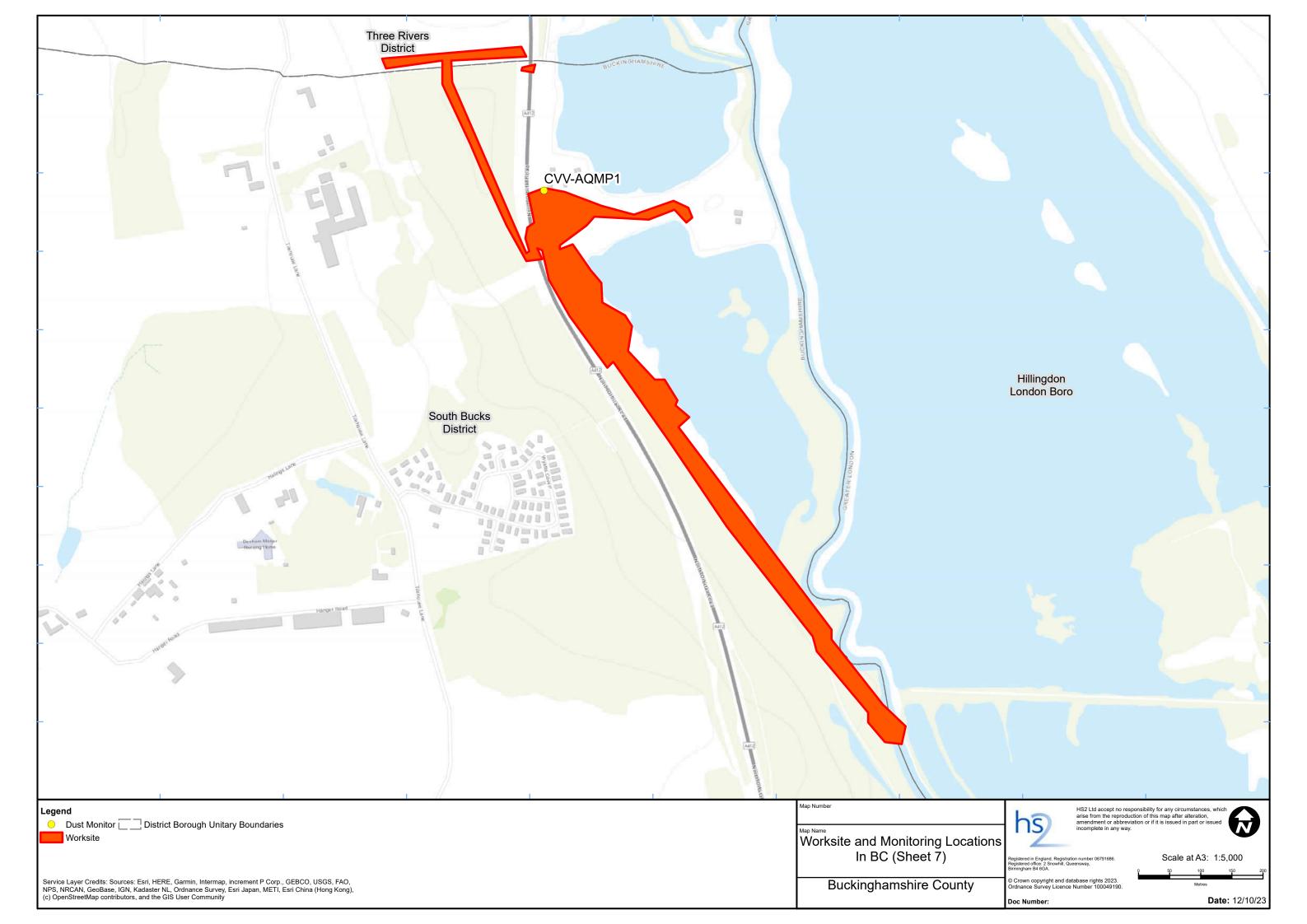








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## **Appendix B – Dust Monitoring Results**

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 <sub>10</sub> concentration (µg/m³)	Minimum 1-hour PM <sub>10</sub> concentration (µg/m³)	Maximum 1-hour PM <sub>10</sub> concentration (µg/m³)	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	М	Yes	No	6.3	1.0	45.0	0	100.0
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	М	Yes	Yes	6.8	1.0	47.0	0	100.0
CHStP-AQMP2	499951, 193282	On the western boundary of the site	м	Yes	Yes	7.5	1.0	53.0	0	100.0
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	м	Yes	Yes	8.1	1.0	46.0	0	100.0
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	м	Yes	Yes	7.6	1.0	41.0	0	96.9
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	м	Yes	Yes	8.1	1.0	45.0	0	100.0
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	м	Yes	Yes	8.1	0.0	50.0	0	96.2
LMS-AQMP1	493190, 198848	On the south-west of the site	м	Yes	Yes	7.8	1.0	41.0	0	96.1
LMS-AQMP2	493407, 198731	On the south-east of the site	М	Yes	Yes	8.3	1.0	43.0	0	95.6
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	м	Yes	Yes	9.2	1.0	50.0	0	98.4

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 <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m³)	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Yes	8.3	1.0	41.0	0	99.7
NP-AQMP1	490069, 202008	North Portal Site Entrance	М	Yes	Yes	8.7	1.0	45.0	0	98.4
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Yes	8.7	1.0	38.0	0	96.8
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Yes	9.3	1.0	41.0	0	100.0
Potter Rows – Dust	490075, 202502	Potters Row, South Heath	М	Yes	Yes	16.3	1.0	390.0	2	100.0
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Yes	6.6	1.0	36.0	0	99.9
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Yes	8.4	1.0	38.0	0	100.0
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Yes	3.2	1.0	15.0	0	98.1
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Yes	6.2	1.0	34.0	0	49.9
Chetwode/Hermitage – Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Yes	9.1	1.0	94.0	0	99.9
Glebe House - Dust	480475, 212560	A418 Aylesbury	М	Yes	Yes	9.8	1.0	46.0	0	80.5
Turweston North - Dust	460439 , 237140	Turweston, Buckinghamshire	М	Yes	Yes	9.7	1.0	53.0	0	77.3
FCC - Dust	469042 , 224263	Adjacent Red Kite View, Calvert	М	Yes	Yes	8.4	1.0	38.0	0	100.0
Ellesborough Road - Dust	486458 , 207550	Ellesborough Road, Wendover	М	Yes	Yes	8.9	1.0	86.0	0	100.0
Nash Lee Road - Dust	484766 , 208782	Nash Lee Lane (west)	М	Yes	Yes	8.6	1.0	43.0	0	73.0

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 <sub>10</sub> concentration (μg/m³)	Minimum 1-hour PM <sub>10</sub> concentration (µg/m³)	Maximum 1-hour PM <sub>10</sub> concentration (μg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
Nash Lee Lane - Dust	485069 , 208793	Nash Lee Lane (east)	М	Yes	Yes	8.5	1.0	53.0	0	84.7
Bacombe Lane – Dust	486528 , 207217	Bacombe Lane, Wendover	м	Yes	Yes	8.1	1.0	41.0	0	100.0
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	м	Yes	Yes	8.1	1.0	36.0	0	70.6
Station Road – Dust	474068, 219307	Station Road, Quainton	м	Yes	Yes	8.7	1.0	41.0	0	100.0
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	м	Yes	Yes	9.0	1.0	46.0	0	99.9
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	м	Yes	Yes	8.5	1.0	39.0	0	100.0
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	М	Yes	Yes	9.7	1.0	54.0	0	99.9

#### Table 2: Summary of exceedances during period (May 2024)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
	18/05/2024 16:01 – 17:00; 284 μg/m³	Outside of Working Hours	N/A
Potters Row	20/05/2024 07:01 – 08:00; 390 μg/m <sup>3</sup>	Investigation revealed that incident is non-works related (no works being undertaken in the area at time of incident), there was observed burning activity outside LLAU. Incident reported on Horace with Ref: INC19401	No remedial measures implemented as incident was non-works related.

#### Figure 8: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for all dust monitors

