



# 2025 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995  
Local Air Quality Management, as amended by the  
Environment Act 2021

Date: August 2025

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## Local Responsibilities and Commitment

This ASR was prepared by the Pollution Team of East Hampshire District Council (EHDC) with the support and agreement of the following officers and departments at the Council:

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This ASR has not been signed off by a Director of Public Health.

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## Executive Summary: Air Quality in Our Area

### Air Quality in EHDC

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Low-income communities are also disproportionately impacted by poor air quality, exacerbating health and social inequalities.

Table ES 1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management (LAQM) and the kind of activities they might arise from.

**Table ES 1 - Description of Key Pollutants**

Pollutant	Description
Nitrogen Dioxide (NO <sub>2</sub> )	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO <sub>2</sub> )	Sulphur dioxide (SO <sub>2</sub> ) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM <sub>10</sub> and PM <sub>2.5</sub> )	<p>Particulate matter is everything in the air that is not a gas.</p> <p>Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes.</p> <p>PM<sub>10</sub> refers to particles under 10 micrometres. Fine particulate matter or PM<sub>2.5</sub> are particles under 2.5 micrometres.</p>

Air quality within East Hampshire is generally good. The latest monitoring data from 2024 shows that compliance with the nitrogen dioxide (NO<sub>2</sub>) air quality objectives has been achieved. The air quality objectives for all other pollutants are also likely to be achieved throughout East Hampshire. As a result of this, there is no need to declare an Air Quality

Management Area (AQMA) for any pollutants within the district, so instead the Council are working towards the production of a local Air Quality Strategy (AQS) which is due to be completed by the end of March 2026. This will ensure that air quality stays good within the area and enable quick responses to any deterioration in condition.

Whilst compliant with the objective in 2024, NO<sub>2</sub> (whose main source is road transportation) continues to be the primary pollutant of concern EHDC. Most notably around Whitehill adjacent to the A325 and Horndean which the A3 passes through, where concentrations are highest. As a result, emphasis has been placed on consideration of this pollutant within the main body of the ASR. There is a general increase between 2020 and 2022 in the annual NO<sub>2</sub> concentrations, most likely due to a rebound in traffic numbers, post the COVID-19 pandemic. In 2023 concentrations appear to generally decrease, falling to levels observed during COVID-19, so the Council will continue to remain vigilant and review potential sources which could negatively impact NO<sub>2</sub> concentrations, such that good air quality is maintained within the district. At four of the nine monitoring sites NO<sub>2</sub> concentrations decreased from 2023 to 2024, with the other five showing an increase between 2023 and 2024.

## Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

The Environmental Improvement Plan<sup>1</sup> sets out actions that will drive continued improvements in air quality and help to meet the new national interim and long-term targets for fine particulate matter (PM<sub>2.5</sub>), the pollutant of most harmful to human health. The Air Quality Strategy<sup>2</sup> provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero<sup>3</sup> details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local

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<sup>1</sup> Defra. Environmental Improvement Plan 2023, January 2023

<sup>2</sup> Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

<sup>3</sup> DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

community. This is extremely important given that cars are the most popular mode of personal travel and the majority of AQMAs are designated due to elevated concentrations heavily influenced by transport emissions.

The Council continues to regularly review potential sources and to monitor air quality across the district for this purpose. EHDC declared a climate emergency in July 2019 and adopted a Climate and Environment Strategy in August 2020<sup>4</sup>, which has since been reviewed and an updated plan has been agreed on as of July 2024<sup>5</sup>. The main priorities of the strategy are to achieve net-zero carbon emissions by 2035 within the Council's operations, reduce greenhouse gas emissions from other sources in the district (i.e. transport and energy) and to conserve and enhance the local natural environment, such that the wider district can achieve Net Zero by 2050 or sooner.

The strategy lists numerous projects which will have a direct benefit to air quality including:

- Development of a decarbonisation programme for buildings and increasing the number of renewable energy resources within Council owned assets;
- Raise awareness and education of climate change and the natural environment, as well as implementing climate change and sustainability objectives within local strategies;
- Develop new plans to support low-carbon transport alternatives such as a Local Cycling and Walking Infrastructure Plan (LCWIP) and Electric Vehicle (EV) charging strategy;
- Support energy efficiency in new developments and promotion of government retrofit funding; and
- Adoption of new biodiversity strategies and local plan policies to protect and enhance biodiversity.

An additional project set out in collaboration with Hampshire County Council (HCC) is the Whitehill & Bordon Transportation Green Grid/Green Loop. This consists of the implementation of a pedestrian and cycle network around the town to create easier access routes for non-motorised users and encourage sustainable travel by reducing reliance on cars.

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<sup>4</sup> East Hampshire District Council. Climate and Environment Strategy 2020-2025, August 2020.

<sup>5</sup> East Hampshire District Council. Climate and Environment Strategy 2024-2029, July 2024.

## Conclusions and Priorities

NO<sub>2</sub> is the primary pollutant of concern but does not exceed air quality objectives, therefore no AQMAs have been declared. Monitoring of NO<sub>2</sub> will continue to ensure compliance is maintained. No new or alternative locations require monitoring as there have been no changes to the monitored sources and previous monitoring data does not suggest the need for further monitoring. EHDC will however review the locations of monitoring at the end of 2025 to ensure they remain the most appropriate and effective.

EHDC's main priorities for the coming year are to produce a new local AQS and work more closely with other Hampshire Local Authorities (LA) to reach / maintain the air quality requirements placed on LAs by Government.

## How to get Involved

Road traffic gives rise to much of the air pollution in EHDC. The public can get involved and help with this by:

- Walk, cycle, car share or use public transport. For information about journey planning visit <http://myjourneyhampshire.com/>;
- Switch to low emission vehicles. Grants are still available: <https://www.gov.uk/plug-in-car-van-grants/what-youll-get>. Further information and advice on electric vehicles and charging locations is available here: <https://www.zap-map.com/>; and
- Once the new draft local Air Quality Strategy is out for consultation, local residents can provide comments to EHDC on suggested measures.

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# 1 Local Air Quality Management

This report provides an overview of air quality in East Hampshire during 2024. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by EHDC to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.

## 2 Actions to Improve Air Quality

### 2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

EHDC currently does not have any declared AQMAs. The Council do not have a local Air Quality Strategy (AQS) but are currently drafting one for the district which is due to be complete by March 2026. Measures to prevent and reduce polluting activities are set out within the Climate and Environment Strategy 2020-2025<sup>6</sup> and the Council's Joint Core Strategy published in June 2014<sup>7</sup>, available at: [Adopted local plan | East Hampshire District Council \(easthants.gov.uk\)](#). Concentrations of NO<sub>2</sub> at all sites have remained well below the relevant threshold at all locations during 2024, and as such, EHDC need not consider declaring any AQMAs at this stage.

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<sup>6</sup> East Hampshire District Council. Climate and Environment Strategy 2020-2025, August 2020.

<sup>7</sup> East Hampshire District Council. Joint Core Strategy, June 2014

## 2.2 Progress and Impact of Measures to address Air Quality in EHDC

Defra's appraisal of last year's ASR provided the following comments:

1. *"Good progress is being made against the action plan measures in both 2023 and 2024, this is welcomed."*

**This has continued in the 2025 ASR.**

2. *The report states a Regional Air Quality Group is in place to provide a review of PM monitoring and assessment across Hampshire to inform decision making when drafting measures for achieving compliance with PM<sub>2.5</sub> targets. This is an example of best practice.*

**This has continued in the 2025 ASR.**

3. *Trends are presented and discussed, including a detailed comparison with the Air Quality Objectives.*

**Discussion of trends has also been completed in the 2025 ASR.**

4. *The Local Authority have made changes to the monitoring strategy in the last 12 months in light of the latest monitoring. Of the 11 sites in 2023, two sites (AR1 and AR2) were temporarily introduced in response to concerns by Councillors and residents within a specific area in East Hampshire. The two sites were decommissioned in February 2023 as they had consistently reported below the relevant objectives.*
5. *Graphs and figures presented are clear and easy to understand, which is welcomed.*

**Trend graphs and figures have also been completed to high quality in the 2025 ASR.**

6. *Appropriate QA/QC measures have been provided in line with TG22, including justification for using the national local bias adjustment factor.*

**This has continued in the 2025 ASR.**

7. *Appropriate QA/QC procedures have been applied. Annualisation or distance correction was not required at any sites in 2023.*

**This has continued in the 2025 ASR.**

8. *The Council are encouraged to produce a local Air Quality Strategy as soon as possible.*

**EHDC are in the process of developing their AQS.**

9. *Defra recommends that Directors of Public Health approve draft ASRs. Sign off is not a requirement, however collaboration and consultation with those who have responsibility for Public Health is expected to increase support for measures to improve air quality, with co-benefits for all. Please bear this in mind for the next annual reporting process.”*

**A copy of the completed ASR will be passed to the Directors of Public Health for comment.**

These comments have been considered in this ASR and EHDC is currently developing a local AQS.

EHDC has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in 2.0.1. Twelve measures are included within 2.0.1, with the type of measure and the progress EHDC has made during the reporting year of 2024 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within 2.0.1.

More detail on these measures can be found within the Climate and Environment Strategy and the Joint Core Strategy. EHDC has worked to implement these measures in partnership with neighbouring authorities such as Hampshire County Council (HCC) during 2024.

EHDC has made the following achievements within the last year; agreement on a revised Climate and Environment Strategy, adoption of a new LCWIP and implementing a bike hire scheme for the Green Loop Project in Whitehill.

EHDC will prioritise working more closely with other Hampshire LAs to reach / maintain the air quality requirements placed on LAs by government, though it is expected that there may be challenges to this due to; available resources, changing public behaviour and use of wood burning appliances for domestic heating. EHDC will also continue with the developments to the Whitehill & Bordon Transportation Green Grid/Green Loop and work on revising their EV strategy to introduce more EV charging stations within the district



Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Produce Air Quality Strategy	Strategy	Other	2025	2026	EHDC	Council funded	Funded	<£10k	Planning	Net zero target	Strategy being approved and published by end March 2026	Funding has been approved	Resource to implement action
2	Revised Electric Vehicle strategy	Promoting Low emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2024	2030	EHDC, HCC	None	Funded	£100K	Planning	Not calculated	No. of EV chargers	Draft written but not agreed	Resource
3	Adoption of the Local cycling & walking infrastructure plan (LCWIP)	Promoting Travel Alternatives	Other	2024	2025	EHDC, HCC	TBC	No		Implementation	Not calculated	LCWIP adopted	Adopted	Needs to be adopted in local plan and implementation of key routes
4	Promote Clean Air Night 2024	Public information	Via the internet	2024	2024	EHDC	Council funded	Funded	Not measured	Complete	Not calculated		Complete	
5	Move to new EHDC offices - new travel plan	Promoting Travel Alternatives	Workplace Travel Planning	2024	2024	EHDC	None	Funded	< £10k	Implementation	Not calculated	2024	2024	EHDC
6	Green Loop bike hire scheme in Whitehill Bordon	Promoting Travel Alternatives	Promotion of Cycling	2024	2025	EHDC	Council funding	Funded	£10k – 50k	2024	2025	EHDC	Council funding	Funded
7	Revised Climate & Environment Strategy	Strategy		2024	2024	EHDC	Council funded	Funded	< £10k	Completed	"Not calculated	2024	2024	EHDC
8	Horndean Green Trail & Heritage Loop	Promoting Travel Alternatives	Promotion of Cycling and Walking	2024		Horndean Parish Council EHDC	CIL / S106 HCC / Cllr grants			Implementation	Not calculated	Changes in behaviours	HCC funding for aspects of interactive map applied for by HPC, phase 1 route planning completed	Resource to implement action
9	East Hampshire Community Transport service	Promoting Travel Alternatives	Other	2019	2031	EHDC / HCC / Community First	Council funded	Funded	£13,509	Implementation	Not calculated	No. of passenger journeys made	Contract in place for April - Aug 2025, contract extension expected to run from Sept 25 for 4 years with option to extend	There was an expectation that the service would reduce with savings programme from HCC, however this service remains as previous years. Main barrier is lack of take up from residents putting service at risk. The service currently provides a transport solution 10.85 hours per week. Every Tue & Wed and then once a month on a Saturday
10	Havant Connect	Promoting Travel Alternatives	Other	2019	2031	EHDC / HCC / Community First	Council funded	Funded	£7,552.50	Implementation	Not calculated	No. of passenger journeys	Contract in place for April - Aug 2025, contract extension expected to run from	There was an expectation that the service would reduce with savings programme from HCC. The service

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
												made	Sept 25 for 4 years with option to extend	has been reduced to allow for the service to be used for school travel provision The new service includes a school run, so during term time, the service hours are 22.5 per week (Monday to Friday) and then during school holidays (13 weeks) the service hours are 37.5 hours per week (Monday to Friday).
11	East Hants Community Minibus Hire	Promoting Travel Alternatives	Other	2019	2031	EHDC / HCC / Community First	Council funded	Funded	<£10k	Implementation	Not calculated	No of vehicle hires	Contract in place for April - Aug 2025, contract extension expected to run from Sept 25 for 4 years with option to extend	
12	Alton Climate Action Network, Eco-Streets Gateway Project	Promoting Travel Alternatives	Other	2024	2024	EHDC	EHD Councillor Grant funded	Funded	<£1k	Completed	Not calculated	No of attendees	Project delivered	Guided walks to encourage alternative transport in local community in Alton

## 2.3 PM<sub>2.5</sub> – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy<sup>8</sup>, local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter (PM<sub>2.5</sub>). There is clear evidence that PM<sub>2.5</sub> (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

A review of the Defra modelled background maps<sup>9</sup> for 2024 shows that the highest PM<sub>2.5</sub> concentration within the District is 6.95 µg/m<sup>3</sup> in the area northeast of Bordon. This is below the 2040 PM<sub>2.5</sub> target set by the Environment Act PM<sub>2.5</sub><sup>10</sup> as such good air quality can be expected within the district.

The Public Health Outcomes Framework (PHOF) has published statistics on the health effects of exposure of the public to fine particulate pollution<sup>11</sup>. EHDC notes PHOF indicator DO1 – Fraction of mortality attributable to particulate (PM<sub>2.5</sub>) air pollution in 2023 (latest available) gives a value of 4.6% which is slightly below the average for both the Southeast region (5.1%) and England (5.2%).

It is expected that the measures in 2024 will help directly reduce PM<sub>2.5</sub> levels within the district. In addition to this, the Hampshire Regional Air Quality Group is conducting a review of PM monitoring and assessment across Hampshire to inform decision making when drafting measures for achieving compliance with PM<sub>2.5</sub> targets.

EHDC is also taking the following measures in relation to PM<sub>2.5</sub>:

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<sup>8</sup> Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

<sup>9</sup> Defra. Background Mapping for Local Authorities 2021. Available at: <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>

<sup>10</sup> H.M. Government. The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. Available at: <https://www.legislation.gov.uk/uksi/2023/96/contents/made>

<sup>11</sup> Public Health Outcomes Framework. D01 – Fraction of mortality attributable to particular air pollution. Available At: [https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/1/gid/1000043/pat/6/ati/401/are/E07000214/iid/30101/age/230/sex/4/cid/4/tbm/1/page-options/ovw-do-0\\_car-do-0](https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/1/gid/1000043/pat/6/ati/401/are/E07000214/iid/30101/age/230/sex/4/cid/4/tbm/1/page-options/ovw-do-0_car-do-0)

- EHDC is currently reviewing their PM<sub>2.5</sub> policies to inform the drafting of a new local AQS.
- EHDC is continuing to enforce legislation that can have an impact on air quality such as responding to complaints about domestic bonfires and smoke. More information can be found on our website: <https://www.easthants.gov.uk/environmental-health/nuisance-complaints>

PM<sub>2.5</sub> and air pollutants in general will continue to be considered as part of the planning development process. Air quality assessments provided by developers and appropriate mitigation measures should be implemented as part of the construction phase where necessary, including measures to minimise fugitive dust emissions and minimise the deposition of dust on the public highway.

The Pollution Team regulates certain industrial installations under the Environmental Permitting Regulations, including concrete crushers, and cement batching processes, which have the potential to emit significant levels of particulates into the air. EHDC will continue to work with these businesses to ensure fugitive dust emission from these industrial sites are kept to a minimum.



### 3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2024 by EHDC and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed.

#### 3.1 Summary of Monitoring Undertaken

##### 3.1.1 Automatic Monitoring Sites

EHDC did not undertake any automatic (continuous) monitoring in 2024.

##### 3.1.2 Non-Automatic Monitoring Sites

EHDC undertook non-automatic (i.e. passive) monitoring of NO<sub>2</sub> at 9 sites during 2024.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

#### 3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

##### 3.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

Table A.4 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2024 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

There were no exceedances of the annual mean NO<sub>2</sub> objective at any monitoring location within EHDC during 2024. The highest annual mean NO<sub>2</sub> concentration was recorded at monitoring location BR4 in 2024, measuring 23.7 µg/m<sup>3</sup>.

Figure A.1 present the trends in annual mean NO<sub>2</sub> concentrations at monitoring locations since 2020. At the majority of the monitoring locations there is an increase between 2020 and 2022 in the annual NO<sub>2</sub> concentrations. This is likely due to rebound in traffic following the easing of travel restrictions associated with COVID-19. In 2023 concentrations generally decreased, falling to similar levels observed during COVID-19. At four of the nine monitoring sites (AB1, WR1, HR1 and HR7), annual mean NO<sub>2</sub> concentrations decreased from 2023 to 2024, with the other five (BR4, BR2, BR5, BU1 and PB1) showing an increase between 2023 and 2024.

As none of the diffusion tube sites recorded annual mean NO<sub>2</sub> concentrations greater than 60 µg/m<sup>3</sup>, it is unlikely that the 1-hour mean NO<sub>2</sub> objective was exceeded at any of these locations in 2024, which is consistent with previous years' results.

## Appendix A: Monitoring Results

### Table A.1 – Details of Automatic Monitoring Sites

EHDC did not undertake any automatic monitoring during 2024.

### Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AB1	Alton. Orchard House	Background	472109	139487	NO <sub>2</sub>	No	0.0	N/A	No	3.0
BR4	Bordon. Corals (1), Chalet Hill	Roadside	479666	135345	NO <sub>2</sub>	No	0.0	2.9	No	2.6
BR2	Bordon. Chalet Court	Roadside	479695	135356	NO <sub>2</sub>	No	2.0	3.0	No	1.5
BR5	Bordon. High Street (1)	Roadside	479654	135312	NO <sub>2</sub>	No	2.0	1.9	No	2.3
BU1	Bordon. 18 Bassenthwaite	Background	479795	136267	NO <sub>2</sub>	No	0.0	N/A	No	1.7
WR1	Whitehill. Petersfield Road	Roadside	479314	134307	NO <sub>2</sub>	No	2.3	1.0	No	2.0
PB1	Petersfield. Town Hall	Background	474989	123241	NO <sub>2</sub>	No	0.7	N/A	No	2.0
HR1	Horndean. London Road	Roadside	470554	113582	NO <sub>2</sub>	No	0.0	2.0	No	2.6
HR7	Horndean - Gales Brewery	Roadside	470665	113259	NO <sub>2</sub>	No	18.0	2.3	No	2.5

**Notes:**

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

**Table A.3 – Annual Mean NO<sub>2</sub> Monitoring Results: Automatic Monitoring (µg/m<sup>3</sup>)**

EHDC did not undertake any automatic monitoring during 2024.

**Table A.4 – Annual Mean NO<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>)**

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2024 (%) <sup>(2)</sup>	2020	2021	2022	2023	2024
AB1	472109	139487	Background	100.0	100.0	8.5	9.8	10.7	8.5	7.7
BR4	479666	135345	Roadside	75.0	75.0	23.5	35.6	26.4	19.5	23.7
BR2	479695	135356	Roadside	100.0	100.0	14.9	16.0	15.8	12.7	14.8
BR5	479654	135312	Roadside	100.0	100.0	22.0	24.8	25.0	18.8	19.8
BU1	479795	136267	Background	100.0	100.0	7.8	8.6	9.2	7.2	8.3
WR1	479314	134307	Roadside	100.0	100.0	20.5	21.9	22.6	21.4	17.1
PB1	474989	123241	Background	100.0	100.0	8.7	10.1	10.0	8.9	9.4
HR1	470554	113582	Roadside	100.0	100.0	23.3	24.4	23.1	21.8	20.5
HR7	470665	113259	Roadside	100.0	100.0	20.4	23.1	24.2	21.0	19.5

☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.

☒ Diffusion tube data has been bias adjusted.

☒ Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.

#### Notes:

The annual mean concentrations are presented as µg/m<sup>3</sup>.

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

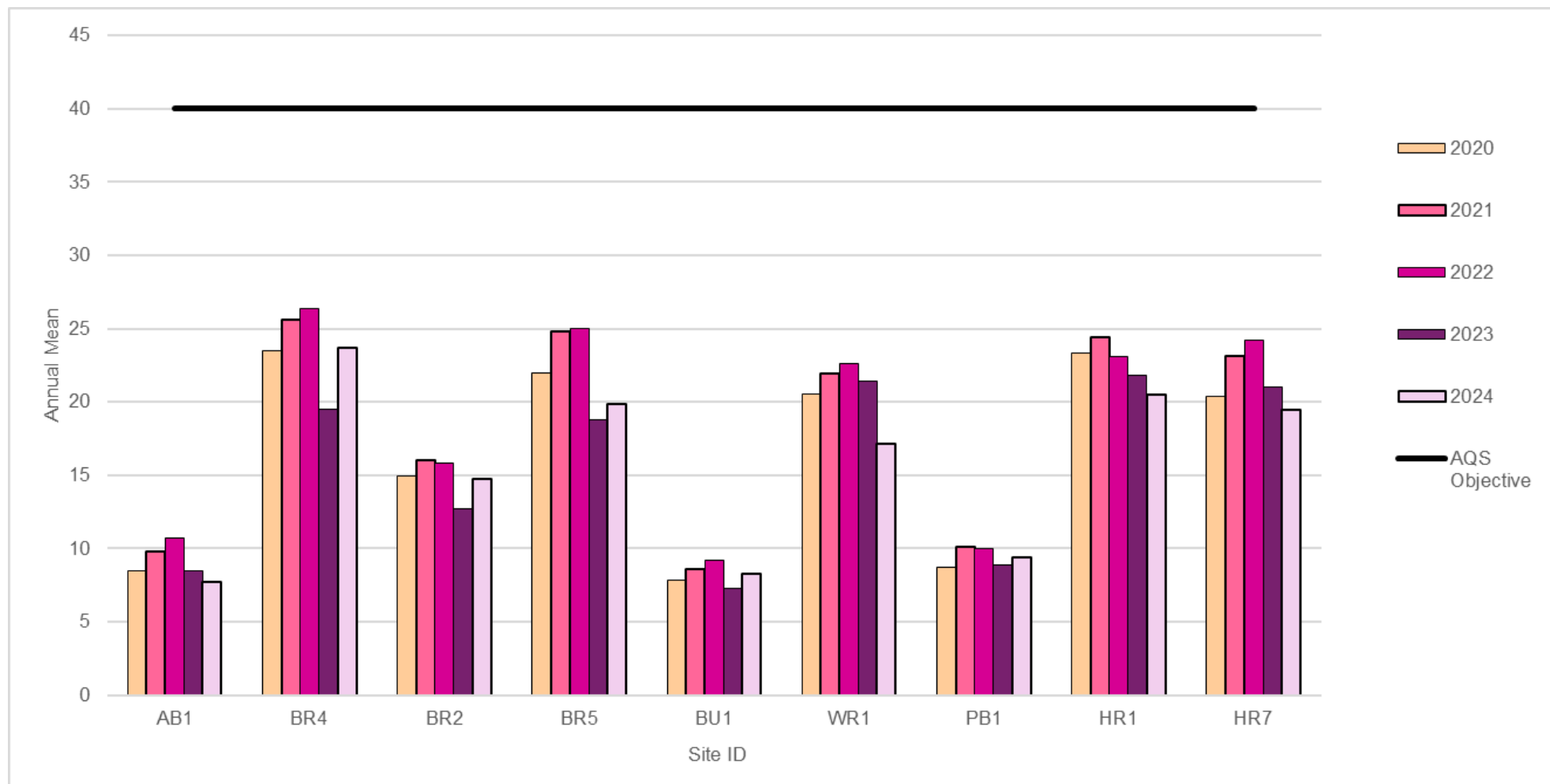
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations**





Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO<sub>2</sub> 2024 Diffusion Tube Results (µg/m<sup>3</sup>)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing )	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.88)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AB1	472109	139487	14.0	9.5	10.3	6.5	6.8	5.9	6.8	6.3	7.5	10.3	12.5	9.2	8.8	7.7		
BR4	479666	135345		29.3	28.4	22.6	26.3	26.4	28.0			29.6	28.2	23.4	26.9	23.7		
BR2	479695	135356	20.0	16.2	16.6	12.3	13.9	15.2	16.6	13.9	14.9	27.6	20.7	13.7	16.8	14.8		
BR5	479654	135312	26.1	23.4	27.8	20.7	25.3	20.8	25.2	21.2	25.3	9.8	29.4	15.4	22.5	19.8		
BU1	479795	136267	12.6	9.2	7.7	5.8	6.5	5.5	6.0	5.7	7.9	25.8	12.3	8.2	9.4	8.3		
WR1	479314	134307	27.4	22.4	16.9	19.9	19.7	19.5	20.0	14.9	24.3	10.5	30.4	7.7	19.5	17.1		
PB1	474989	123241	13.2	11.3	9.7	7.3	7.5	7.0	7.0	7.3	8.1	25.5	14.7	9.9	10.7	9.4		
HR1	470554	113582	28.3	29.4	21.9	21.2	19.4	21.3	20.5	19.3	20.6	25.6	26.8	25.5	23.3	20.5		
HR7	470665	113259	26.9	23.4	25.3	19.8	23.8	21.0	20.3	19.9	20.2	17.3	24.9	22.6	22.1	19.5		

- ☒ All erroneous data has been removed from the NO<sub>2</sub> diffusion tube dataset presented in Table B.1.
- ☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.
- ☐ Local bias adjustment factor used.
- ☒ National bias adjustment factor used.
- ☒ Where applicable, data has been distance corrected for relevant exposure in the final column.
- ☐ EHDC confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

## Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

### New or Changed Sources Identified Within EHDC During 2024

EHDC has not identified any new sources relating to air quality within the reporting years of 2024.

### Additional Air Quality Works Undertaken by EHDC During 2024

EHDC has not completed any additional works within the reporting years of 2024.

### QA/QC of Diffusion Tube Monitoring

EHDC's NO<sub>2</sub> diffusion tubes are supplied and analysed by Gradko International Ltd using the 50% TEA in Acetone method. This method conforms to the guidelines set out in Defra's 'Diffusion Tubes for Ambient NO<sub>2</sub> Monitoring: Practical Guidance' document.

Gradko International participates in the AIR NO<sub>2</sub> PT scheme<sup>12</sup>. This scheme forms an integral part of the UK NO<sub>2</sub> Network's QA/QC and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). In AIR NO<sub>2</sub> PT rounds AR063 - AR050 (covering periods from May 2022 – June 2024) Gradko achieved 100% satisfactory scores.

Diffusion Tube deployments have been completed in line with the 2024 Diffusion Tube monitoring Calendars.

### Diffusion Tube Annualisation

Annualisation is required for any site with data capture less than 75% but greater than 25%. No diffusion tube monitoring sites had a data capture less than 75% in 2024, so therefore did not require annualising.

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<sup>12</sup> LGC (2024) Summary of Laboratory Performance in AIR NO<sub>2</sub> Proficiency Testing Scheme (May 2022 – June 2024) Available at: <https://laqm.defra.gov.uk/wp-content/uploads/2021/02/AIR-PT-Rounds-50-to-63-June-2022-to-June-2024.pdf>

## Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2024 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO<sub>x</sub>/NO<sub>2</sub> continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

EHDC did not undertake any colocation studies in 2024 and have therefore applied a national bias adjustment factor of 0.88 to the 2024 monitoring data. A summary of bias adjustment factors used by EHDC over the past five years is presented in Table C.2.

**Figure C.1 – National Diffusion Tube Bias Adjustment Spreadsheet Calculation for 2024**

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 04/25					
Follow the steps below <b>in the correct order</b> to show the results of <b>relevant</b> co-location studies								This spreadsheet will be updated at the end of June 2025  LAQM Helpdesk Website			
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods											
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet											
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.											
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.						Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.					
Step 1:		Step 2:	Step 3:	Step 4:							
Select the Laboratory that Analyses Your Tubes from the Drop-Down List		Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor <sup>2</sup> shown in blue at the foot of the final column.							
If a laboratory is not shown, we have no data for this laboratory.		If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data.	If you have your own co-location study then see footnote <sup>3</sup> . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMhelpdesk@bureauveritas.com or 0800 0327953							
Analysed By		Method	Year <sup>2</sup>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m <sup>3</sup> )	Automatic Monitor Mean Conc. (Cm) (µg/m <sup>3</sup> )	Bias (B)	Tube Precision <sup>4</sup>	Bias Adjustment Factor (A) (Cm/Dm)
✕		✕	✕								
Gradko		50% TEA in Acetone	2024	UB	City Of London Corporation	10	26	21	26.8%	G	0.79
Gradko		50% TEA in Acetone	2024	R	City Of London Corporation	12	34	30	12.1%	G	0.89
Gradko		50% TEA in Acetone	2024	UB	Falkirk Council	11	13	13	-1.6%	G	1.02
Gradko		50% TEA in acetone	2024	SU	Redcar And Cleveland Borough Council	12	12	9	35.4%	G	0.74
Gradko		50% TEA in acetone	2024	KS	Marylebone Road Intercomparison	11	43	36	20.8%	G	0.83
Gradko		50% TEA in acetone	2024	R	Sandwell Mbc	12	30	25	24.2%	G	0.81
Gradko		50% TEA in acetone	2024	UB	Sandwell Mbc	12	19	17	8.0%	G	0.93
Gradko		50% TEA in acetone	2024	R	Sandwell Mbc	12	20	20	-2.6%	S	1.03
Gradko		50% TEA in Acetone	2024	R	London Borough Of Merton	12	27	22	25.7%	G	0.80
Gradko		50% TEA in acetone	2024	UB	London Borough Of Wandsworth	10	19	14	31.7%	G	0.76
Gradko		50% TEA in acetone	2024	R	London Borough Of Richmond Upon Thames	12	18	19	-9.1%	G	1.10
Gradko		50% TEA in acetone	2024	B	London Borough Of Richmond Upon Thames	12	13	13	5.0%	G	0.95
Gradko		50% TEA in acetone	2024	Overall Factor <sup>2</sup> (12 studies)						Use	0.88

**Table C.1 – Bias Adjustment Factor**

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/25	0.88
2023	National	09/24	0.83
2022	National	09/23	0.82
2021	National	09/23	0.82
2020	National	03/21	0.82

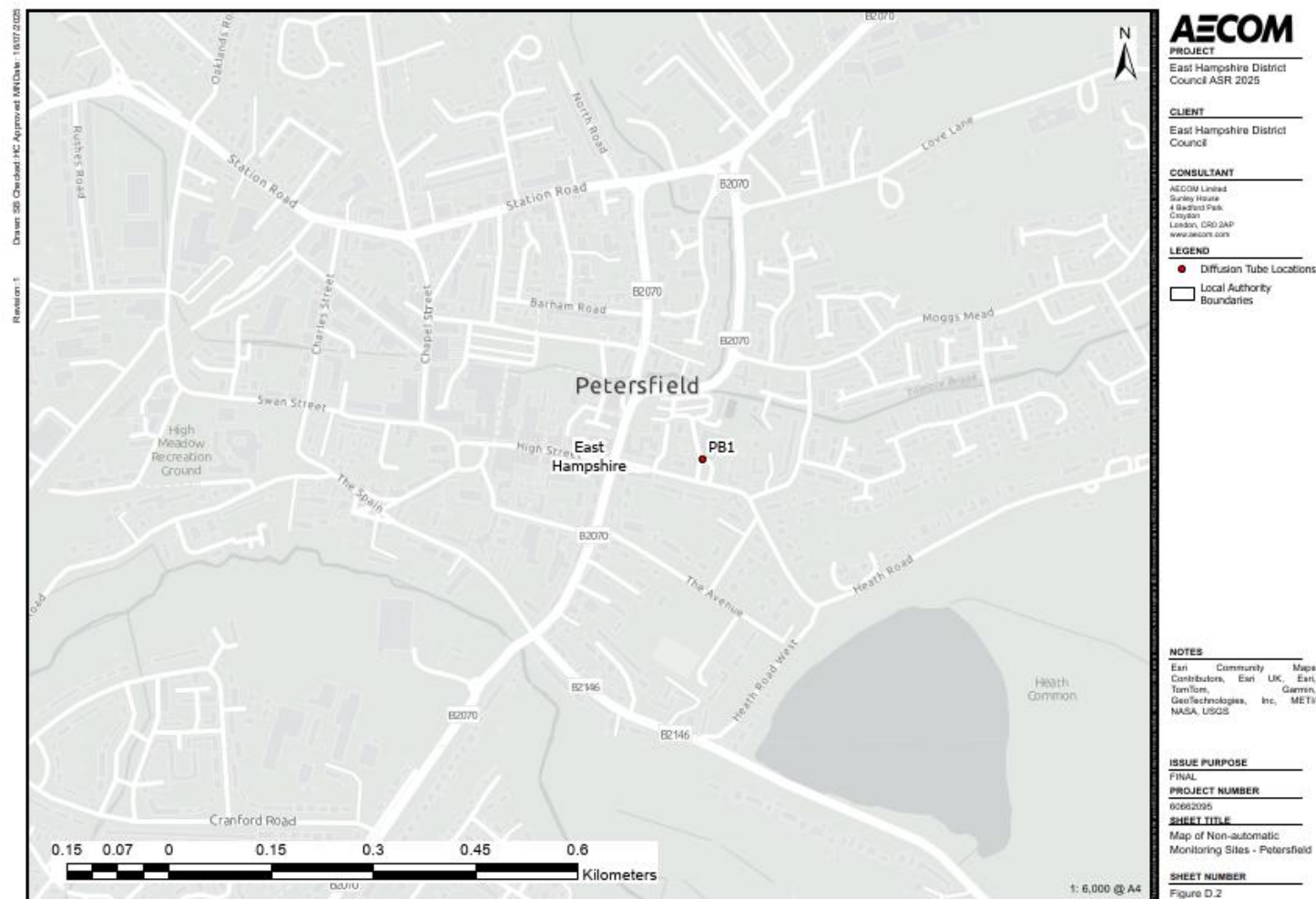
**NO<sub>2</sub> Fall-off with Distance from the Road**

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table B.1.

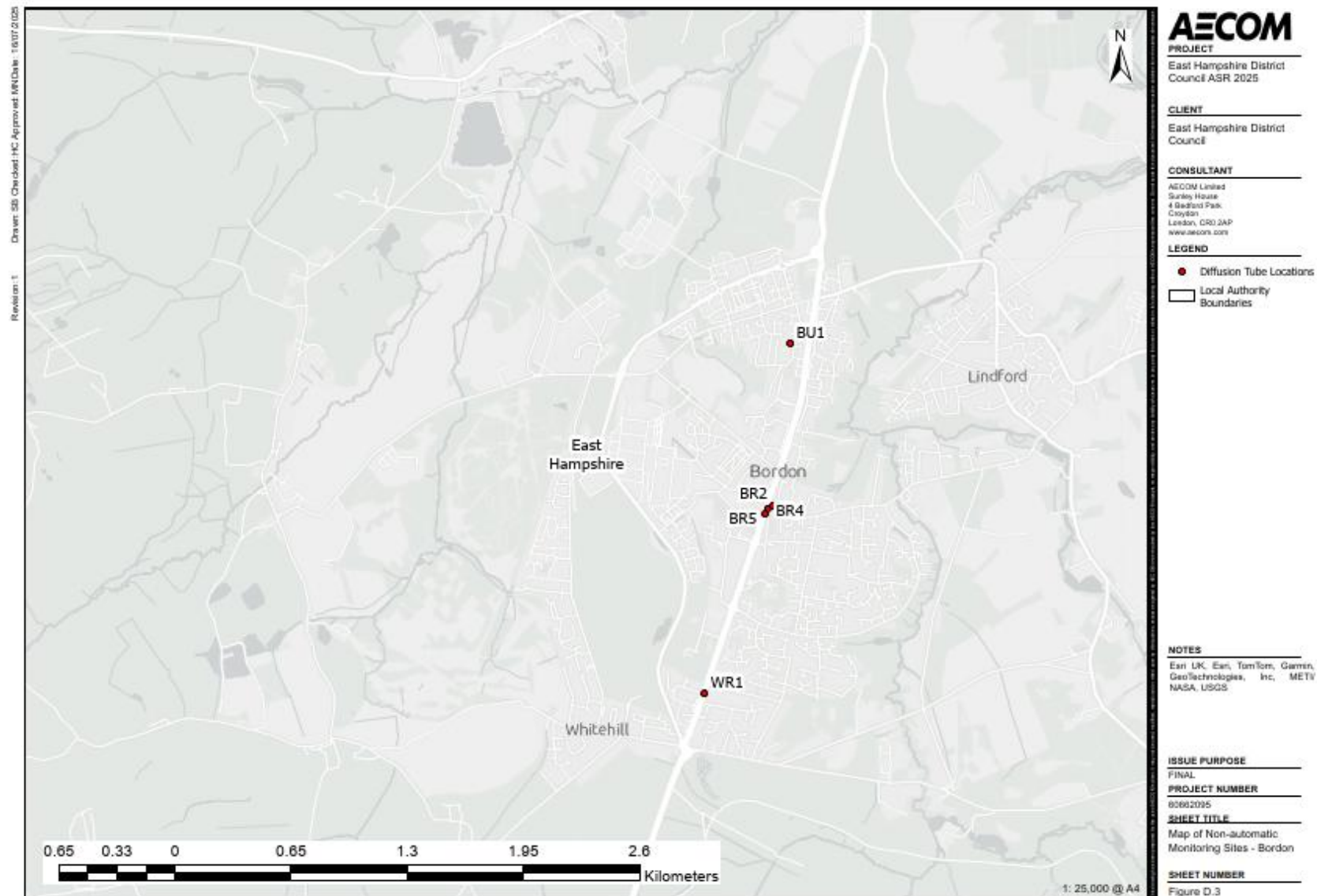
No diffusion tube NO<sub>2</sub> monitoring locations within EHDC required distance correction during 2024.

## Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.2 – Map of Non-Automatic Monitoring Sites – Petersfield

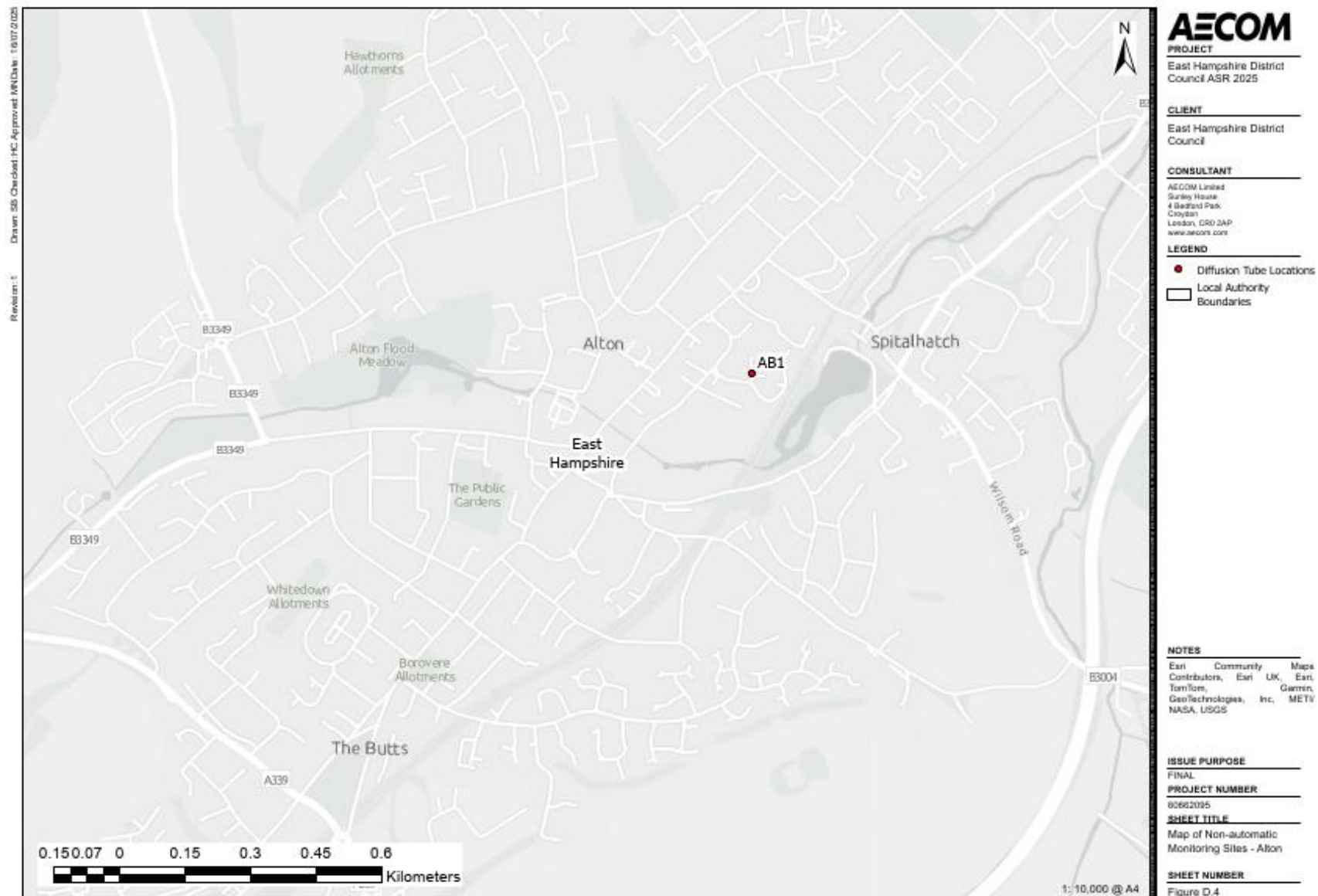


**Figure D.3 – Map of Non-Automatic Monitoring Sites – Bordon**

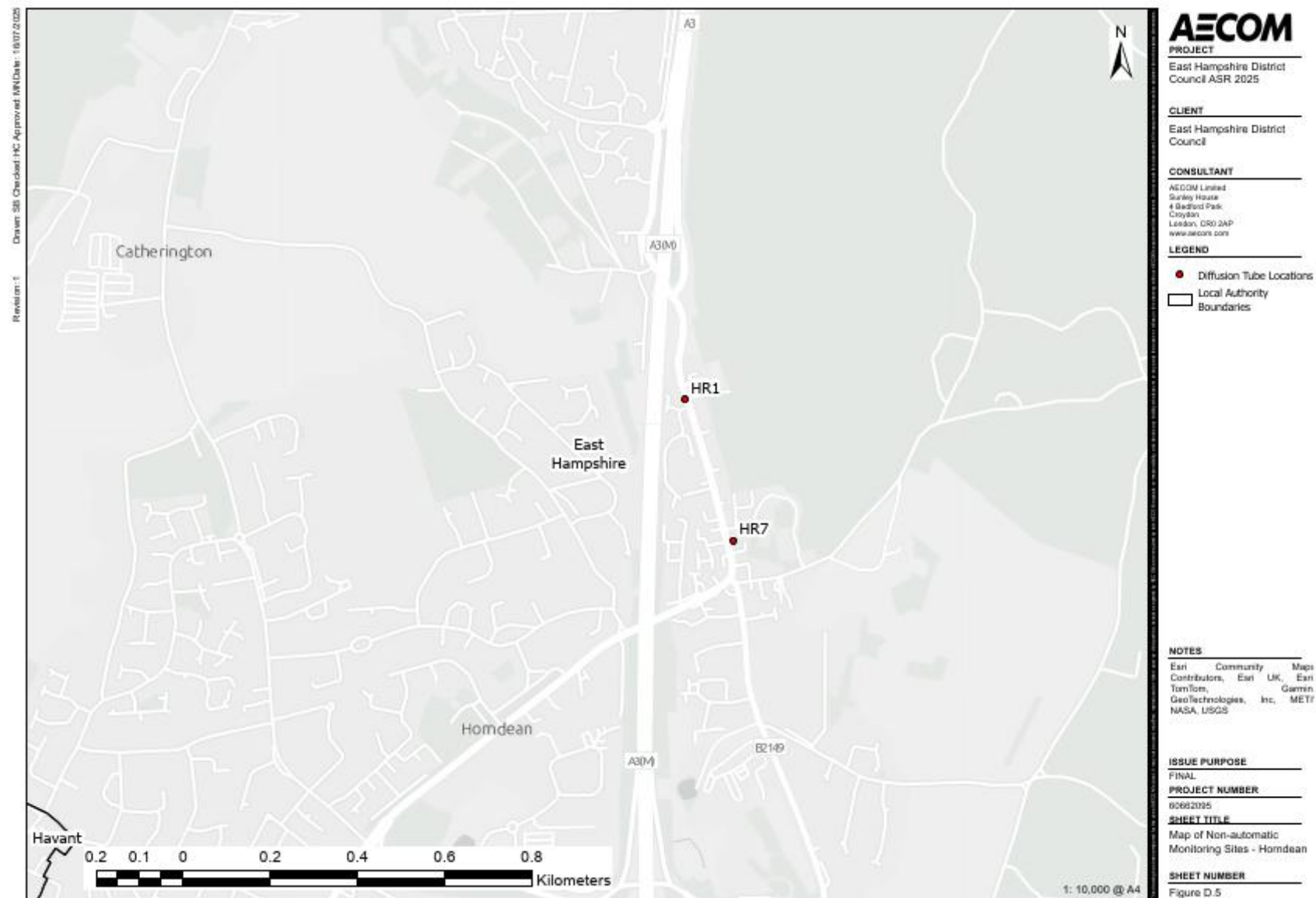




**Figure D.4 – Map of Non-Automatic Monitoring Site – Alton**

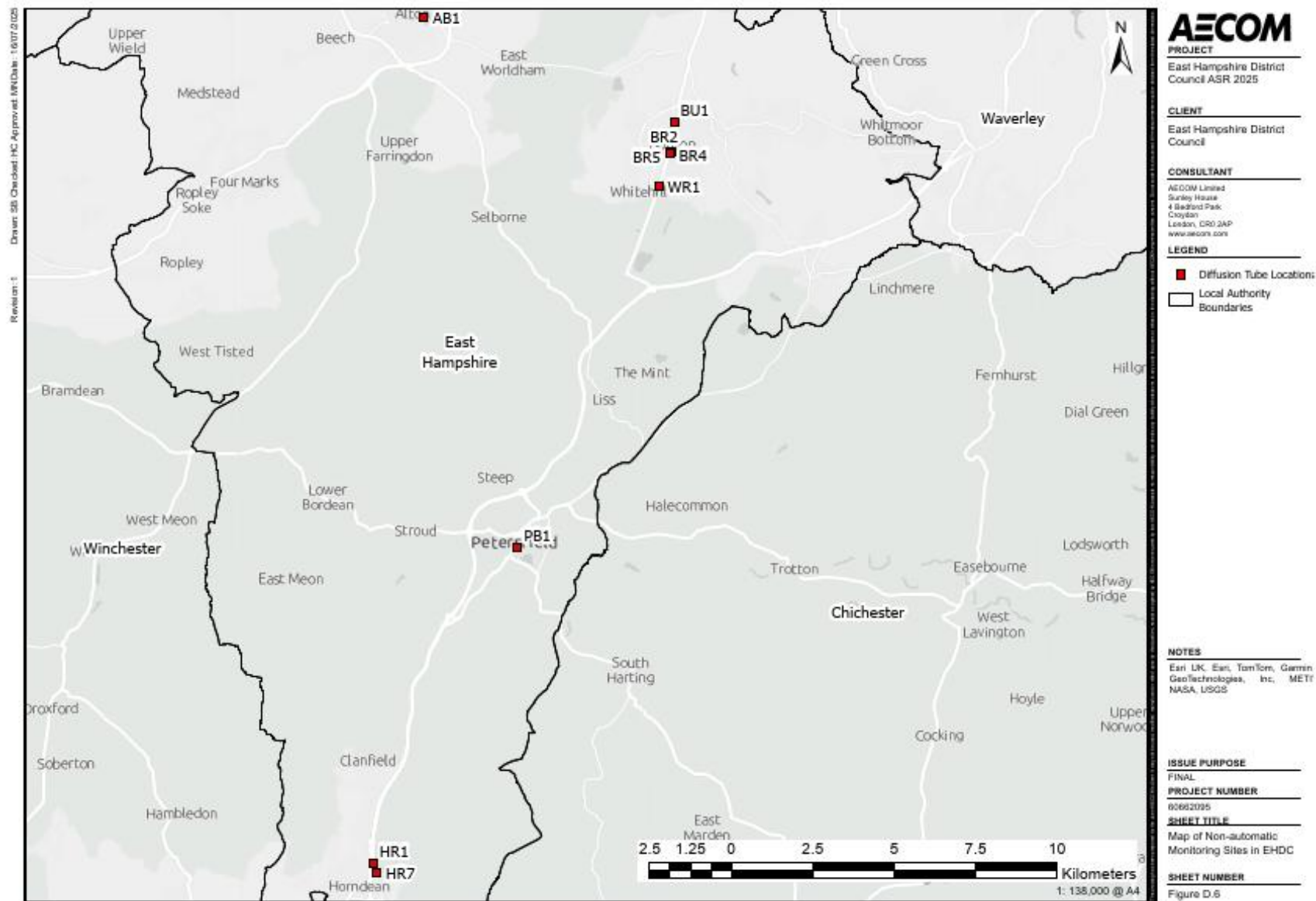


**Figure D.5 – Map of Non-Automatic Monitoring Sites – Horndean**





**Figure D.6 – Map of Non-Automatic Monitoring Sites in EHDC**



## Appendix E: Summary of Air Quality Objectives in England

**Table E.1 – Air Quality Objectives in England<sup>13</sup>**

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO <sub>2</sub> )	40µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM <sub>10</sub> )	40µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	125µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	266µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

<sup>13</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
EHDC	East Hampshire District Council
EU	European Union
EV	Electric Vehicle
HCC	Hampshire County Council
HPC	Horndean Parish Council
LA	Local Authority
LAQM	Local Air Quality Management
LCWIP	Local Cycling and Walking Infrastructure Plan
NHS	National Health Service
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PHOF	Public Health Outcomes Framework
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.
- Background Mapping for Local Authorities. 2021. Defra. Published by Defra.
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. H.M. Government.
- D01 – Fraction of mortality attributable to particular air pollution. Public Health Outcomes Framework.
- Summary of Laboratory Performance in AIR NO<sub>2</sub> Proficiency Testing Scheme (May 2022 – June 2024). LGC.