August 2022

## HS2

# Air Quality and Dust Monitoring Monthly Report - August 2022 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 2022.
- 1.1.2 Figures 1-7 in Appendix A present the current worksites together with the dust monitoring locations for August 2022.
- 1.1.3 This summary should be read in conjunction with the overview monitoring report available from <a href="www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2">www.gov.uk/government/collections/monitoring-the-environmental-effects-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**

- Jetty Piling: piling plant form, platforms, support plant, compound; and piling platform relocation works;
- Cofferdam Sheet Piling: piling plant and support plant;
- Permanent Main Piling Works: boring pile, de-sanding pile bore at pile position, installing reinforcement cage and concreting pile, bored pile break-down to prepare pile surface, grout curtain around viaduct pile groups maintenance plant and clean up around piles;
- North Embankment Compound: compound operation;
- DWSC Compound: compound operation;
- Satellite welfares;
- Generator farms:
- Utility Diversion;
- Environmental Maintenance;
- Cofferdam Excavation;
- Pier Construction;
- INNS River Colne to GUC and GUC to Harvil Road (removal);
- Ground Investigation Works: GI works and Overwater GI Works;
- Pumping Water Management;
- Maintenance of Haul Roads;
- North Abutment Works: yard supporting activities and FRC works;
- A412 Gas Crossing Emergency Dismantling;
- Fencing;
- Core Drilling of Concrete;
- Bentonite Farms: Base Slab Construction;
- River Colne Crossing: Emergency removal of obstruction to RC Crossing;

- · Fiber Crossing; and
- Launching Girder and Deck Works: Span segmental erection with launching gantry, shoring steel structure erection and dismantling, internal post tensioning (PT) and grouting.

#### **Chalfont St Peter Vent Shaft**

- General Plant;
- Road Maintenance Works;
- Reinforced Concrete Internal Structure: concrete walls and floors; and
- Basement Construction.

#### **Amersham Vent Shaft**

- General Site Activity: general plant;
- Waterproofing;
- Collar Construction;
- · Secondary Lining; and
- Small basement construction.

#### **Chalfont St Giles Vent Shaft**

- General Site Activity: general plant;
- Road Maintenance Works;
- Reinforced Concrete Internal Structure: concrete walls and floors;
- Basement Construction: excavation of basement; and
- Stockpile removal.

#### Little Missenden Vent Shaft

- General site activity: general plant;
- Shaft Base Slab: concrete pours;
- Collar construction; and
- Small basement construction.

#### **Chesham Road Vent Shaft**

- General site activity: general compound power and muck-away; and
- Shaft construction using In-Situ Casson Method: grouting, reinforced concrete works, backfilling and the removal of sheet piles.

#### **North Portal work site**

- Temporary utilities: temporary water connection, temporary IT connection;
- North Portal Barrettes and Headwall;
- Pre Treatment: drilling and grouting;
- North Portal Compound: general plant; and
- Piling Platform Reinstatement and Maintenance: scraping / hardstanding.

#### **North Chilterns Area**

- South Heath Earthworks;
- Great Missenden Compound;
- Mulberry Park Demolition Works;
- Durham Farm Demolition and De-vegetation Works;
- Surface Water Management Works (Attenuation ponds);
- Small Dean Compound;
- · Sheet Piling;
- Wendover Compound;
- Wendover Batching Plant; and
- Nash Lee Road Diversion.

**Calvert Area** (Current worksites - those within 1km of a dust monitor are denoted with a \*)

- Charndon Lodge Underbridge\* works paused due to SGN pipeline diversion
- East West Rail Overbridge\* technical backfill works and offline assembly of the steel deck,
- Perry Hill Overbridge\* rebar fixing, formwork lifting and concrete blinding
- Addison Road Overbridge rebar fixing, formwork lifting, concrete pouring and assembly of steel deck
- OXD Culverts blinding, installation of pre-cast culvert units, waterproofing and sealing, rebar and shuttering for in-situ headwalls, and technical backfill
- GUN28 Overbridge piling
- OXD Line Earthworks\* lime stabilisation, starter layers and embankment fill, permanent drainage / ponds, and track layers
- IMD\* (Infrastructure maintenance depot) landscape bund fill
- Hills Farm Earthworks import and stockpiling of materials, and stockpiling of site won materials
- MCJ Line Earthworks removal of existing ballast embankment, pre-earthworks drainage, and demolition / removal of existing culverts
- Edgcott Road Overbridge Dig and replace (D&R)
- Doddershall No.6 and No.7 Culvert excavation of working area
- West Street Temporary Diversion\* completed
- Addison Road Temporary Diversion completed
- Creighton Road Traffic Lights completed
- Site Access Roads completed
- Quainton Temporary Utility Diversions\* Microtunnelling, auger boring, and field trenching for duct laying.
- West Street Temporary Utility Diversions\* field trenching for duct laying
- SGN Pipe Temporary Diversions\* field trenching for duct laying
- Secant Retaining Wall\* Topsoil stripping and piling platform creation
- School Hill Batching Plant
- MHR Utilisation\* Haulage of material across worksites

#### **Twyford to Greatworth**

#### Routewide:

• Vegetation clearance, access road, drainage, and ponds maintenance along SAR from ch 81;500 to 87;000.

#### School End/Hermitage/Old Stable Cottage:

- · Compound development,
- Bulk excavation,
- · Topsoil stripping,
- Drainage,
- Pond maintenance,
- Stockpiling,
- · Topsoil Stripping, and
- IDTs movement.

#### Twyford:

- Access Road maintenance,
- Haul Road,
- Drainage/culvert,
- · Topsoil stripping,
- I&M works, and
- Stockpiling.

#### Turweston:

- Access road,
- Topsoil stripping,
- Compound maintenance,
- Drainage/ponds,
- · Bulk excavation, and
- Stockpiling.

#### Aylesbury

#### Moat Farm:

- Stoke Mandeville Bypass piling
- Stockpiling
- Earthworks Aylesbury South Cutting

#### Westfield:

- PRA Overbridge Piling
- Earthworks Aylesbury South Cutting
- Stockpiling
- Overhead utility diversion
- Haul road construction
- PRA Night deliveries

#### Oat Close:

- Earthworks Aylesbury Embankment
- Stockpiling
- Haul road construction

#### Glebe House:

- Earthworks Aylesbury North Cutting
- Stockpiling
- Piling platform works
- Haul road construction

#### Meadoway:

- Compound access road works
- Stockpiling
- Piling platform works
- Haul road construction
- 1.1.5 Thirty-five (35) dust monitors are installed around the worksites, where works are underway. These sites returned a medium dust risk rating.
- 1.1.6 Dust monitoring locations and results for August 2022 are presented in Appendix B, Table 2, together with a line chart 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  $\mu$ 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 (October 2018)' has been applied.
- 1.1.8 Data capture was below 90% for multiple monitors in August 2022 due to technical issues, remote connection problems and loss of power (Grimms Ditch: damaged solar panel; Hunts Green & School Hill (CAL-AQMP2): communication cable failure/damage).
- 1.1.9 Details of trigger alert investigations and remediations are presented in Appendix B, Table3.
  - 1.1.10 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.

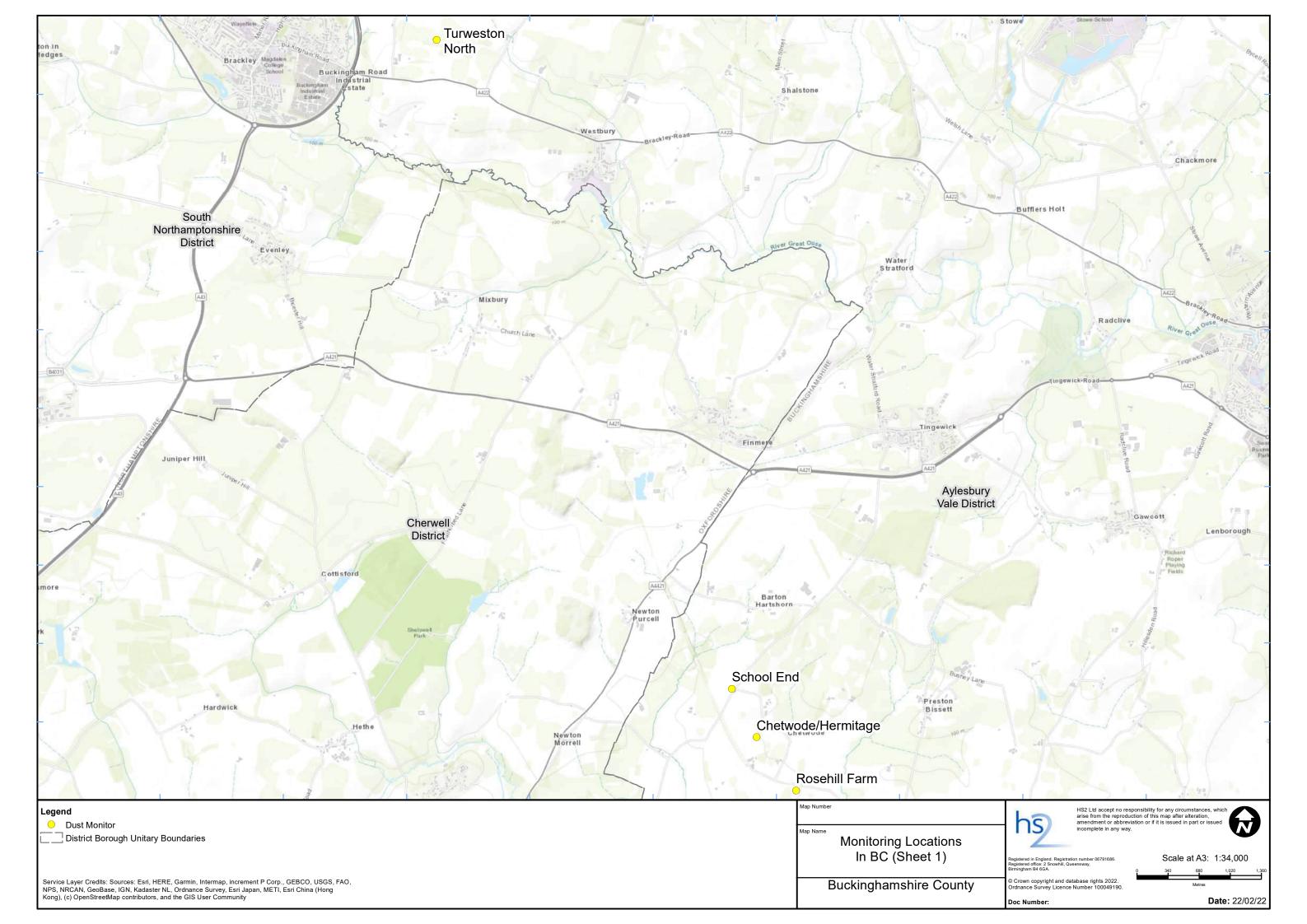
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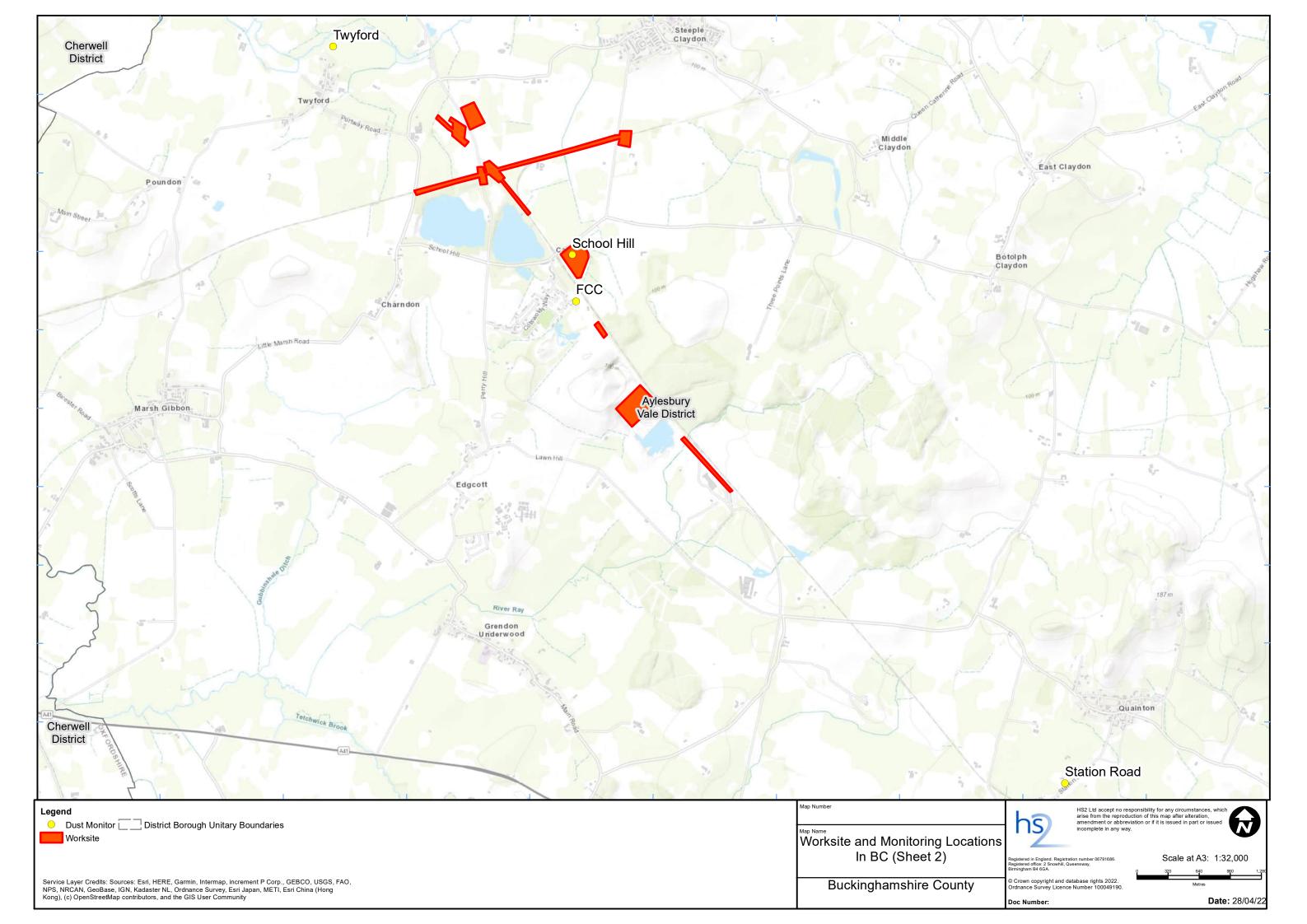
Table 1: Summary of complaints received during August 2022 in BC

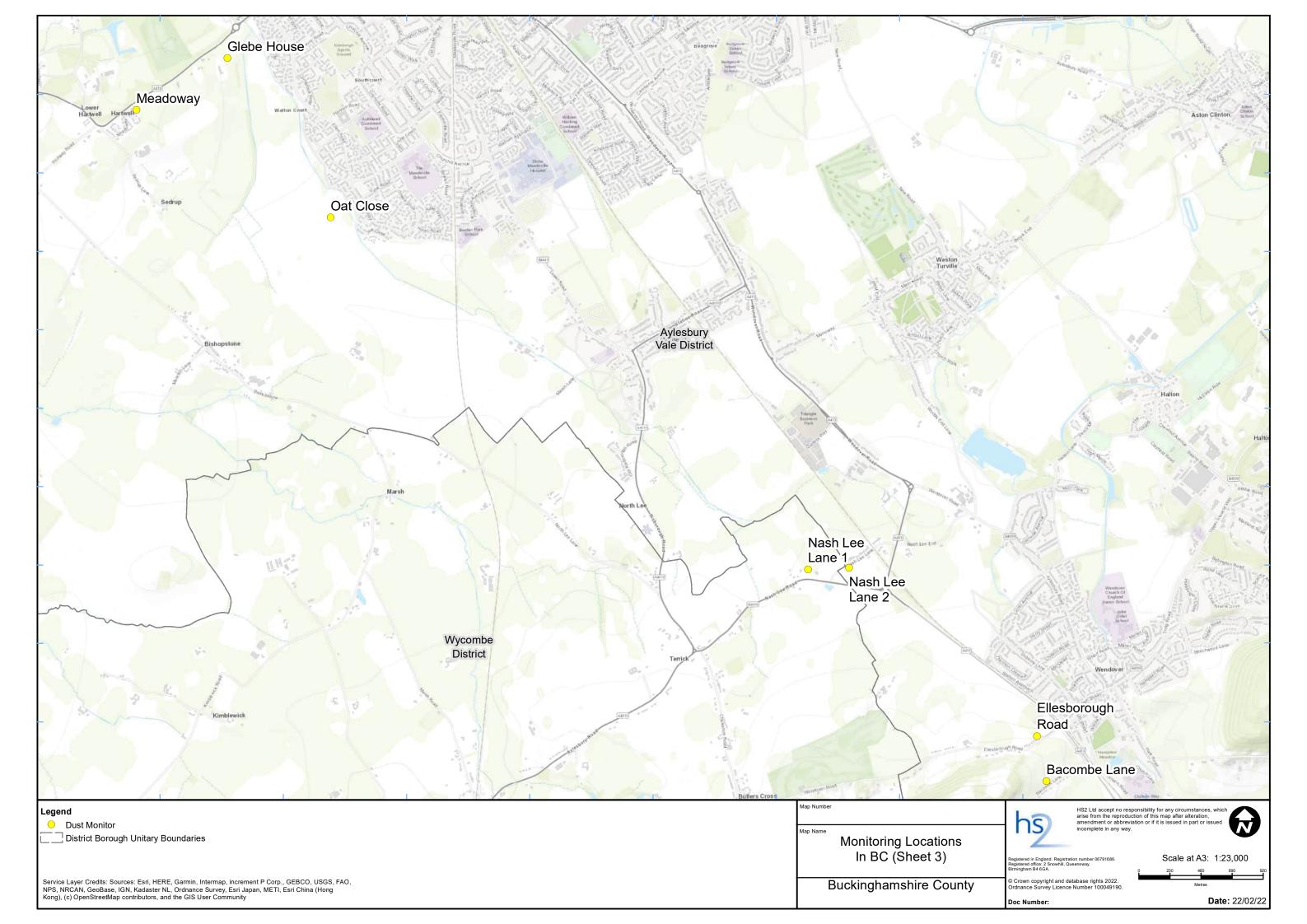
Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-22-43942-C	N/A	Significant increase in airborne dust/dirt from ongoing construction works.	Dry summer & high levels of dust in the air. Water being used for dust suppression in active working areas. Window cleaning costs provided as goodwill.

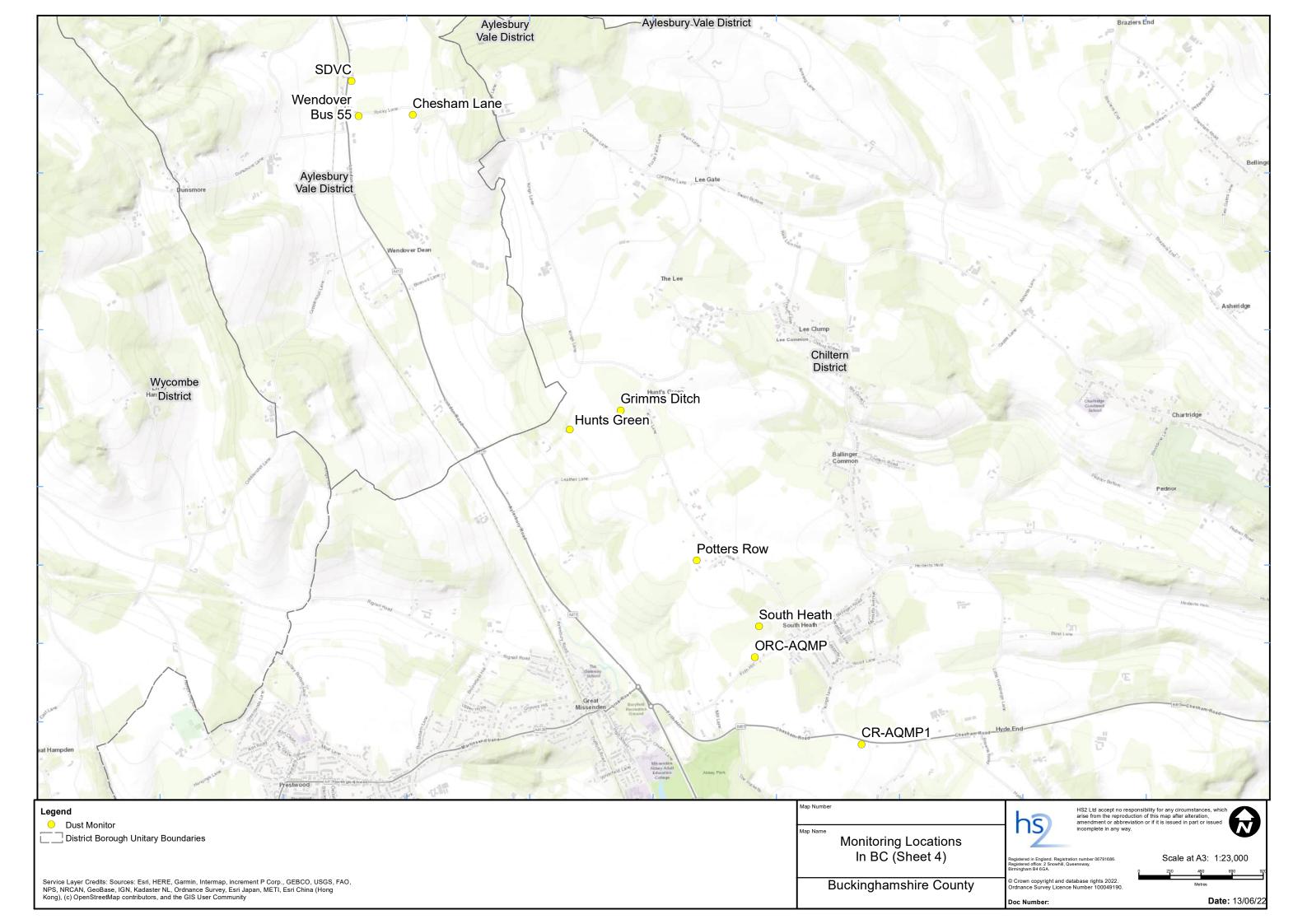
## **Appendix A - Worksite and Dust Monitoring Locations**

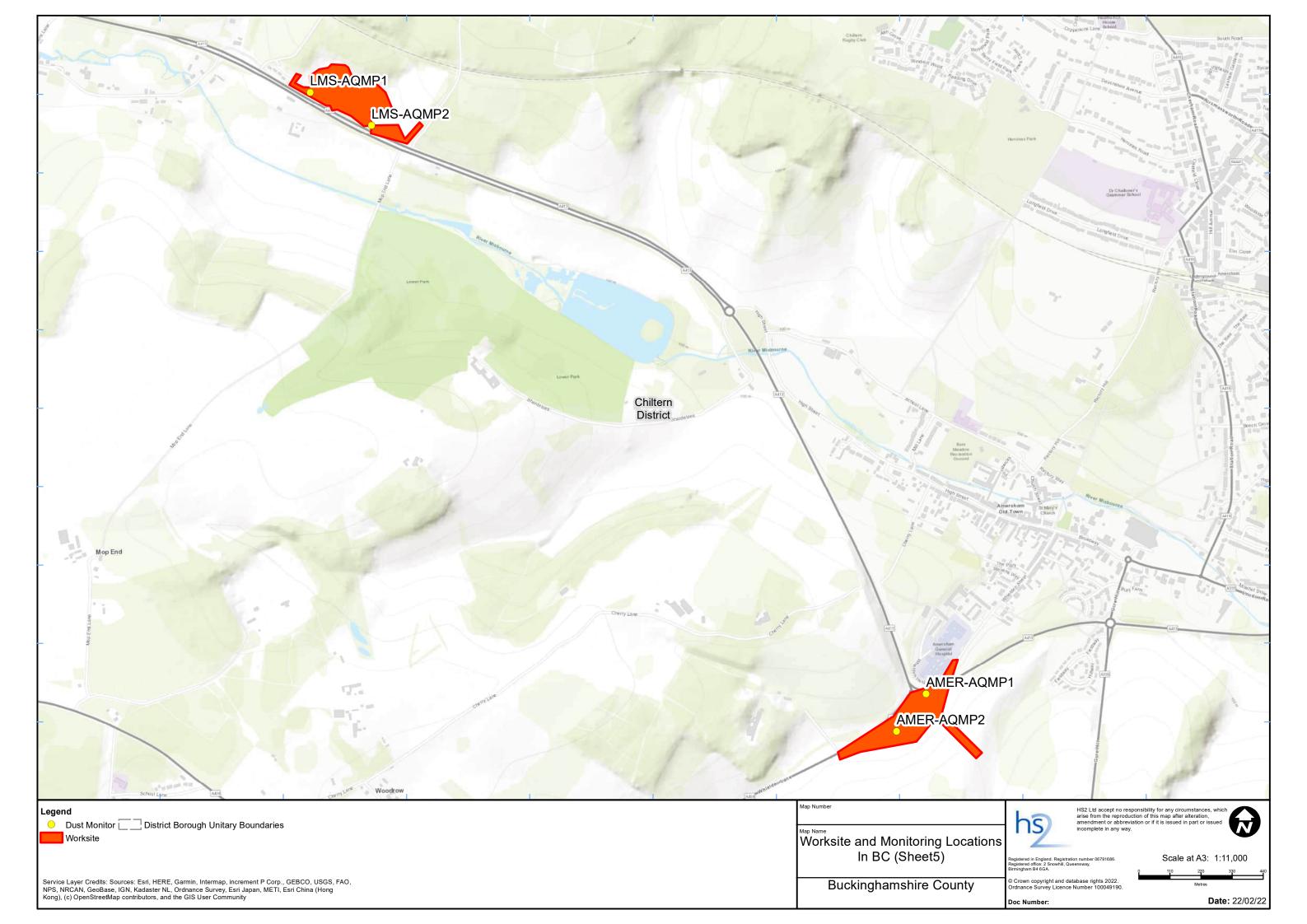
Figure 1-7: Worksite and monitoring locations within the BC

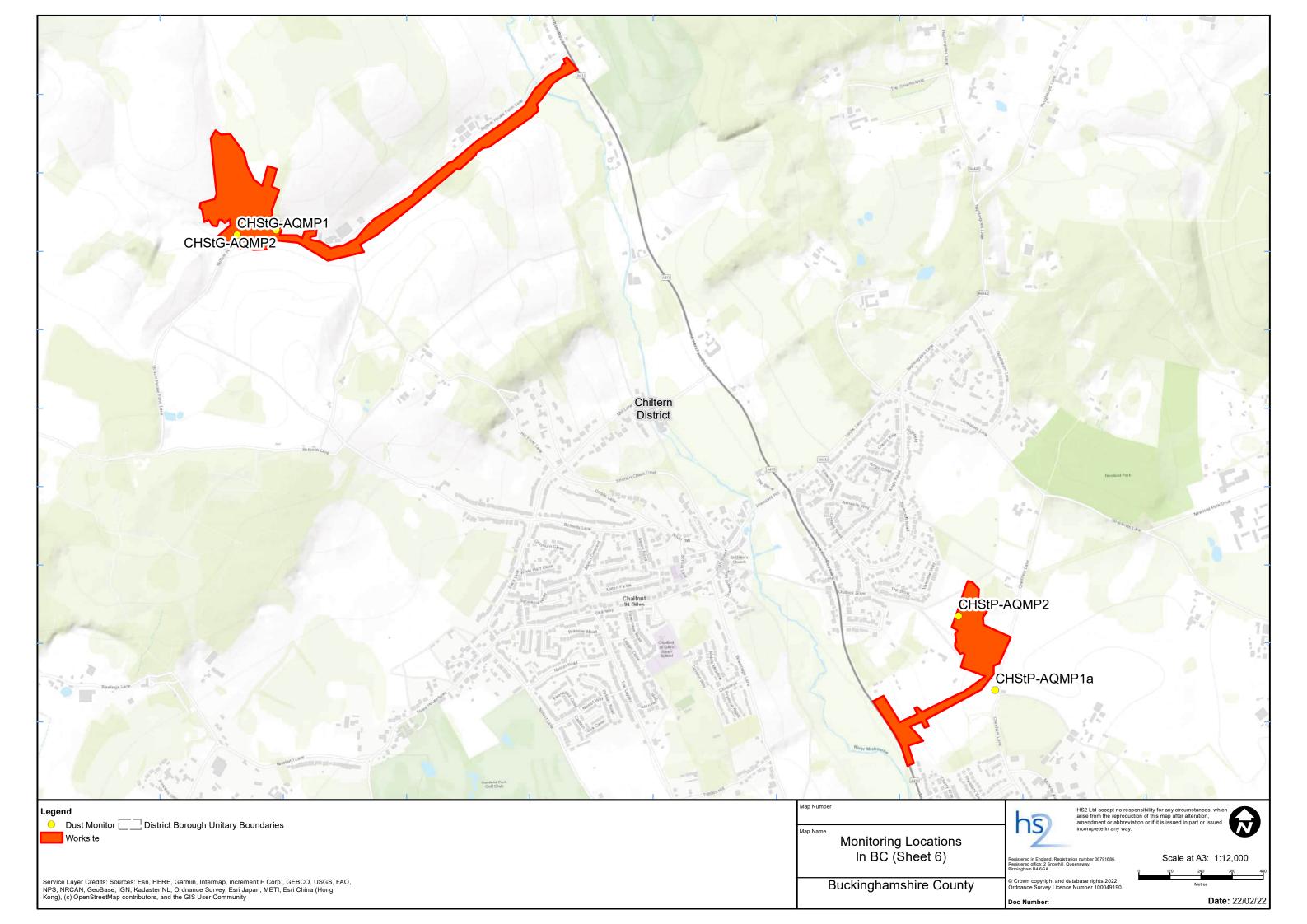


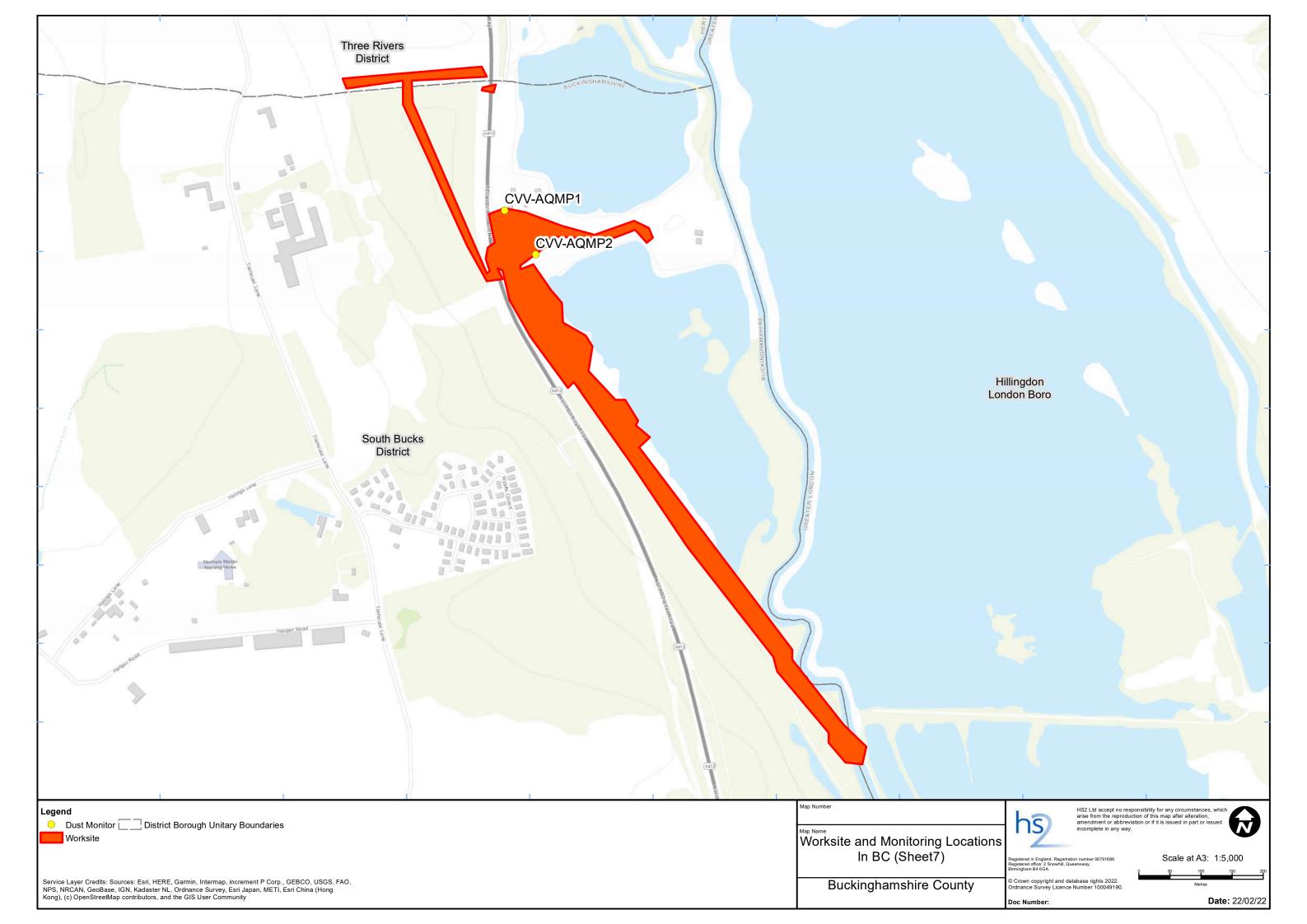












## **Appendix B - Dust Monitoring Results**

Table 2: Dust monitoring locations and August 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 <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/m³	Data capture (%)
CVV-AQMP1	503612, 189846	On the north boundary of LTP1	М	Yes	Yes	5.6	1.0	58.0	0	98.7
CVV-AQMP2	503662, 189775	On the south boundary of LTP1	М	Yes	Yes	5.6	1.0	63.0	0	97.4
CHStP-AQMP1a	500093, 192996	Relocated from CHStP-NMP1 to site-boundary outside residence	М	Yes	Yes	5.0	1.0	62.0	0	100.0
CHStP-AQMP2	499951, 193282	On the western boundary of the site	М	Yes	Yes	5.0	1.0	60.0	0	99.7
AMER-AQMP1	495367, 196722	On the north- eastern boundary of Amersham	М	Yes	Yes	5.7	1.0	56.0	0	98.7
AMER-AQMP2	495263, 196590	On the south- western boundary of Amersham	М	Yes	Yes	5.4	1.0	60.0	0	98.8
CHStG-AQMP1	497170, 194752	On the southern boundary close to Hobbs Hole Cottage	М	Yes	Yes	7.8	1.0	114.0	0	27.2

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/m³	Data capture (%)
CHStG-AQMP2	497320, 194770	On southern boundary next to carpark	М	Yes	Yes	5.3	1.0	66.0	0	100.0
LMS-AQMP1	493190, 198848	On the south- west of the site	М	Yes	Yes	5.4	1.0	56.0	0	99.9
LMS-AQMP2	493407, 198731	On the south- east of the site	М	Yes	Yes	5.1	1.0	54.0	0	99.2
CR-AQMP1	491291, 201143	On the Chesham Road Vent Shaft	М	Yes	Yes	5.0	1.0	57.0	0	98.7
ORC-AQMP	490503, 201786	Orchard Cottage South-eastern Site Boundary	М	Yes	Yes	5.1	1.0	52.0	0	100.0
School Hill (CAL- AQMP2) - Dust	469003, 224740	School Hill Compound	М	Yes	Yes	12.8	5.0	40.0	0	3.0
School End – Dust	463666, 230049	School End, Chetwode	М	Yes	Yes	5.5	1.0	42.0	0	100.0
Rosehill Farm – Dust	464368, 228939	Rosehill Farm, Chetwode	М	Yes	Yes	14.0	1.3	242.1	2	100.0
South Heath – Dust	490534, 202014	Bury Farm, South Heath	М	Yes	Yes	17.4	1.0	194.0	1	96.1
Potter Row – Dust	490075, 202502	Potter Row, South Heath	М	Yes	Yes	5.6	2.0	48.0	0	55.4
Grimms Ditch – Dust	489135, 203468	Leather Lane, The Lee, South Heath	М	Yes	Yes	6.2	1.0	60.0	0	36.2
Hunts Green – Dust	489511, 203611	The Lee, South Heath	М	Yes	Yes	-	-	-	-	-
Chesham Lane - Dust	487974, 205794	Chesham Lane, The Lee, Wendover	М	Yes	Yes	5.2	1.0	52.0	0	79.8

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/m³	Data capture (%)
Wendover Bus 55 - Dust	487574, 205787	Chesham Lane, The Lee, Wendover	М	Yes	Yes	6.2	1.0	223.0	1	97.2
Meadoway – Dust	479803, 212178	Aylesbury, Buckinghamshire	M	Yes	Yes	5.3	1.0	44.0	0	98.5
Oat Close – Dust	481237, 211384	Oat Close, Bishopstone, Aylesbury	М	Yes	Yes	5.2	1.0	45.0	0	99.7
Twyford - Dust	466544, 226883	Twyford, Buckinghamshire	М	Yes	Yes	5.3	1.0	37.0	0	99.9
Chetwode/Hermitage – Dust	463936, 229521	Hermitage, Chetwode	М	Yes	Yes	6.9	1.0	1190.0	1	99.9
Glebe House - Dust	480475, 212560	A418 Aylesbury	М	Yes	Yes	5.7	1.0	52.0	0	96.5
Turweston North - Dust	460439, 237140	Turweston, Buckinghamshire	М	Yes	Yes	4.9	1.0	38.0	0	99.9
FCC - Dust	469042, 224263	Adjacent Red Kite View, Calvert	М	Yes	Yes	8.9	1.0	62.0	0	69.9
Ellesborough Road - Dust	486458, 207550	Ellesborough Road, Wendover	М	Yes	Yes	5.3	1.0	49.0	0	99.5
Nash Lee Road - Dust	484766, 208782	Nash Lee Lane (west)	М	Yes	Yes	5.9	1.0	47.0	0	75.7
Nash Lee Lane - Dust	485069, 208793	Nash Lee Lane (east)	М	Yes	Yes	5.5	1.0	44.0	0	80.1
Bacombe Lane – Dust	486528, 207217	Bacombe Lane, Wendover	М	Yes	Yes	5.1	1.0	51.0	0	99.7
SDVC – Dust	487522, 206043	Small Dean Viaduct, London Road	М	Yes	Yes	6.4	1.0	53.0	0	57.5
Station Road – Dust	474068, 219307	Station Road, Quainton	М	Yes	Yes	5.2	1.0	43.0	0	99.9

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/m³	Data capture (%)
Wendover Town - Dust	486193, 207950	Wendover Bypass, Wendover	М	Yes	Yes	5.3	1.0	46.0	0	74.3

Table 3: Summary of exceedances during period (August 2022)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
Rosehill Farm – Dust	03/08/2022 16:00 – 16:59; 242.1 μg/m³	Upton investigation, the dust was from working close by to the resident as EKFB were excavating the main cut and exporting the materials to Twyford via 45T/ 30T ADT. However, a tractor with a water bowser was continuously damping the roads to minimise dust pollution.	Engagement team have been liaising with the residents.
	13/08/2022 19:00 – 19:59; 216.6µg/m³	Upton investigation, EKFB did not undertake any activities at this time. Discounted as outside of site working hours agreed with Buckinghamshire Council.	N/A
South Heath – Dust	25/08/2022 08:00 – 08:59, 194µg/m³	Upton investigation, higher levels of dust that usual were experienced from the 25/08/22 until the 28/08/22 inside and outside working hours. There were no earthworks happening on the area due to bad weather.	Raised to delivery team and Horace/Airsweb
Wendover Bus 55 - Dust	05/08/2022 19:00 – 19:59; 223µg/m³	Upton investigation, EKFB did not undertake any activities at this time. Discounted as outside of site working hours agreed with Buckinghamshire Council.	N/A
Chetwode/Hermitage – Dust	25/08/2022 20:00 – 20:59; 1190 μg/m³	No activities on site at this time. Outside of working hours.	N/A

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

