July 2023

HS2

Air Quality and Dust Monitoring Monthly Report – July 2023 Buckinghamshire Council



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.

High Speed Two (HS2) Limited, Two Snowhill Snow Hill Queensway Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.gov.uk/hs2

A report prepared by EWCs and MWCCs on behalf of HS2 Ltd.

High Speed Two (HS2) Limited has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the HS2 website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact High Speed Two (HS2) Limited.

© High Speed Two (HS2) Limited, 2021, except where otherwise stated.

Copyright in the typographical arrangement rests with High Speed Two (HS2) Limited.

This information is licensed under the Open Government Licence v2.0. To view this licence, visit www.nationalarchives.gov.uk/doc/open-governmentlicence/version/2 **OGL** or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: psi@nationalarchives.gsi.gov.uk. Where we have identified any third-party copyright information you will need to obtain permission from the copyright holders concerned.



Printed in Great Britain on paper containing at least 75% recycled fibre.

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 July 2023.
- 1.1.2 Figures 1 7 in Appendix A presents the current worksites together with the dust monitoring locations for July 2023.
- 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: GI works;
- Pier Construction: arch form deck 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, installation of ducts and earthworks, bulk earthworks fill and permanent drainage;
- Water pumping management;
- Satellite welfare;
- Generator farms;
- · Core Drilling of Concrete;
- Pile Trimming;
- A412 Gas Crossing Emergency Dismantling;
- Fencing;
- Environmental Maintenance;
- Cofferdam Excavation: cofferdam excavation, dewatering, waling beams and concrete plugs;
- 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, internal post-tensioning (PT) and grouting and external PT;
- 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 accesses top of the deck (HAKI stairs) and foundation works in the north embankment, deck 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 barriers installation;
- Deck Finishes In-deck Construction: diaphragm walls and concrete works within the deck, drainage works within the deck and steel works within the deck; and
- Landscaping: advanced Works including removal of cofferdams, early earthworks including ground profiling and cut, Initial ground drainage including manhole chamber and early soil (subsoil and topsoil) placement.

Chalfont St Peter Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Connection to Tunnels;
- Shallow Basement Construction: basement internals & headhouse concrete works; and
- Ground Level Works: headhouse concrete works and external works.

Amersham Vent Shaft

- General Site Activities;
- Internal Structure: concrete walls and floors;
- Tunnel Connections:
- Basement Construction: headhouse basement internals and demolition of D-wall;
 and
- Headhouse Superstructure Concrete Works.

Chalfont St Giles Vent Shaft

- General Site Activities;
- Road Maintenance Works;
- Connections to Tunnels: concrete floors; and
- Basement Construction: basement internals & headhouse concrete works;

Little Missenden Vent Shaft

- General site activity;
- Internal Structures; remaining walls and slabs; and
- Small basement construction; headhouse basement internals and demolition of D-wall.

Chesham Vent Shaft

- General site activity: general compound;
- Internal Structure: reinforced concrete works; and
- Ground Level Works: headhouse ATS concrete works.

North Portal work site

- Access Road: drainage and services, scrape formation, hardstanding and kerbing, asphalt and signage;
- Piling Platform Area 1: traffic management and temporary access from Firth Hill Road;
- North Portal Compound: general plant;
- North Portal Road: general plant;
- Piling Platform Removal: dismantling related to areas D.1,D.2 piling platforms;
- Headwall Capping-Beam and Excavation: excavation / RC works/ temporary propping;
- Portal Drainage: excavation / drainage installation / backfilling; and
- Porous Portal Structure: RC works and concrete pours.

North Chilterns Area

Potters Row

Installation of shutters at Mulberry Park new compound

Hunts Green, Grimms Ditch

• Movement of materials (earthworks)

Chesham Lane, Wendover Bus 55

- Construction of Rocky Lane Fuelling compound
- Backfilling of 'Tree Pit'
- Stockpile management/movement of materials (earthworks)

Bacombe Lane, Grove Farm

- Excavation for Bacombe lane plant crossing
- Surface water management coco-matting of V-ditch, silt fencing and pipes installed.

Drilling for A7-09 completed

Small Dean Viaduct

- A413 drainage diversion works
- Grout trials A10-2 Metal plates
- V-ditch maintenance installation of coco-matting in V-ditch
- Access road maintenance
- P1 pile cap service relocation
- Survey monument installation
- Delivery of class 1A1 into Small Dean South Embankment
- Laydown rearrangement in provision for the Eiffage Metal girder move.
- Fugro drilling on ML052-RO654 GI holes on P3 and P4

Nash Lee Road, Nash Lee Lane

- Marking out site road
- Excavation of ditch to run across access road.
- Construction of Risborough Road temporary bridge
- De-vegetation around Nash Lee triangle for new access road.
- Movement of materials Earthworks
- Construction of piling platform for Nash Lee Lane
- Construction of site access road and installation of drainage system
- Construction of piling platform at Nash Lee triangle
- De-vegetation at Nash Lee Road

Wendover Town

- Crushing of concrete
- Installation of road signs around the site
- Installation of mesh around the walkway
- Building up shutters for the Control point around the slurry wall
- De-vegetation around the slurry wall
- Installation of gates at WGTNP Plaza

Ellesborough Road

- De-vegetation at Ellesborough road
- Construction of low permeability wall working platform
- Crushed tarmac spread and compacted on the new carpark
- Topsoil strip of access road route from existing carpark to new carpark
- Installation of drainage pipes in the slurry wall working platform
- Installation of silo on BKJV platform
- Installation of guide wall reinforcement
- Installation of base course on both east and west side of the bridge.

Calvert Area

Woodlands Farm (Woodlands)

- River Ray Culvert no works.
- Adams Accommodation Underbridge installation of pre-cast beams, in-situ concrete stitch (bottom)
- Woodlands Culvert no works
- Mass haulage of aggregate
- Edgcott Road Overbridge no works
- Finmere Retaining Wall construction of piling platform

FCC / School Hill (Calvert)

- Secant Retaining Wall works paused
- Mass haulage of aggregate
- Shepherds Furze Culvert waterproofing
- School Hill Batching Plant production of concrete
- School Hill Culvert Installation of pre-cast unit
- Calvert cutting earthwork excavation and fill

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

- EWR Culvert
- Charndon Lodge Pumping Station
- Charndon Lodge Underbridge
- East West Rail Overbridge
- IMD West Culvert
- IMD East Culvert
- Addison Road Overbridge
- Addison Road permanent highway diversion
- SCL/08 Overbridge
- West Street utility diversions
- SGN pipeline diversion
- Gawcott Road temporary highway diversion
- Perry Hill Overbridge
- Portway Culvert
- OXD / EWR Line Earthworks
- Calvert Cutting Earthworks
- IMD Earthworks
- Sheephouse Wood North Culvert
- CAG2 Underbridge / Greatmoor No. 4 culvert
- Greatmoor No. 3 culvert
- GUN28 Overbridge
- Doddershall No. 6 culvert

• Doddershall No. 7 culvert

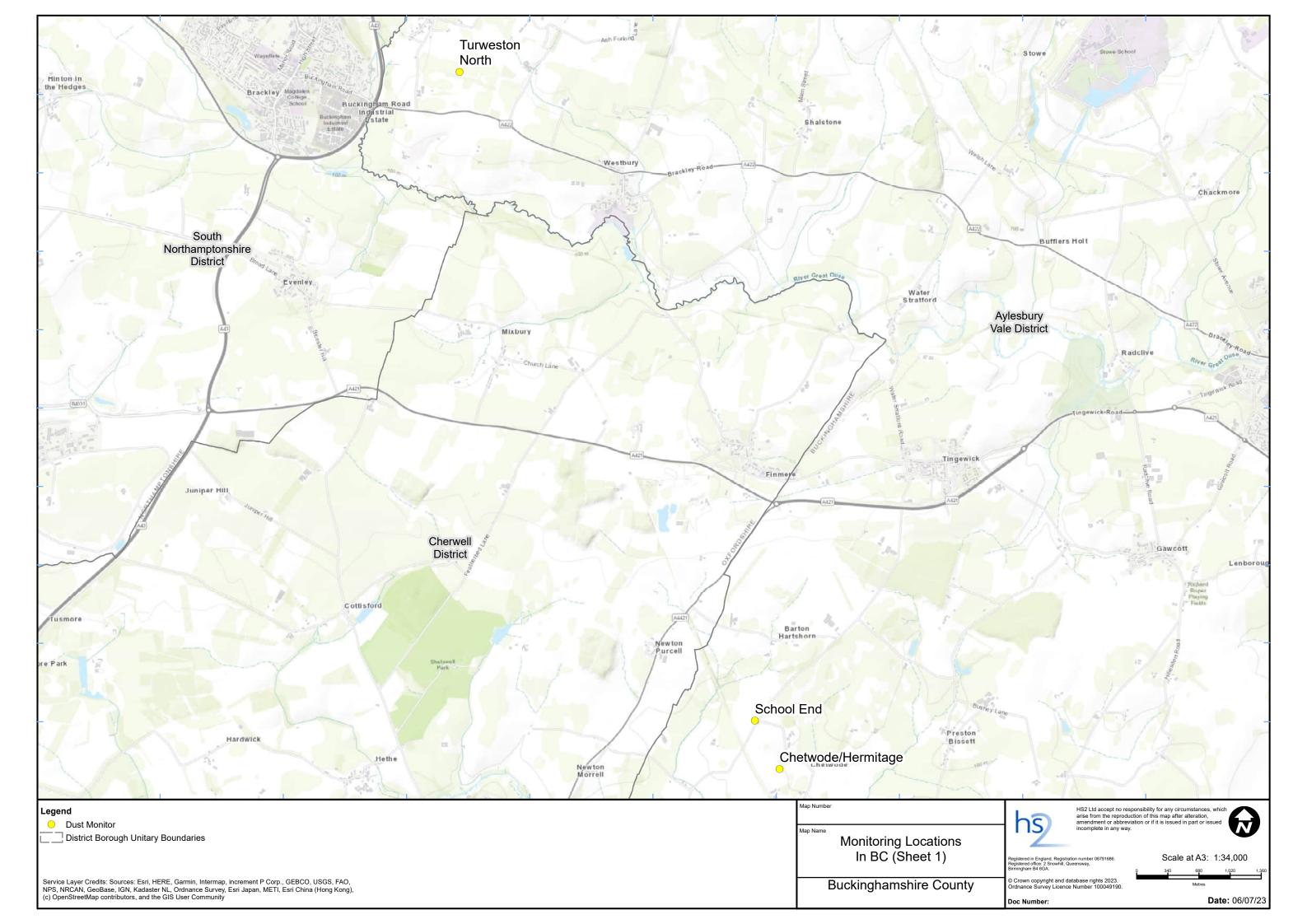
Twyford to Greatworth

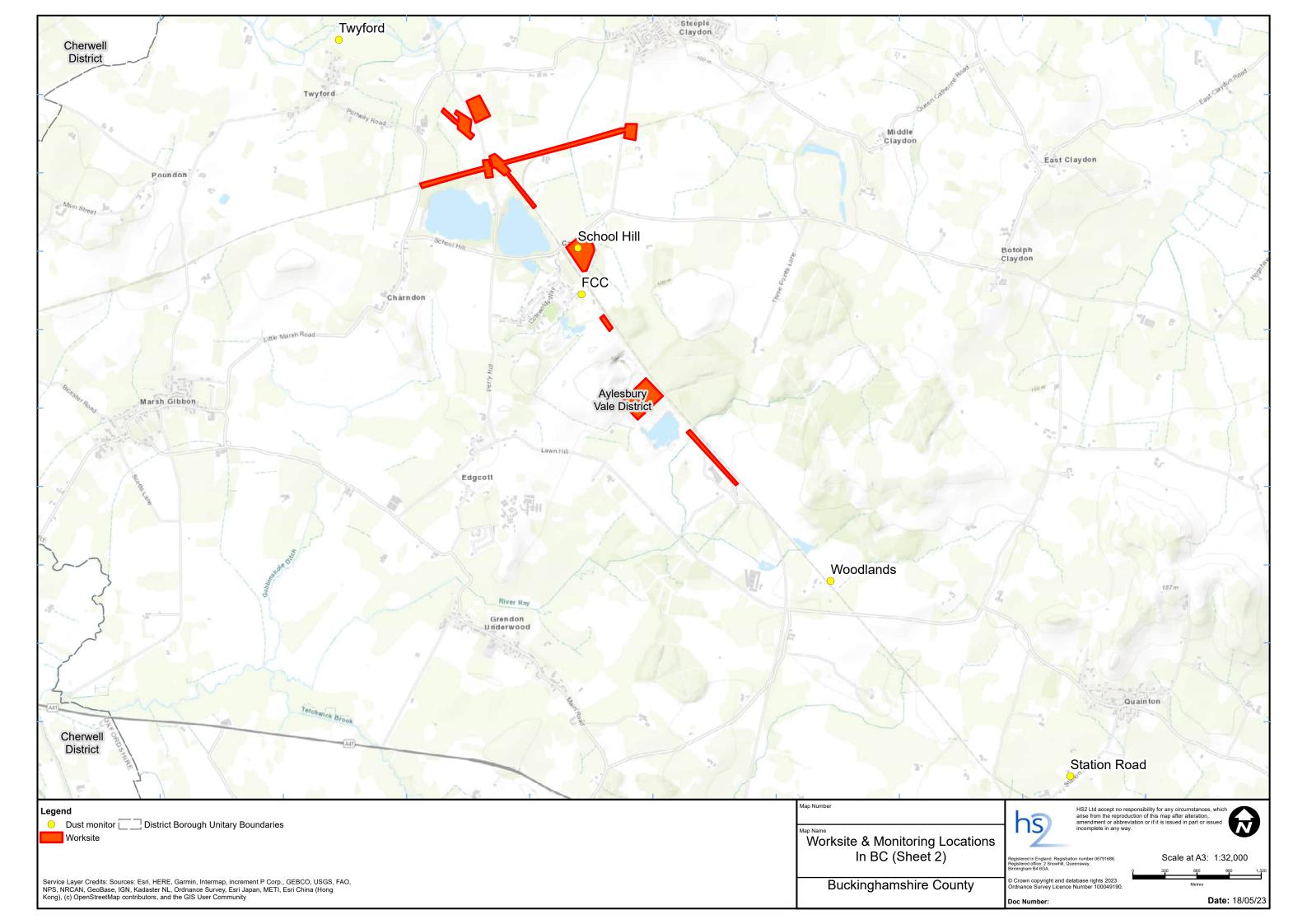
Turweston North:

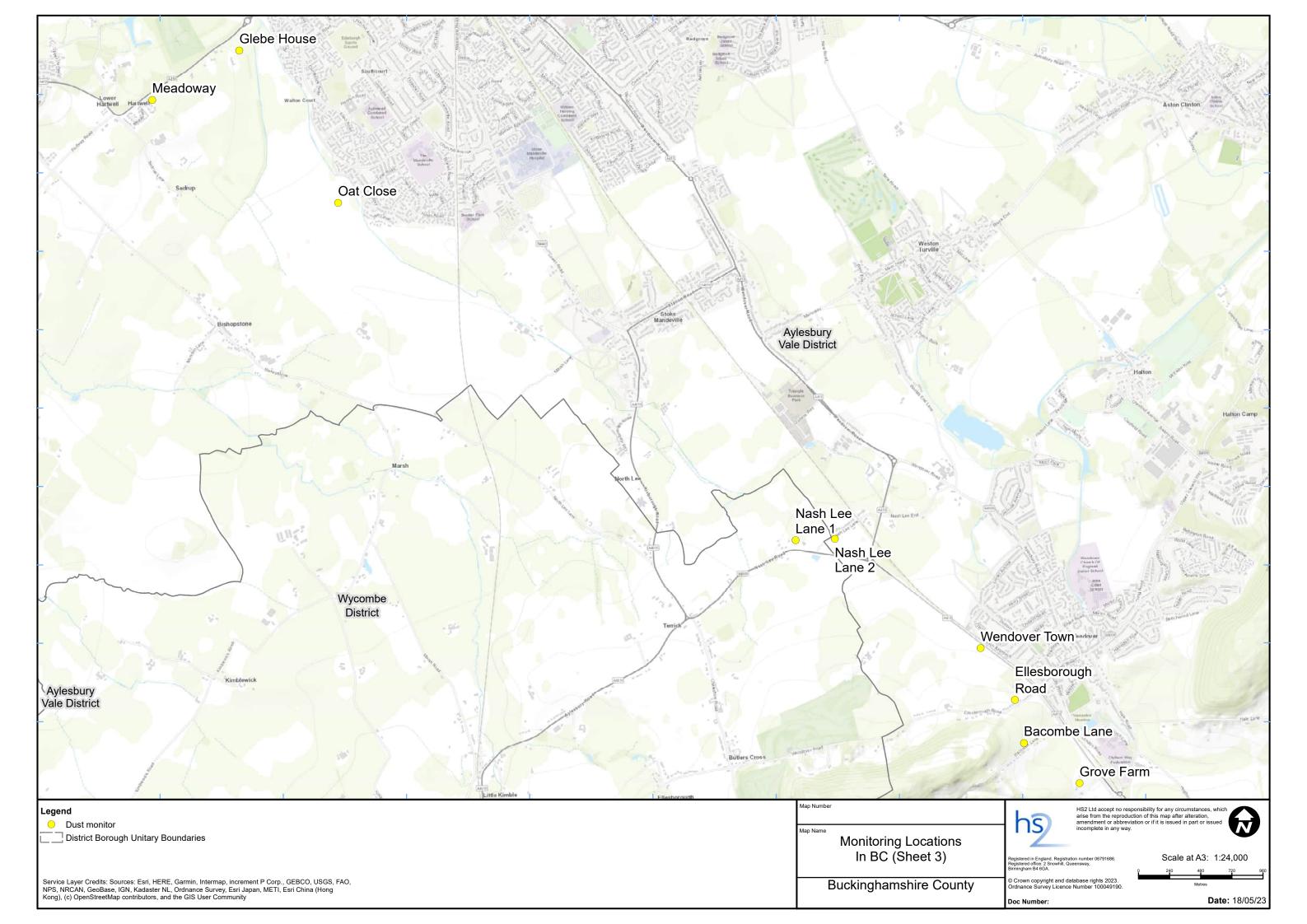
- Crushing and screening
- Pond creation
- Stockpile haulage
- Mill leat diversion
- Removal of vegetation
- Topsoil stripping
- 1.1.5 Thirty-five (35) dust monitors are installed around worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 The trigger level for PM_{10} concentrations of 190 $\mu g/m^3$, 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.
- 1.1.7 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from the dust monitors 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.
- 1.1.8 No (0) trigger alerts were recorded during the reporting period (July 2023).
- 1.1.9 Data capture was below 90% for multiple monitors. Ellesborough Road had a fault with the communication cable. Small Dean Viaduct had a fault with the monitoring setup. Meadoway components were stolen. Oat Close monitor was retrieved for laboratory calibration. Data loss at the Twyford and Grove Farm monitors was due to a battery fault with the monitor.
- 1.1.10 No (0) complaints were received during the monitoring period (July 2023).

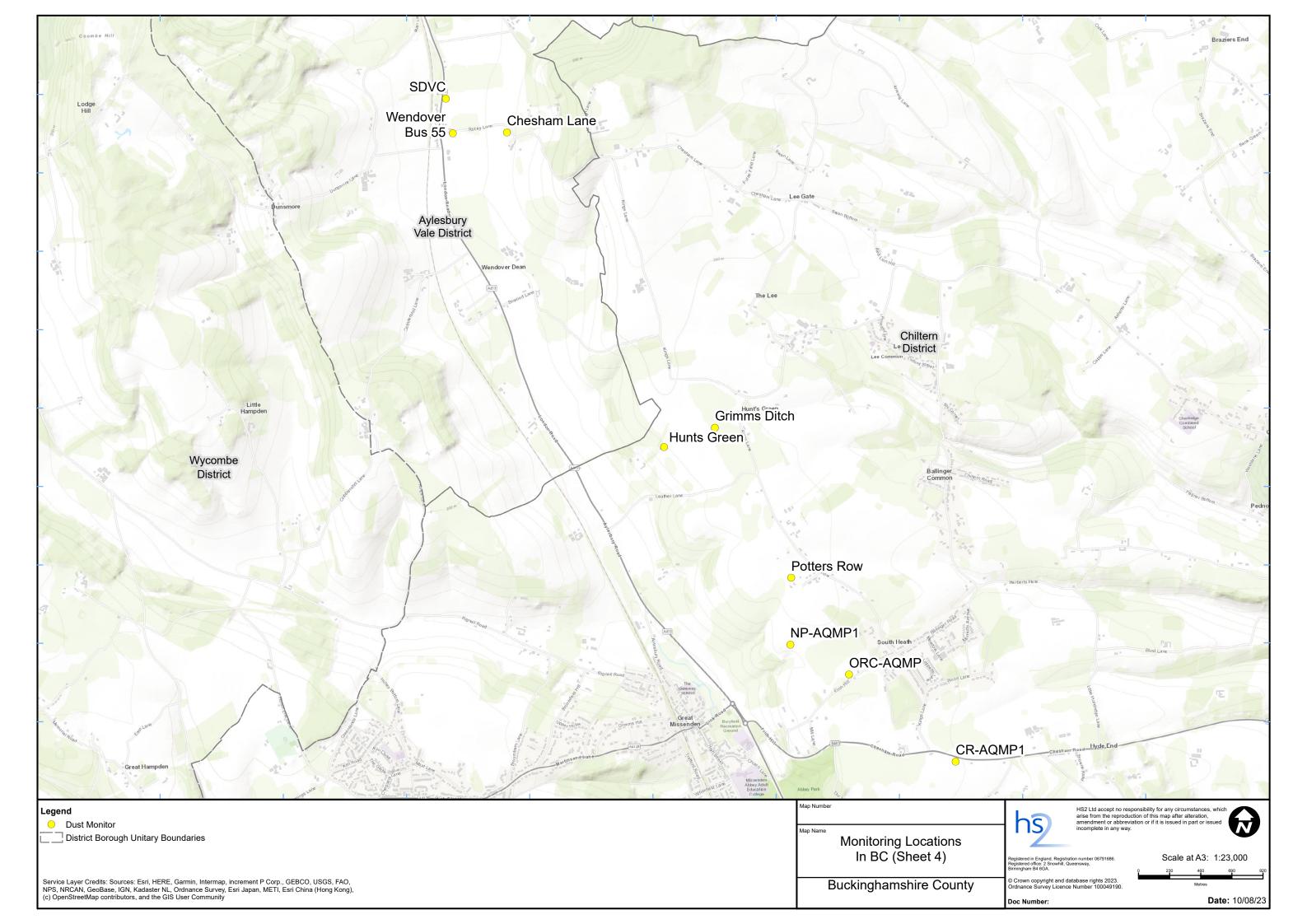
Appendix A - Monitoring Locations

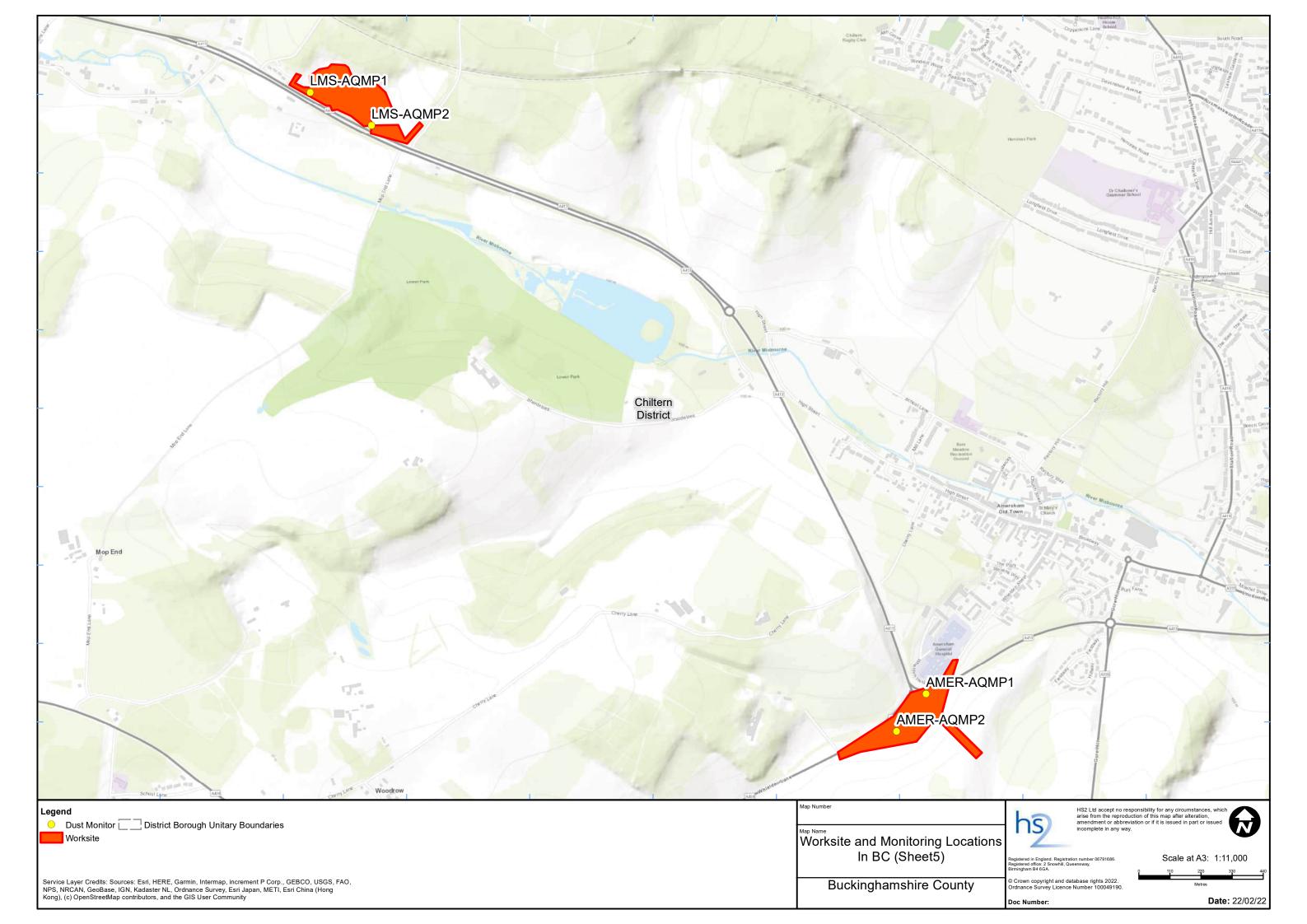
Figure 1 to Figure 7: Worksites and monitoring locations within BC

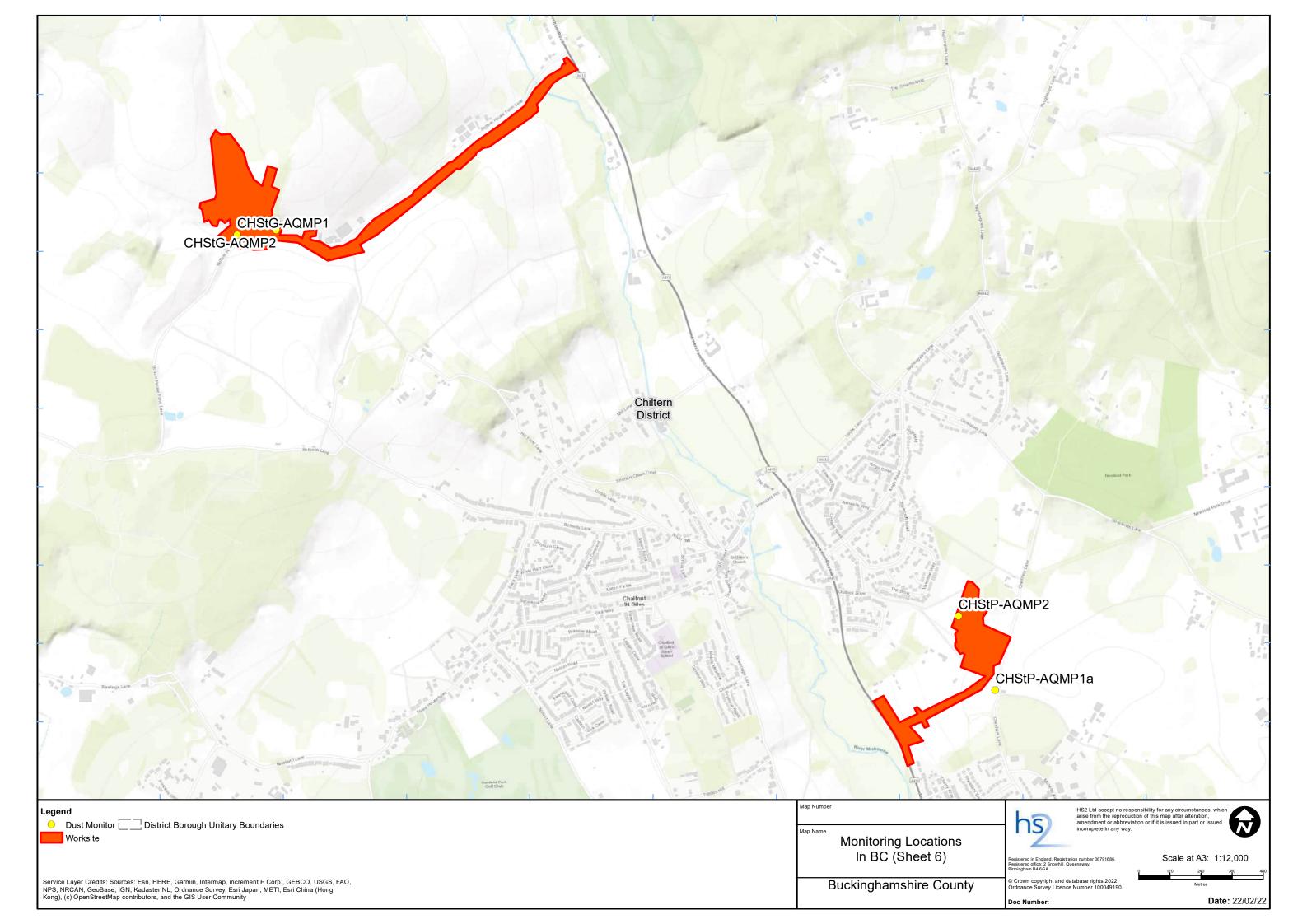


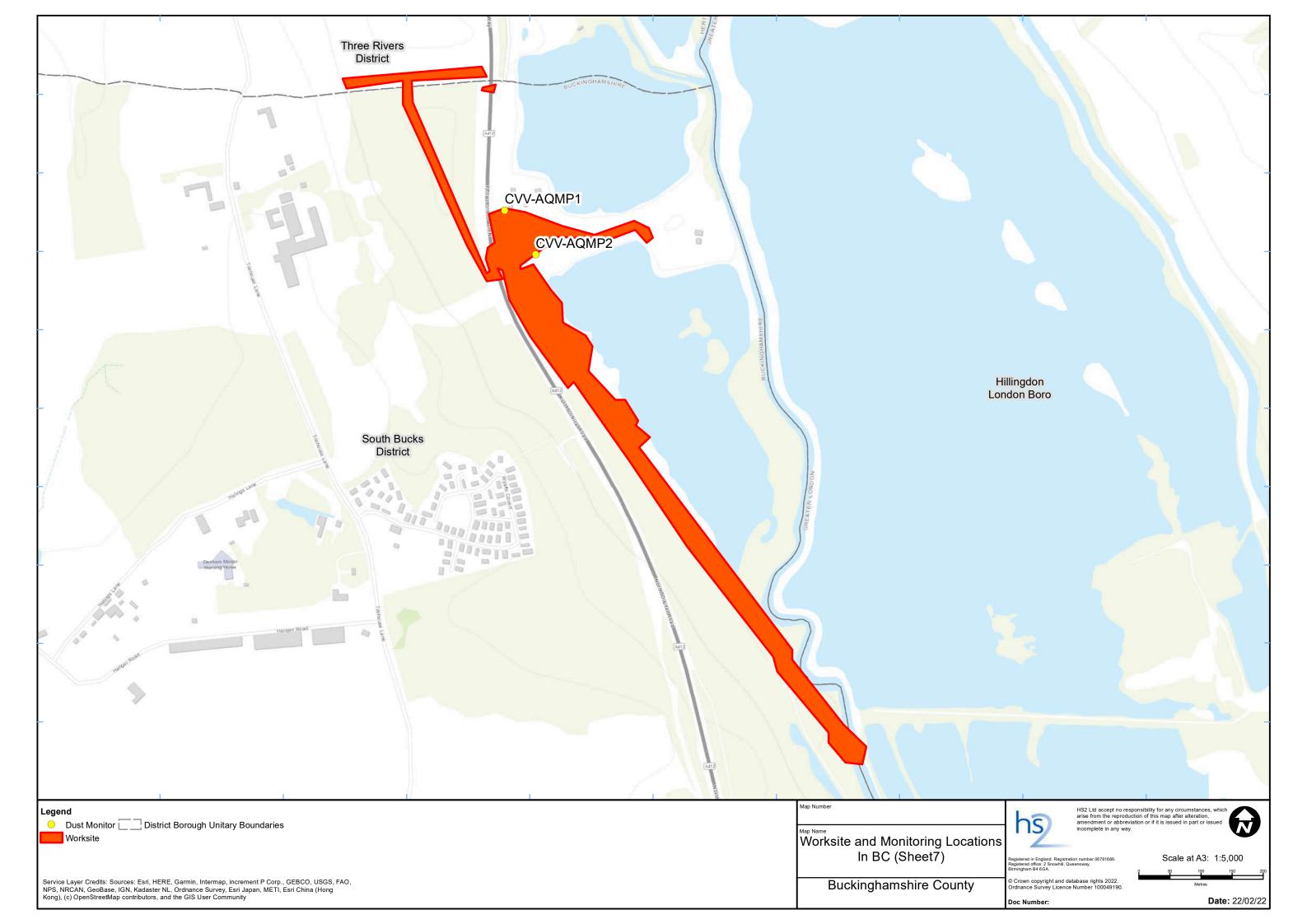












Appendix B - Dust Monitoring Results

Table 1: Dust monitoring locations and July 2023 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	1-hour data capture (%)
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Yes	4.6	1.0	23.0	0	100.0
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Yes	5.5	1.0	48.0	0	99.9
Potters Row – Dust	490075, 202502	Potters Row, South Heath	М	Yes	Yes	5.1	1.0	25.0	0	99.9
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Yes	4.2	1.0	22.0	0	99.7
Hunts Green – Dust	489511, 203611	The Lee, South Heath	М	Yes	Yes	4.3	1.0	20.0	0	99.7
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Yes	4.4	1.0	21.0	0	99.7
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Yes	4.8	1.0	26.0	0	100.0
Meadoway – Dust	479803, 212178	Aylesbury, Buckinghamshire	М	Yes	Yes	-	-	-	-	-
Oat Close – Dust	481237, 211384	Oat Close, Bishopstone, Aylesbury	М	Yes	Yes	-	-	-	-	-
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Yes	4.9	1.0	65.0	0	64.9
Chetwode/Hermitage - Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Yes	5.0	1.0	43.0	0	100.0
Glebe House - Dust	480475, 212560	A418 Aylesbury	М	Yes	Yes	4.7	1.0	23.0	0	98.4
Turweston North - Dust	460439 , 237140	Turweston, Buckinghamshire	М	Yes	Yes	4.3	1.0	23.0	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	1-hour data capture (%)
FCC - Dust	469042 , 224263	Adjacent Red Kite View, Calvert	М	Yes	Yes	4.9	1.0	25.0	0	100.0
Ellesborough Road - Dust	486458 , 207550	Ellesborough Road, Wendover	М	Yes	Yes	-	-	-	-	-
Nash Lee Road - Dust	484766 , 208782	Nash Lee Lane (west)	М	Yes	Yes	5.1	1.0	41.0	0	94.0
Nash Lee Lane - Dust	485069 , 208793	Nash Lee Lane (east)	М	Yes	Yes	4.8	1.0	29.0	0	81.3
Bacombe Lane – Dust	486528 , 207217	Bacombe Lane, Wendover	М	Yes	Yes	4.4	1.0	28.0	0	98.7
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	М	Yes	Yes	6.1	1.0	23.0	0	46.5
Station Road - Dust	474068, 219307	Station Road, Quainton	М	Yes	Yes	4.1	1.0	39.0	0	88.4
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	М	Yes	Yes	4.5	1.0	25.0	0	98.3
Woodlands - Dust	471603, 221315	Station Rd, Quainton, Woodlands Farmhouse	М	Yes	Yes	5.0	1.0	28.0	0	100.0
Grove Farm	486957, 206908	Grove Farm, London Road, Wendover	М	Yes	Yes	4.0	1.0	27.0	0	62.9
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	М	Yes	No	4.8	1.0	32.0	0	100.0
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	М	Yes	Yes	3.0	1.0	74.0	0	100.0
CHStP-AQMP2	499951, 193282	On the western boundary of the site	М	Yes	Yes	5.0	1.0	57.0	0	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	1-hour data capture (%)
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	М	Yes	Yes	4.7	1.0	22.0	0	100.0
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	М	Yes	Yes	4.7	1.0	21.0	0	98.5
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	M	Yes	Yes	4.5	1.0	22.0	0	96.5
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	М	Yes	Yes	4.6	1.0	23.0	0	99.6
LMS-AQMP1	493190, 198848	On the south-west of the site	М	Yes	Yes	4.6	1.0	21.0	0	100.0
LMS-AQMP2	493407, 198731	On the south-east of the site	М	Yes	Yes	4.6	1.0	22.0	0	100.0
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	М	Yes	Yes	4.9	1.0	43.0	0	96.1
ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Yes	4.4	1.0	21.0	0	100.0
NP-AQMP1	490069, 202008	North Portal Site Entrance	М	Yes	Yes	4.4	1.0	20.0	0	100.0

Figure 8: Continuous dust 1-hour mean indicative PM₁₀ concentrations for July 2023

