



**STROUD  
DISTRICT  
COUNCIL**

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# 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: June 2025

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## Local Responsibilities and Commitment

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This ASR has been signed off by a Gloucestershire County Council Public Health, who provided comprehensive commentary on the report, and ways in which corporation could be enhanced.

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## Executive Summary: Air Quality in Our Area

### Air Quality in Stroud District Council

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 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>

Road traffic emissions are the most significant factor affecting air quality in Stroud district, with nitrogen dioxide (NO<sub>2</sub>) being the primary pollutant of concern. Stroud District Council locates diffusion tubes across the District to measure NO<sub>2</sub> concentrations. The tubes are replaced monthly and then sent away for analysis. There is currently no council monitoring of PM<sub>10</sub> or PM<sub>2.5</sub>.

## 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.

In January 2025, Stroud District Council adopted a new [Air Quality Strategy \(2025-2027\)](#) which provides the overarching framework through which air quality within Stroud District is managed. The Strategy aims to guide and inform council policy, ensuring a coordinated approach to air quality, including statutory requirements, enforcement and through policy. This also includes the council's own impact on air quality which is recognised as part of the service delivery that Stroud District Council provides.

In response to new PM<sub>2.5</sub> targets introduced by the Environment Act 2021, Stroud District Council has also been exploring options for initiating PM<sub>2.5</sub> monitoring. As part of a Gloucestershire-wide network coordinated by Gloucestershire County Council, it has been collaborating with neighbouring authorities to develop a strategy for monitoring and reporting particulate data while ensuring public access to this information. In Autumn 2024, Stroud District Council successfully secured £10,000 from Gloucestershire County Council for a dedicated PM<sub>2.5</sub> monitoring project, with plans to implement it in 2025.

## Conclusions and Priorities

In 2024, measured concentrations of NO<sub>2</sub> were below the UK Air Quality Standards (i.e., legal limits) at all monitored locations. Furthermore, our latest data indicates a slight improvement in air quality. In 2024, measured NO<sub>2</sub> concentrations were lower than in 2023 at 18 out of 33 monitoring sites. Compared to 2020, 26 out of 28 long-term sites also recorded lower NO<sub>2</sub> levels, suggesting that air quality in Stroud is now better than during the Covid-19 lockdowns, despite the significantly reduced economic activity in that period.

Air quality is also improving across much of the UK, where road traffic is the major source of emissions, due to the replacement of older, "dirtier" vehicles with those with "cleaner" engines, including electric vehicles. As such, these results are in line with national trends.

Looking forward, Stroud District Council will implement its newly adopted Air Quality Strategy and begin monitoring PM<sub>2.5</sub> using sensors, in 2025.

## How to get Involved

Stroud District Council engages with decision makers and the public through several forums. Gloucestershire Pollution Group is made up of environmental protection professionals from each of the local authorities within Gloucestershire, as well as air quality representatives from Gloucestershire County Council (GCC) and the Environment Agency. This forum allows officers to share good practice and ideas for improving air quality.

Stroud District Council has been engaged with the Air Quality and Behaviour Change group. This group is made up of professionals and electoral representatives from across Gloucestershire. The group published the draft [Gloucestershire Air Quality and Health Strategy](#), and has developed an [online tool](#) to facilitate a co-ordinated approach to the monitoring and reporting of pollution across Gloucestershire. A district wide strategy is also under development.

Stroud District Council provides support to a Community Liaison Group set up to research air quality issues associated with an energy from waste facility operating in Stroud district. The group is made up of local electoral representatives, Environment Agency representatives, representatives from the operator as well as members of the public.

There is significant interest in air quality issues across Stroud District, and this is reflected in the political composition of the Council. Councillors actively engage in a whole range of environmental issues, including air quality. Officers regularly brief the Council's Environment Committee on air quality in the district.

The public can help to improve air quality across the district by reducing unnecessary vehicular travel. Additionally, burning household and garden waste is a particular issue so, disposal of these wastes by alternative means would be beneficial.

Copies of the latest air quality report for Stroud District can be found on the Council's website at <https://www.stroud.gov.uk/environment/environmental-health/pollution-and-nuisance/air-quality>.

Queries relating to air quality should be directed to the Environmental Protection team at Stroud District Council.

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# 1 Local Air Quality Management

This report provides an overview of air quality in Stroud District 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 Stroud District Council 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.

Stroud District Council currently does not have any declared AQMAs.

Stroud are working towards the goals of the [Gloucestershire Air Quality and Health Strategy](#), which has no formal adopted status, and its [district level Air Quality Strategy](#).

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

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

*"The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are designed to help inform future reports:*

- 1. Bias adjustment factors were calculated using the 03/24 version of the spreadsheet. Ensure that in next year's report, the most up to date version of the spreadsheet is used for calculating the bias adjustment factor.*
- 2. Robust measures to address air quality in SDC. Considering all passive monitoring results for NO<sub>2</sub> are significantly below the AQO, it is great to see that SDC have a robust list of measures to further improve air quality.*
- 3. Maps that have been used in the report are clear and show exactly where each passive monitoring location is located. The local authority boundary has been included in the maps. This is a great addition to the map as it provides a useful point of reference.*
- 4. Trends and comparisons between the objective value was concise and clearly outlined that there was a general improvement in air quality in SDC. Keeping the discussion concise and to the point made the discussion palpable."*

The only significant comment from the Appraisal was that Defra was looking forward to the publication of the Local Air Quality Strategy, which has since been adopted (in January 2025).

Stroud District Council 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 Table 2.1. 10 measures are included within Table 2.1, with the type of measure and the progress Stroud District Council have 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 Table 2.1.

From next year, the ASR will report on the specific measures included within the local Air Quality Strategy.

Stroud District Council has made progress towards improving air quality in 2024 through:

- The preparation of the Stroud District Council Air Quality Strategy
- Continuing to decarbonise its fleet and estates
- The implementation of an award-winning retrofit programme for its housing stock.
- Leading the countywide Warm and Well partnership.
- Ongoing regulation of industry through environmental permitting.
- Continuing to implement anti-idling initiatives around schools as part of the Gloucestershire Air Quality and Health Strategy.
- Build stronger links with Public Health at Gloucestershire County Council. As an example of good practice thus far, they contributed to the formation of the Air Quality Strategy.
- Budget approved for 0.5 FTE dedicated air quality officer with a small operational budget.

Stroud District Council expects the following measures to be completed over the course of the next reporting year:

- Set up 3no. indicative PM<sub>2.5</sub> monitoring station (s), within the District. These will likely seek to align with our higher-level diffusion tube monitoring locations. However, there is also going to be a 'roaming' PM monitor. This will initially be placed in areas of potential increased wood-burning, an example would likely be the Chalford area of the District.

Stroud District Council's priorities for the coming year are to:

- Implement the newly adopted Air Quality Strategy and to develop knowledge of key sources of PM<sub>2.5</sub> in the district.
- Continue and develop our diffusion tube monitoring network e.g. through the identification of new monitoring locations within the district.
- Continue to engage and work with our partners within our countywide air quality group.
- Continue investigation and, where appropriate, robust action in relation to burning of controlled waste.
- Scoping the possibility of gaining additional funding for a PM<sub>2.5</sub> monitoring station.

Stroud District Council worked to implement these measures in partnership with the following stakeholders during 2024:

- Neighbouring local authorities

- Gloucestershire County Council

The principal challenges and barriers to implementation that Stroud District Council anticipates facing are funding and other work pressures on a small Environmental Protection Team. However, the Council is actively seeking further funding opportunities as highlighted by a recent grant to assist with the purchase of the indicative PM<sub>2.5</sub> monitoring pods. The new 0.5 FTE air quality officer has not yet been employed, and there is a potential barrier of finding an appropriately qualified person.

The new Local Plan has not been adopted, and therefore there may be some uncertainty relating to how air quality is addressed through planning applications.

Progress on the following measures has been slower than expected due to budgets, priorities and officer availability.

Stroud District Council anticipates that the measures stated above and in Table 2.1 will help improve air quality across Stroud District, as well as reduce greenhouse gas emissions.

**Table 2.1 – Progress on Measures to Improve Air Quality**

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	Stroud District Council Air Quality Strategy	Strategy	Data gathering	2025	2027	SDC	SDC and County Council	Partially funded	£10-50k	Implementation	Reduce vehicle emissions	PM	Implementing	
2	Gloucestershire Local Transport Plan 2020 - 2041	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2020	2041	SDC and County Council	County Council/Government	Partially Funded	£1 million - £10 million	Implementation	Reduced vehicle emissions	NOx	Implementation ongoing	Lengthy timescale
3	Connecting Places Strategy - Stroud	Transport Planning and Infrastructure	Public transport improvements- interchanges stations and services	2020	2041	SDC and County Council	County Council	Partially Funded	£500k - £1 million	Implementation	Reduced vehicle emissions	NOx	Implementation ongoing	Lengthy timescale
4	Gloucestershire Air Quality and Health Strategy	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2022	2025	SDC and County Council	SDC and County Council	Not Funded	£10k - 50k	Planning	Reduced emissions	PM	Still in planning	Cost
5	Gloucestershire Air Quality and Health Strategy	Promoting Low Emission Transport	Other	2022	Ongoing	SDC and County Council	SDC and County Council	Not Funded	<£10k	Planning	Reduced vehicle emissions	NOx	Still in planning	
6	Gloucestershire Air Quality and Health Strategy	Traffic management	Anti-idling enforcement	2022	Ongoing	SDC and County Council	SDC and County Council	Not Funded	£10k - 50k	Planning	Reduced vehicle emissions	NOx	Still in planning	Public and schools' engagement
7	Gloucestershire Air Quality and Health Strategy	Public information	Via the internet	2022	Ongoing	SDC and County Council	SDC and County Council	Not Funded	<£10k -	Planning	Reduced vehicle emissions	NOx	Still in planning	
8	Extension of Cotswold Canals	Promoting Travel Alternatives	Promote use of rail and inland waterways	2022	2028	SDC and charity	SDC and heritage lottery fund	Funded	£1 million - £10 million	Implementation	Reduced vehicle emissions	NOx	Implementation ongoing (See progress)	Lengthy timescale
9	SDC carbon neutral commitment by 2030	Other	Other	2019	2030	SDC	SDC	Partially Funded	£1 million - £10 million	Implementation	Carbon Neutral	CO <sub>2</sub>	Implementation ongoing	Lengthy timescale
10	Improve air quality	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	Ongoing	Ongoing	SDC	Stroud Budget	Funded	£10k - 50k	Implementation	Reduced emissions	Number of complaints/ changes to permits	Implementation ongoing	Staffing and resource
11	Reducing transport carbon emissions	Promoting low emission transport	Taxi emission incentives	Ongoing	Ongoing	Gloucestershire local authorities	Grants/ County Council/ Stroud	Not Funded	£50k - £100k	Planning	Reduced emissions	Taxi fleet emission class	Still in planning	Cost

## 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>1</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.

Stroud District Council is taking the following measures to address PM<sub>2.5</sub>.

Across the local authorities in Gloucestershire, monitoring of particulate matter is patchy. As a result, and because of the negative impact of particulate matter on health, Stroud District Council has been working with Gloucestershire County Council and the other neighbouring authorities to explore options for monitoring particulates; particularly PM<sub>2.5</sub>. To achieve this, Gloucestershire County Council's Sustainability team has led on creating a bidding process to access funds for air quality monitoring of particulate matter and projects in line with Gloucestershire's Air Quality and Health Strategy. A successful bid was made to Gloucestershire County Council for £10,000 for a specific PM<sub>2.5</sub> monitoring project in Autumn 2024.

Gloucestershire's Air Quality and Health Strategy identified the need to engage the public in monitoring as this will contribute to a better understanding of air quality. [A digital solution \(through a countywide website\)](#) to make air quality and related health data available to the public has therefore been developed.

To improve the understanding of the relationship between air quality and health, the platform aims to integrate air quality data with other data sources, such as health outcomes, healthcare activity, road traffic information, road safety information and, policy and planning decisions. It is hoped that in making data available for members of the public to use, they can then make informed decisions to protect themselves and also to reduce negative impacts on air quality as a result of their own actions.

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<sup>1</sup> Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

Stroud District Council also has dedicated webpages relating to the legal responsibilities around [bonfires](#), smoke control from [domestic sources](#) and how issues can be [reported](#).

The Public Health team at Gloucestershire County Council has led the development of the Gloucestershire Health Protection Strategy

(<https://www.gloucestershire.gov.uk/media/iutps5ee/hp-wgll-review-jan-2024.pdf>); of which air quality is a key outcome. The links between air quality and health outcomes is accessed through the Public Health Outcomes Framework. Specifically, the fraction of mortality that is attributable to particulate air pollution indicator (new method), 2023. This indicator identifies that Stroud district's fraction of mortality attributable to particulate air pollution is 4.2%. This is 0.1% worse than the Southwest average, at 4.3%, and 0.9% better than the national average at 5.2% (<https://fingertips.phe.org.uk/profile/public-health-outcomes-framework>).

Monitoring of particulates is no longer undertaken in Stroud district. In previous years, Stroud District Council has been able to report particulate monitoring undertaken in the district using equipment supplied by a Community Liaison Group. Unfortunately, in 2022 that equipment fell into disrepair and so particulate monitoring is no longer possible. Based on previous years' measurements, particulate concentrations appeared to show a downward trend.

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

This section sets out the monitoring undertaken within 2024 by Stroud District Council 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

Stroud District Council did not undertake any automatic (continuous) monitoring during 2024.

#### 3.1.2 Non-Automatic Monitoring Sites

Stroud District Council undertook non-automatic (i.e. passive) monitoring of NO<sub>2</sub> at 41 sites during 2024. Table A.1 in Appendix A presents the details of the non-automatic sites.

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.

Air Quality monitoring ceased at three locations at the end of 2023, after annual mean concentrations were found to be well-below the relevant annual mean AQS. The tubes and the final 2023 recordings are presented below:

- DT 65: Knotgrass Way: **15.3 µg/m<sup>3</sup>**
- DT 71: Slad Road: **10.2 µg/m<sup>3</sup>**
- DT 73: Edward Way: **8.8 µg/m<sup>3</sup>**
- DT 75: Bracelands, Eastcombe: **6.8 µg/m<sup>3</sup>**

Air Quality monitoring began at the following locations in 2024:

- DT 77: Old Neighbourhood, Chalford

- DT: 78 Kingswood Village Centre
- DT: 79 Chipping Gardens, Wotton
- DT: 80 Stratford Road, Stroud
- DT: 81 Kingshill, Dursley

In addition, Stroud Town Council implemented an additional monitoring programme, which included the following additional locations:

- DT 82: London Road, Stroud (nr Waitrose Roundabout)
- DT 83: Cainscross Road, Stroud (Nr School Bus Stops)
- DT 84: Paganhill Lane (approach to Cainscross roundabout)

## 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.2 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.

In 2024, none of the 40 monitoring locations exceeded the annual air quality objective of 40µg/m<sup>3</sup> and none were within 10% of the objective (36.0µg/m<sup>3</sup>). The highest concentration was recorded at DT27 (Stroud – Bowbridge), where an annual mean concentration 30.0% below the 40 µg/m<sup>3</sup> objective was recorded.

Over the past five years, with the exception of 2021 (when it was considered that increased concentrations of NO<sub>2</sub> may have occurred as a result of the gradual release of commuters and motorists from restrictions imposed during the Covid pandemic), there has been a general downward trend in NO<sub>2</sub> concentrations. In 2024, this trend has continued and 18 out of 33 monitoring sites reported a decrease compared to 2023. Furthermore, 26 out of 38 long term monitoring sites recorded lower concentrations in 2024, than in 2020 – the year where there was significant reduced activity as a result of the Covid-19 pandemic.

## Appendix A: Monitoring Results

**Table A.1 – 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)
25	Painswick - High St Lights	Kerbside	386686	209781	NO2	No	3.2	0.5	No	2.0
26	Painswick - Traffic Camera	Kerbside	386740	209821	NO2	No	1.0	0.5	No	2.4
27	Stroud - Bowbridge	Roadside	385784	204367	NO2	No	1.9	1.3	No	2.4
28	Signal House, Dudbridge	Roadside	383652	204557	NO2	No	5.7	2.7	No	2.4
29	Stroud - 1, Signal House	Kerbside	383657	204549	NO2	No	0.9	0.7	No	1.5
30	Stroud - 2, Signal House	Roadside	383665	204553	NO2	No	0.0	3.9	No	2.4
31	Stroud - 3, Signal House	Roadside	383666	204552	NO2	No	0.0	2.9	No	2.4
32	Stroud - 4, Signal House	Roadside	383676	204544	NO2	No	0.0	8.0	No	2.4
33	Stroud - 5, Signal House	Roadside	383672	204538	NO2	No	0.0	2.5	No	5.0
34	Upton St Leonards - 50, Woodland Green	Kerbside	386301	215294	NO2	No	8.0	0.5	No	2.4

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)
35	Trevoze, Hardwicke	Roadside	380188	211951	NO2	No	21.7	4.7	No	2.4
36	30, Hunts Grove Drive, Hardwicke	Kerbside	381140	212269	NO2	No	23.7	0.1	No	2.4
37	The Lodge, Haresfield	Other	380232	210421	NO2	No	N/A	N/A	No	2.4
38	Rodborough - Bath Road	Roadside	384448	204934	NO2	No	4.2	1.9	No	2.4
69	Elstub Lane, Cam	Roadside	373974	200016	NO2	No	5.8	3.6	No	2.4
63	Silver Street, Dursley	Roadside	375642	198095	NO2	No	1.5	1.2	No	2.4
71	Knapp Lane, Brimscombe	Roadside	387569	202197	NO2	No	N/A	1.5	No	2.0
74	A38, Opposite Whitminster Hotel	Roadside	377676	208067	NO2	No	20.0	1.1	No	2.3
76	Highwood Court, Nortonwood, Nailsworth	Roadside	383961	200073	NO2	No	5.0	1.8	No	2.6
77	Old Neighbourhood, Chalford	Roadside	389229	202557	NO2	No	3.2	1.0	No	2.4
78	Kingswood Village Centre	Roadside	374638	191828	NO2	No	3.2	1.0	No	2.2
79	Chipping Gardens, Wotton	Roadside	375462	193100	NO2	No	3.2	1.0	No	2.2
80	Stratford Road, Stroud	Roadside	383725	205592	NO2	No	3.2	1.0	No	2.4

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)
81	Kingshill, Dursley	Roadside	375202	198889	NO2	No	3.2	1.0	No	2.4
45	Moreton Hill	Rural	381872	206279	NO2	No	N/A	N/A	No	2.4
46	Standish Lane	Rural	379342	208604	NO2	No	N/A	1.2	No	2.4
47	LITTLE HARESFIELD	Rural	380374	209112	NO2	No	N/A	0.4	No	2.4
48	HARESFIELD VILLAGE HALL	Rural	381349	210005	NO2	No	7.0	0.2	No	2.4
49	HARESFIELD BEACON	Rural	382295	209217	NO2	No	N/A	0.2	No	2.4
50	HILTMEAD LANE	Rural	380110	211214	NO2	No	N/A	N/A	No	2.4
51	HARDWICKE VILLAGE HALL	Suburban	380217	212821	NO2	No	N/A	0.6	No	2.4
52	Merrywalks Bus Station - Lamp Post 64	Roadside	384991	205352	NO2	No	N/A	2.5	No	2.7
53	Merrywalks South - Lamp Post 60	Roadside	384868	205260	NO2	No	N/A	1.5	No	2.8
54	Cainscross Rd - Junction with Gannicox Road	Kerbside	384389	205185	NO2	No	9.5	1.8	No	3.0
55	Locking Hill Surgery	Roadside	385145	205414	NO2	No	N/A	1.6	No	2.7

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)
56	Beeches Green - Lamp Post 76	Roadside	384934	205516	NO2	No	N/A	1.9	No	2.9
57	A46 / Grove Cottages	Roadside	384669	206344	NO2	No	23.9	1.3	No	2.7
82	London Road, Stroud (nr Waitrose Roundabout)	Kerbside	385481	204731	NO2	No	25	2.7	No	3.0
83	Cainscross Road, Stroud (Nr School Bus Stops)	Kerbside	384070	205168	NO2	No	13.9	1.7	No	3.0
60	STC Offices - 58, London Road	Kerbside	385112	205085	NO2	No	N/A	0.3	No	2.7
84	Paganhill Lane (approach to Cainscross roundabout)	Kerbside	383551	205112	NO2	No	2.5	1.2	No	3.0

**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.2 – 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
25	386686	209781	Kerbside	100.0	100.0	25.9	26.6	25.8	20.4	19.0
26	386740	209821	Kerbside	90.6	90.6	23.6	24.0	26.1	22.1	19.8
27	385784	204367	Roadside	83.0	83.0	30.9	33.4	29.9	29.1	28.0
28	383652	204557	Roadside	75.0	75.0	25.8	28.9	28.6	22.7	25.3
29	383657	204549	Kerbside	100.0	100.0	29.8	34.7	32.4	26.7	26.8
30	383665	204553	Roadside	100.0	100.0	29.0	31.7	29.3	24.1	24.6
31	383666	204552	Roadside	100.0	100.0	28.6	30.7	28.0	23.7	23.0
32	383676	204544	Roadside	100.0	100.0	19.1	22.0	21.0	18.0	18.0
33	383672	204538	Roadside	66.0	66.0	20.0	22.5	20.5	18.5	18.2
34	386301	215294	Kerbside	100.0	100.0	16.7	16.6	16.2	14.0	13.3
35	380188	211951	Roadside	75.0	75.0	25.9	25.2	23.6	18.9	22.2
36	381140	212269	Kerbside	66.0	66.0	11.3	11.8	12.0	9.7	9.3

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
37	380232	210421	Other	75.0	75.0	15.3	17.4	17.4	13.6	13.1
38	384448	204934	Roadside	100.0	100.0	25.5	27.6	26.6	22.2	21.9
69	373974	200016	Roadside	100.0	100.0	-	-	9.0	7.0	6.8
63	375642	198095	Roadside	100.0	100.0	-	25.5	26.3	20.9	20.1
71	387569	202197	Roadside	100.0	100.0	-	-	-	10.2	9.3
74	377676	208067	Roadside	100.0	100.0	-	-	-	15.8	16.7
76	383961	200073	Roadside	75.0	75.0	-	-	-	12.4	7.7
77	389229	202557	Roadside	100.0	100.0	-	-	-	-	20.6
78	374638	191828	Roadside	100.0	100.0	-	-	-	-	9.7
79	375462	193100	Roadside	92.5	92.5	-	-	-	-	12.4
80	383725	205592	Roadside	92.5	92.5	-	-	-	-	16.5
81	375202	198889	Roadside	75.0	75.0	-	-	-	-	10.9
45	381872	206279	Rural	90.6	90.6	7.1	7.9	7.6	6.6	5.9

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
46	379342	208604	Rural	100.0	100.0	9.1	10.3	10.2	7.7	7.1
47	380374	209112	Rural	100.0	100.0	9.3	10.4	10.2	8.0	8.2
48	381349	210005	Rural	83.0	83.0	8.5	9.8	9.4	7.5	7.8
49	382295	209217	Rural	100.0	100.0	7.8	8.2	8.4	6.7	6.7
50	380110	211214	Rural	100.0	100.0	13.8	15.1	15.3	11.2	11.2
51	380217	212821	Suburban	100.0	100.0	11.5	12.4	12.9	8.6	8.5
52	384991	205352	Roadside	90.6	90.6	24.0	25.6	28.3	25.1	23.7
53	384868	205260	Roadside	100.0	100.0	29.7	30.3	30.7	24.0	26.0
54	384389	205185	Kerbside	100.0	100.0	20.1	21.4	21.4	16.5	17.0
55	385145	205414	Roadside	100.0	100.0	20.9	19.0	20.9	16.0	16.7
56	384934	205516	Roadside	90.6	90.6	29.0	31.6	32.1	24.3	26.9
57	384669	206344	Roadside	100.0	100.0	17.2	21.3	19.8	16.8	18.7
82	385481	204731	Kerbside	90.6	90.6	-	-	-	-	15.8

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
83	384070	205168	Kerbside	100.0	100.0	-	-	-	-	13.7
60	385112	205085	Kerbside	75.0	75.0	19.3	22.2	24.9	19.5	20.9
84	383551	205112	Kerbside	90.6	90.6	-	-	-	-	17.0

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  $\mu\text{g}/\text{m}^3$ .

Exceedances of the  $\text{NO}_2$  annual mean objective of  $40\mu\text{g}/\text{m}^3$  are shown in **bold**.

$\text{NO}_2$  annual means exceeding  $60\mu\text{g}/\text{m}^3$ , indicating a potential exceedance of the  $\text{NO}_2$  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 (Roadside and Kerbside Sites 1 / 2)

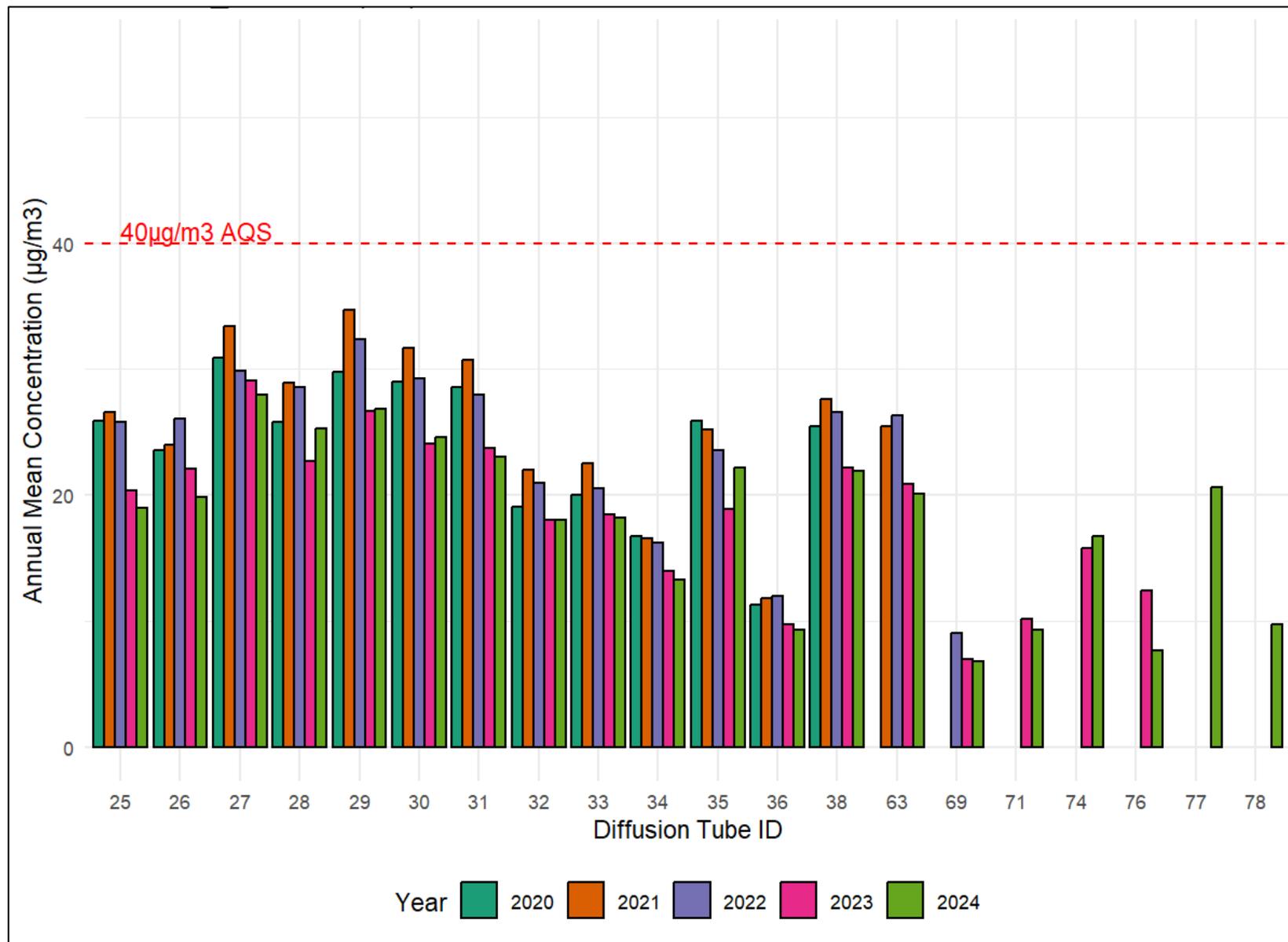


Figure A.2 – Trends in Annual Mean NO<sub>2</sub> Concentrations (Roadside and Kerbside Sites 2/ 2))

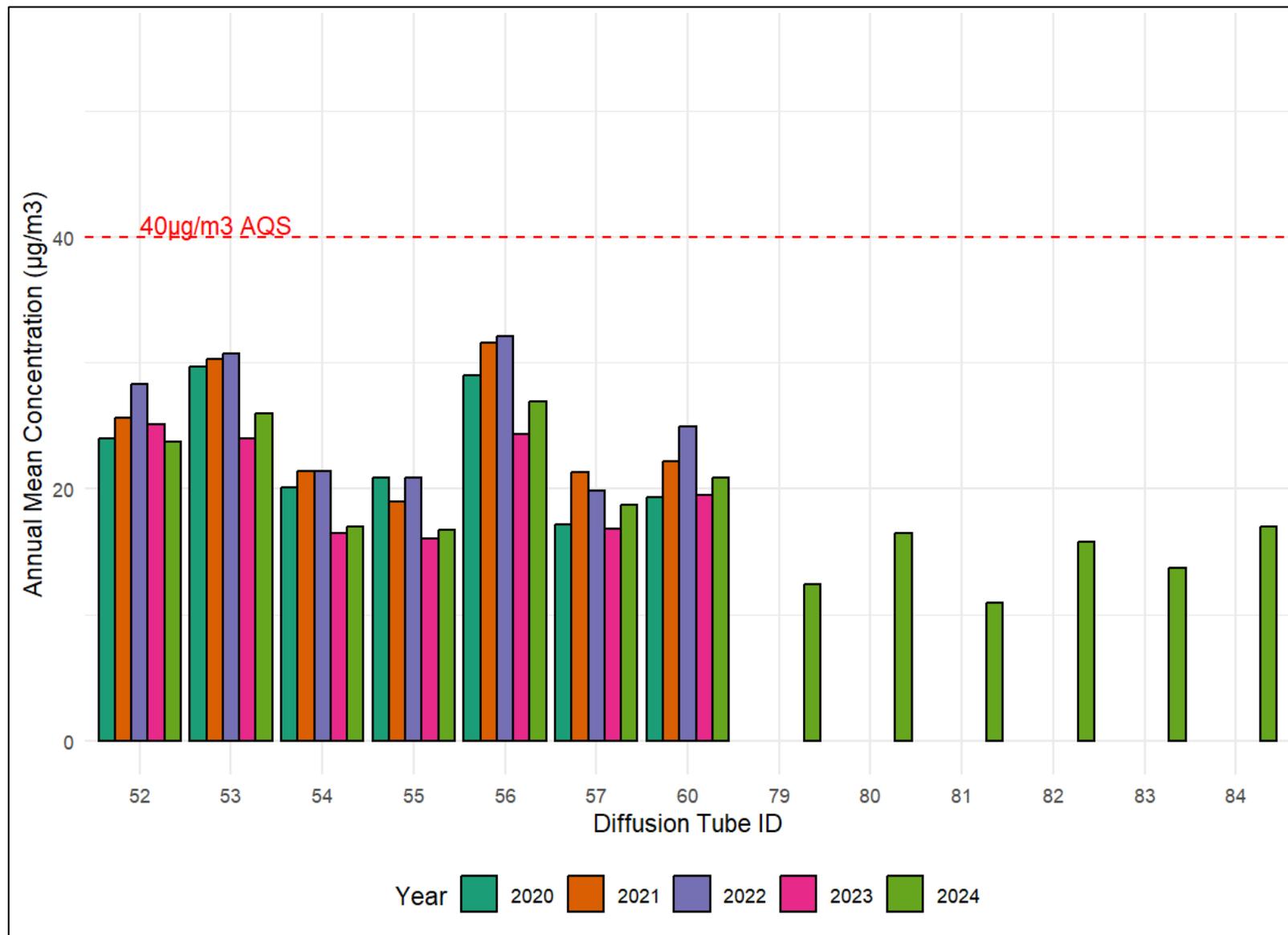
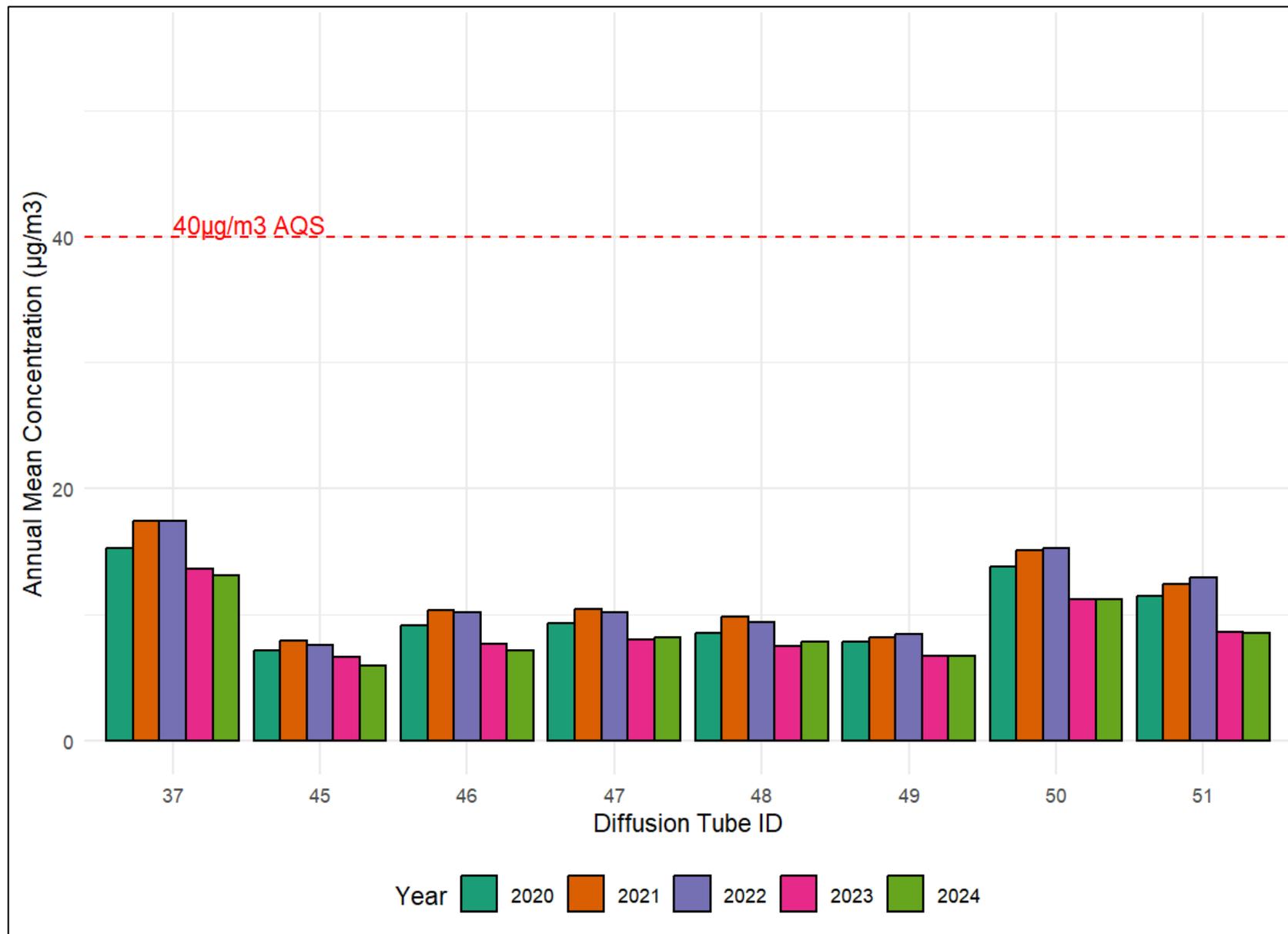


Figure A.3 – Trends in Annual Mean NO<sub>2</sub> Concentrations (Suburban, Rural and Other Sites)



## 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 0.81	Annual Mean: Distance Corrected to Nearest Exposure	Comment
25	386686	209781	30.9	28.7	16.1	17.5	22.9	17.1	23.7	15.9	24.2	24.0	32.3	28.2	23.4	19.0	-	
26	386740	209821	32.8	Missin g	15.3	19.3	18.9	25.4	21.6	13.4	40.6	24.3	32.8	24.9	24.5	19.8	-	
27	385784	204367	39.5	40.6	31.1	32.6	Missin g	Missin g	35.8	36.1	29.4	36.3	33.8	30.4	34.6	28.0	-	
28	383652	204557	38.0	31.1	27.4	Missin g	30.8	28.3	24.1	23.1	39.5	Missin g	38.7	Missin g	31.2	25.3	-	
29	383657	204549	40.2	33.4	32.8	32.8	32.9	29.1	28.9	29.7	33.5	35.4	34.4	34.1	33.1	26.8	-	
30	383665	204553	33.6	35.6	28.7	30.7	28.2	31.8	28.2	24.6	32.6	29.1	33.7	28.4	30.4	24.6	-	
31	383666	204552	32.5	32.1	25.9	29.7	29.4	30.6	27.0	22.3	23.6	29.0	32.5	25.9	28.4	23.0	-	
32	383676	204544	25.5	32.6	18.4	19.6	20.0	20.3	19.6	17.9	23.5	21.8	25.8	21.2	22.2	18.0	-	
33	383672	204538	Missin g	Missin g	21.3	Missin g	22.9	19.4	19.5	Missin g	19.1	24.2	27.6	24.9	22.3	18.2	-	
34	386301	215294	20.5	18.0	13.5	13.5	12.7	13.2	12.9	12.1	26.2	14.0	22.3	17.5	16.4	13.3	-	
35	380188	211951	31.2	30.0	23.3	25.5	Missin g	Missin g	25.3	26.5	Missin g	27.3	31.3	26.9	27.5	22.2	-	
36	381140	212269	16.1	13.7	6.2	8.9	Missin g	9.0	8.4	8.3	Missin g	Missin g	Missin g	12.9	10.4	9.3	-	
37	380232	210421	Missin g	16.7	13.9	13.4	13.8	11.3	Missin g	Missin g	17.9	18.7	23.8	16.0	16.2	13.1	-	
38	384448	204934	33.7	32.6	27.3	25.2	21.9	18.5	20.4	20.0	32.0	30.3	34.0	29.3	27.1	21.9	-	
69	373974	200016	12.0	10.5	7.5	6.5	6.1	4.8	6.7	6.5	8.7	8.8	13.5	9.7	8.4	6.8	-	
63	375642	198095	29.5	30.3	25.1	22.1	20.5	19.4	19.9	18.2	31.1	25.2	31.3	25.3	24.8	20.1	-	
71	387569	202197	17.0	13.4	10.9	9.4	10.3	8.1	7.4	8.7	10.0	12.8	15.8	13.7	11.5	9.3	-	
74	377676	208067	27.3	29.3	20.5	16.6	16.4	14.7	15.7	16.0	18.2	22.3	29.5	20.8	20.6	16.7	-	
76	383961	200073	10.8	8.6	9.3	8.8	Missin g	Missin g	6.8	5.9	Missin g	10.9	14.2	10.6	9.5	7.7	-	
77	389229	202557	29.3	28.7	24.9	26.1	23.2	23.7	22.4	22.3	24.1	25.9	29.4	25.6	25.5	20.6	-	
78	374638	191828	15.7	10.8	10.9	10.7	11.2	8.9	9.6	8.9	10.2	12.8	14.9	18.6	11.9	9.7	-	
79	375462	193100	Missin g	17.2	13.6	13.0	13.9	15.8	13.1	13.4	18.8	16.2	20.5	13.3	15.3	12.4	-	
80	383725	205592	23.0	24.2	Missin g	17.8	19.2	12.4	15.8	16.2	16.6	28.0	28.9	21.6	20.3	16.5	-	
81	375202	198889	Missin g	Missin g	12.2	12.7	11.2	10.3	10.0	13.4	15.4	16.8	19.7	Missin g	13.5	10.9	-	
45	381872	206279	8.5	7.0	6.6	6.9	6.2	5.5	5.1	Missin g	7.3	7.2	11.5	8.4	7.3	5.9	-	

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 0.81	Annual Mean: Distance Corrected to Nearest Exposure	Comment
46	379342	208604	11.8	9.6	7.7	8.0	4.4	6.5	6.6	6.1	10.1	10.9	13.0	10.4	8.8	7.1	-	
47	380374	209112	12.8	12.1	9.4	8.6	7.5	8.0	7.3	9.6	10.7	10.2	15.5	10.3	10.2	8.2	-	
48	381349	210005	11.7	9.7	8.7	7.7	Missin g	Missin g	8.7	7.5	8.2	9.1	13.4	11.3	9.6	7.8	-	
49	382295	209217	11.0	7.7	8.7	7.7	7.0	6.4	5.9	7.8	7.6	9.5	11.3	9.0	8.3	6.7	-	
50	380110	211214	18.3	14.9	13.2	13.0	12.8	7.9	9.6	10.5	13.3	18.1	20.5	13.8	13.8	11.2	-	
51	380217	212821	15.8	11.8	10.2	9.6	7.7	5.3	5.9	6.8	10.7	13.1	18.1	10.4	10.4	8.5	-	
52	384991	205352	29.0	39.1	31.3	24.3	23.9	19.2	24.4	Missin g	33.3	33.3	34.0	30.3	29.3	23.7	-	
53	384868	205260	39.4	45.1	36.1	13.2	28.6	19.0	32.1	34.0	32.9	32.9	36.1	35.3	32.1	26.0	-	
54	384389	205185	26.6	25.6	20.6	18.6	15.7	12.8	17.3	16.9	23.1	23.1	27.2	24.2	21.0	17.0	-	
55	385145	205414	26.1	26.2	20.4	17.2	15.5	14.8	17.0	19.2	21.1	21.1	24.5	24.1	20.6	16.7	-	
56	384934	205516	36.5	39.2	31.9	27.4	32.3	28.7	31.7	30.7	35.7	35.7	35.5	Missin g	33.2	26.9	-	
57	384669	206344	22.1	25.7	17.3	13.8	18.7	18.3		41.1	23.4	23.4	27.5	22.2	23.0	18.7	-	
82	385481	204731	21.4	26.7	17.7	13.7	16.4	15.0	16.0	14.3	22.5	22.5	28.5	Missin g	19.5	15.8	-	
83	384070	205168	21.6	23.1	15.6	14.1	14.9	11.9	8.4	13.3	19.7	19.7	22.0	19.2	17.0	13.7	-	
60	385112	205085	Missin g	Missin g	Missin g	22.9	26.3	19.9	21.0	25.1	30.5	30.5	35.1	20.9	25.8	20.9	-	
84	383551	205112	28.2	28.5	17.2	18.0	17.0	13.6	16.4	19.8	22.9	22.9	26.4	Missin g	21.0	17.0	-	

- 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
- Stroud District Council 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 Stroud District Council During 2024**

Stroud District Council has not identified any such new sources relating to air quality within the reporting year of 2024.

### **Additional Air Quality Works Undertaken by Stroud District Council During 2024**

Stroud District Council has not completed any additional works within the reporting year of 2024.

### **QA/QC of Diffusion Tube Monitoring**

In undertaking air quality monitoring in its District, Stroud District Council uses diffusion tubes provided by Somerset County Council / Somerset Scientific Services (SSS) that have been prepared in 20% TEA in water. To obtain laboratory accreditation to undertake the analysis of diffusion tubes, SSS participates in an external laboratory scheme called the Air & Stack Emissions Scheme. This is a proficiency testing scheme operated through the Laboratory of the Government Chemist (LGC). SSS is required to undertake four rounds of testing per year, which must be confirmed as accurate, before SSS can be ratified to undertake analysis.

SSS is also included in the annual field inter-comparison exercise from which the bias adjustment factor is obtained. The precision of the current 4 SSS co-location studies in 2024 detailed within the national bias adjustment factor spreadsheet (version 06/25) was rated as 'good' (tubes are considered to have "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%), adding to the confidence in the measurements and SSS procedures.

SSS analyses diffusion tubes using the colorimetry method. This method requires a solution to be added to the diffusion tubes so that the nitrite collected on the grids within the tubes is dissolved. The solution reacts with nitrite collected in the tube to produce a coloured compound. The intensity of the colour produced is then measured using

spectrophotometry and is calibrated against a set of standard nitrite solutions to identify the concentration of nitrite present in the sample. The concentration is then used to calculate the mass of nitrite collected by the tube from which an average ambient concentration of NO<sub>2</sub> is calculated for the exposure period.

Diffusion tube monitoring has been undertaken in accordance with the 2024 Diffusion Tube Monitoring Calendar.

### Diffusion Tube Annualisation

Two diffusion tube monitors within Stroud District recorded data capture of less than 75% and therefore it was necessary to annualise this data. Table C.1 shows the calculation for Annualisation.

The tubes were annualised using the following urban background monitors from the AURN Network:

- [Swindon Walcott \(UKA00650\)](#)
- [Bristol St Paul's \(UKA00494\)](#)
- [Newport \(UKA00380\)](#)

**Table C.1 – Annualisation Summary (concentrations presented in µg/m<sup>3</sup>)**

Site ID	Annualisation Factor (Swindon Walcott)	Annualisation Factor (Bristol St Paul's)	Annualisation Factor (Newport)	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
33	0.9958	1.0086	1.0120	1.0055	22.3	22.5
36	1.1412	1.0878	1.0896	1.1062	10.4	11.5

### 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.

Stroud District Council have applied a national bias adjustment factor of 0.81 to the 2024 monitoring data. A summary of bias adjustment factors used by Stroud District Council over the past five years is presented in Table C.2.

**Table C.2 – Bias Adjustment Factor**

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	06/25	0.81
2023	National	03/24	0.79
2022	National	06/23	0.85
2021	National	09/22	0.86
2020	National	09/21	0.85

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				
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods						LAQM Helpdesk Website				
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.				
<b>Step 1:</b>		<b>Step 2:</b>		<b>Step 3:</b>		<b>Step 4:</b>				
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>3</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>4</sup> . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953				
Analysed By <sup>1</sup>	Method <sup>2</sup>	Year <sup>3</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>5</sup>	Bias Adjustment Factor (A) (Cm/Dm)
Somerset County Council	20% TEA in water	2024	KS	Marlebone Road Intercomparison	10	43	36	19.0%	G	<b>0.84</b>
Somerset County Council	20% TEA in water	2024	R	South Gloucestershire Council	12	24	20	18.7%	G	<b>0.84</b>
Somerset County Council	20% TEA in water	2024	R	South Gloucestershire Council	12	20	17	15.8%	G	<b>0.86</b>
Somerset County Council	20% TEA in water	2024	R	South Gloucestershire Council	12	17	12	43.1%	G	<b>0.70</b>
<b>Overall Factor<sup>3</sup> (4 studies)</b>								<b>Use</b>		<b>0.81</b>

**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.

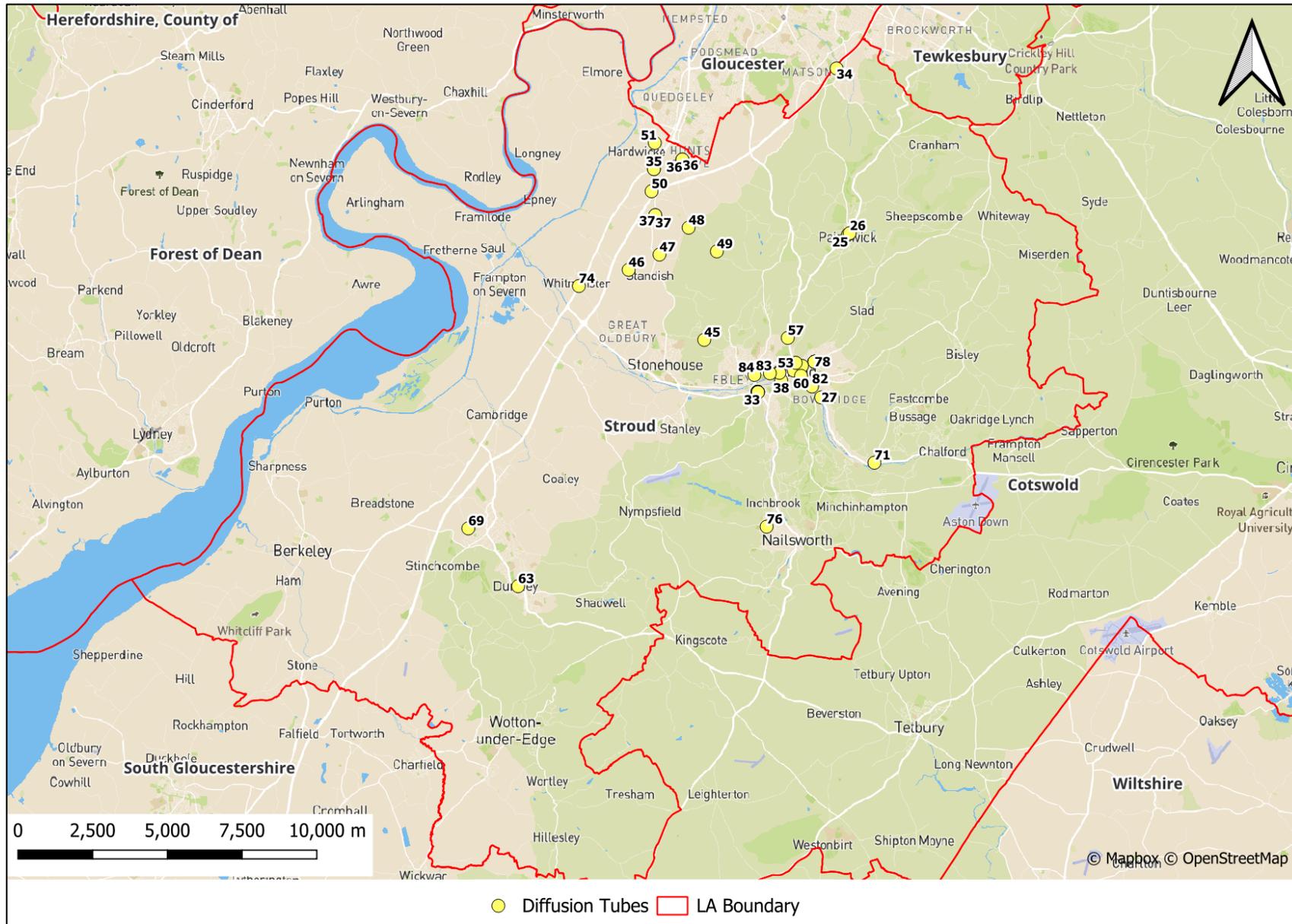
No diffusion tube NO<sub>2</sub> monitoring locations within Stroud District required distance correction during 2024.

## **QA/QC of Automatic Monitoring**

Monitoring of particulates is no longer undertaken in Stroud district. Previously, Stroud District Council reported on particulate levels using equipment supplied by a Community Liaison Group interested in the impact of particulates following the construction and operation of an energy from waste plant. During 2022, the equipment unfortunately fell into disrepair, so particulate monitoring was no longer possible.

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

Figure D.1 – Map of Non-Automatic Monitoring Site



**Figure D.2 – Map of Non-Automatic Monitoring Site (Stroud Town)**

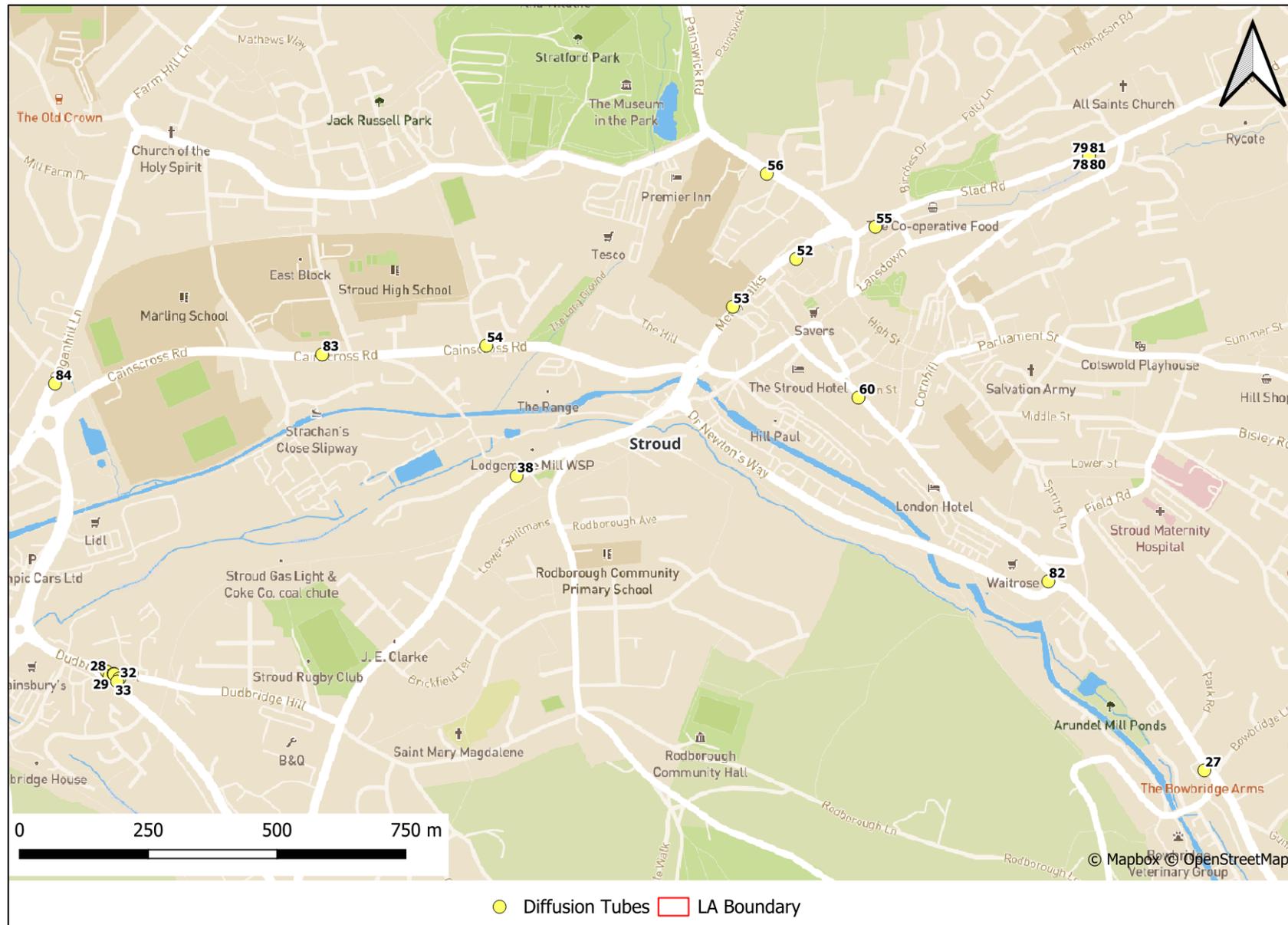


Figure D.3 – Map of Non-Automatic Monitoring Site (North Stroud District)

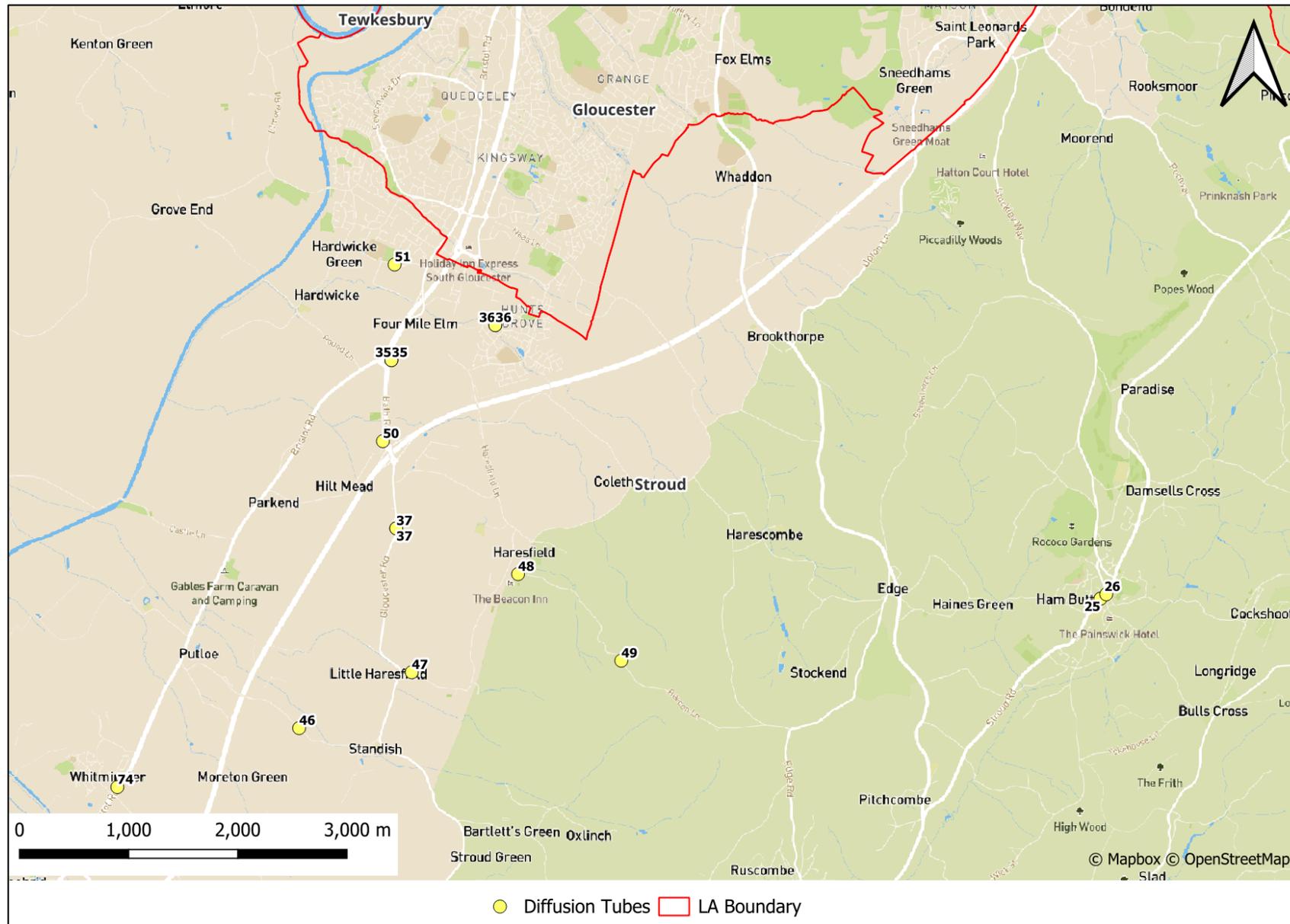
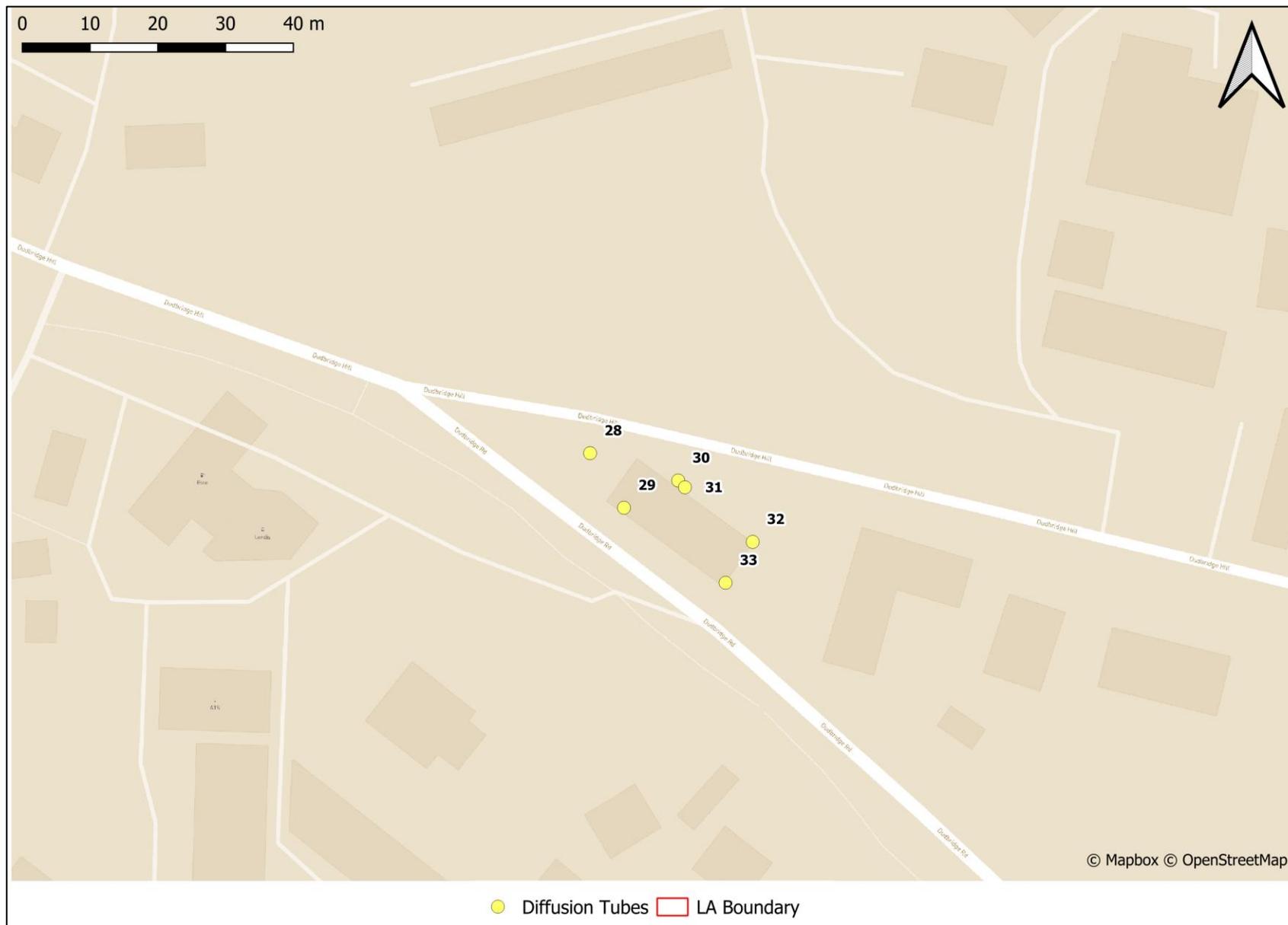


Figure D.4 – Map of Non-Automatic Monitoring Site (South Stroud District)



Figure D.5 – Map of Non-Automatic Monitoring Site (Dudbridge)



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

**Table E.1 – Air Quality Objectives in England<sup>2</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>2</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
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
LAQM	Local Air Quality Management
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
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.
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- Public Health Outcomes Framework (n.d.) *Fingertips*, UK Government. Available at: <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework> (Accessed: 3 June 2025).