



# 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: October 2025

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## Local Responsibilities and Commitment

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## Executive Summary: Air Quality in Our Area

Air quality continues to improve in Rossendale. Two air quality management areas were revoked in 2022 and AQMA3 (which is a small section of Grane Road Haslingden) is showing continued improvement in air quality. There were no breaches of the Air Quality Objective (above  $40\mu\text{g}/\text{m}^3$ ) in 2024. The highest reporting tubes Tube 4 (formerly DT12) located on the façade of 250 Grane Road Haslingden recorded  $42.1\mu\text{g}/\text{m}^3$  in 2023 but now in 2024 is  $38.8\mu\text{g}/\text{m}^3$  and tube 5 (formerly DT19) located on the façade between 256-258 Grane Road Haslingden recorded  $41.3\mu\text{g}/\text{m}^3$  in 2023 and  $36.7\mu\text{g}/\text{m}^3$  in 2024. Looking at the trajectory and the data in the Air Quality Action Plan the air quality is improving and levels will hopefully continue to decrease to below the air quality objective.

Diffusion tubes 1,2,3,4,5,6,8,9,14,15,16 and 17 were removed from the revoked AQMAs 1 and 2 saving the Council over £600 in analyst costs and saved officer time.

The number of diffusion tubes was reduced to nine and re-numbered as follows:

| New tube number | Previous tube number | Current location of diffusion tube                |
|-----------------|----------------------|---|
| DT1             | DT13                 | 30/32 Bacup Road<br>Rawtenstall                   |
| DT2             | DT7                  | 366-368 Manchester Road,<br>Haslingden            |
| DT3             | DT18                 | 222 Grane Road, Haslingden                        |
| DT4             | DT12                 | 250 Grane Road Haslingden                         |
| DT5             | DT19                 | 256-8 Grane Road<br>Haslingden                    |
| DT6             | DT20                 | 264 Grane Road Haslingden                         |
| DT7             | DT10                 | 277 Grane Road Haslingden                         |
| DT8             | DT11                 | 450 Bacup Road Waterfoot                          |
| DT9             | DT1                  | 1 Plantation View, Burnley<br>Road Bacup OL13 8PY |

## Air Quality in Rossendale Borough 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> |

## 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. Rossendale Borough Council has done the following in 2024 as it works to continue to improve air quality in the borough:

Diffusion Tube 1 which was in front of Casa Tapas Bacup Road Rawtenstall in a revoked Air Quality Management Area was relocated to Plantation View near Northern Primary school Burnley Road Weir following a resident request.

We promoted Clean Air Night on 22<sup>nd</sup> January 2024 on our social media channels

We ran a cycling summit on 27<sup>th</sup> February 2024 see [Cycling Summit 2024 | Rossendale Borough Council](#)

Rossendale Cycling summit 2024 – Have your say “*Interested in cycling, active travel and campaigning for a better Rossendale? Join us for a day exploring how to make Rossendale a safer place for anyone to cycle, walk and wheel; a Rossendale that’s greener, cleaner and healthier*” We are delighted to announce that we will be hosting a cycling summit on Tuesday 27<sup>th</sup> February 2024 to discuss, share ideas and create a plan for cycling in Rossendale. The focus of the summit will be “*greener, cleaner and healthier*” by using cycling and active travel to embed into our daily lives. In attendance will be Cycling UK and British Cycling which is a real commitment to Rossendale and our cycling community. The summit will have a series of workshops focussed on the following: How do we build and increase active travel into our everyday lives? Marketing and communications is key to any campaign to engage more people, what can we do to ensure we are getting our message out about cycling? Infrastructure is key; discuss 1) Cycling infrastructure ie on the road / off-road – connecting places and 2) cycling facilities such as pump tracks etc. How will cycling contribute to the physical activity strategy for Rossendale? Understanding our Community – what exists?

An new electric pool van was purchased for use by the Parks Department [Rossendale council unveils new electric van and bin wagons | Lancashire Telegraph](#)

On 17<sup>th</sup> April 2024 officers attended an online national Air Quality and Climate Change guidance focus group

In June 2024 a new climate change page was added to council website [Climate Emergency – Rossendale Borough Council](#)

There was promotion of Cycling Awareness Week 10<sup>th</sup> to 16<sup>th</sup> June 2024 on social media

There was promotion of Clean Air Day on 20<sup>th</sup> June 2024 on social media with a focus on the message that 25% of the car trips we make are under 1 mile which could be walked on average in around 15 minutes. Protect your health and the planet by walking, wheeling, cycling and using public transport when you can

Improvements to the cycle ways in the borough where published see [Cycling routes - Lancashire County Council](#)

In autumn work commenced on a Department of Transport funded residential EV infrastructure project in collaboration with Connected Kerb and supported by Energy Saving Trust to install 30 new EV charging points at car parks in Rossendale- Haslingden,

Waterfoot, Rawtenstall and Bacup to create 52 new bays.

Officer attendance at the online Environmental Policy Improvement Community (EPIC) inaugural autumn conference on 10<sup>th</sup> October 2024

On 18<sup>th</sup> Nov 2024 Rossendale Borough Council did an electric vehicle infrastructure launch see [New electric vehicle charge points installed across the Valley | Rossendale Borough Council](#)

Lancashire County Council who are responsible for roads and public health have issued this report about their work on sustainable forms of travel, supporting the transition to electric vehicles, creating cleaner, healthier road networks, embedding air quality into policy and raising awareness and increasing engagement see [Air quality - Lancashire County Council](#) for further information.

### **Overview of Lancashire County Council's Air Quality Activity**

In Lancashire, the strongest evidence we have on the population health impacts of air pollution is provided by the Office for Health Improvement and Disparities within their Public Health Outcomes Framework. The most recently published data estimates that the [overall mortality rate from particulate air pollution in Lancashire-12](#) is 5.1% (2022).

Working with district councils, Lancashire County Council has an important role to play in taking action to reduce the health impacts of air pollution, and improving air quality is a key objective in the County Council's [Environment and Climate Strategy 2023-2025](#). Responsible for transport planning, network management, highway maintenance, public health and procuring local vehicle fleets, there are a number of ways LCC supports local and county-wide efforts to improve air quality:

#### **1. Enabling the use of sustainable forms of travel**

Lancashire's cycling and walking strategy, [Actively Moving Forward](#), sets out an ambitious plan for increasing the number of people walking and cycling in the county by 2028. By improving and increasing access to cycling and walking infrastructure, alongside training and promotional activities, it aims to significantly increase the amount of cycling and walking people do across the county. Information on the County Council's ongoing activities in this area can be found on the [Active Travel in Lancashire website](#).

As part of Lancashire's cycling and walking strategy, there are seven supplementary documents: [Local Cycling and Walking Infrastructure Plans \(LCWIPs\)](#). These are:

- Lancaster
- Central Lancashire
- West Lancashire
- Fylde Coast
- Ribble Valley
- Burnley and Pendle
- Rossendale and Hyndburn

As part of the LCWIP process, extensive public and stakeholder engagement was carried out. The LCWIPs were signed off by the county council's Cabinet in May 2024. They include a network plan for cycling and walking infrastructure and an aspirational list of schemes for delivery over short, medium, and long-term timeframes. They will be used to support future infrastructure decisions and to access new funding schemes as they become available.

The county council's Road Safety Team works with schools, workplaces and the community to enable safe and sustainable modes of travel. Initiatives for schools are promoted through the [Safer Travel Moodle](#) and include: a series of cycling and walking safety training programmes; guidance and resources for teachers to enable safe and active travel; and support for creating travel plans.

Bus services across Lancashire operate in a deregulated market, meaning the County Council doesn't control the bus network, franchise routes or control fares. Buses in Lancashire are the most popular and well used form of public transport in the county so it's vital we ensure everyone can maintain connections with their friends and family, reach essential services, and access opportunities for education and employment.

As part of our Bus Service Improvement Plan, the county council will continue to work more closely with bus operators, alongside local communities, to create a network that people want and will use. The council has published a ten-year [Enhanced Partnership Plan and Scheme](#) alongside its [Bus Service Improvement Plan](#) which together will deliver measures to restore confidence and grow patronage across Lancashire.

## 2. Supporting the transition to electric vehicles

Lancashire County Council has already installed 150 fast and rapid charge points around Lancashire, either on county council car parks or kerbside on our highways. These can typically allow vehicles to charge in less than an hour and are operated on our behalf by BP Pulse. The types of charge points installed will depend on the specific location, power supply and demand.

The [Lancashire and Blackburn with Darwen EV Infrastructure Strategy](#) was approved in July 2023 and sets out our plan to provide more EV charge points across the county. It considers the future demand for charging infrastructure and identifies broad locations for different types of charging need, whilst it is modelled data it helps us to understand the size and type of public infrastructure that will be required. Further information on the rollout of the EV infrastructure is available at [Installation of electric vehicle chargepoints throughout Lancashire - Lancashire County Council](#).

This strategy supports the county council's application to the government's Local Electric Vehicle Infrastructure (LEVI) capital fund. The aim of the funding is predominately to deliver local, low power, on-street charging infrastructure, primarily benefiting residents who do not have access to off-street parking at home. A funding allocation of £10.1m has been awarded to Lancashire County Council for EV charging infrastructure. Following a procurement exercise, a chargepoint operator will be appointed to deliver the roll out of this infrastructure. This will help us to scale up the deployment of local charge points and deliver our strategic aims. We will be working closely with district councils and other partners to ensure there is county-wide provision which is suitable for the needs of the local area.

In addition to preparing an application to the LEVI capital fund, the county council is one of 16 English councils to secure funding from the LEVI extended pilot fund. This funding is to trial solutions and is also aimed at supporting residents who do not have access to off-street parking. It includes lamppost integrated chargepoints and pavement cable channels. These EV charging cross pavement channels and lamppost chargepoints provide a low cost and practical solution to support kerbside or close to home charging for Lancashire residents.

The county council's Parking Services Team fleet vehicles are now fully electric, with charging infrastructure installed at the offices and depots where the vehicles are based and regularly visit. The county council's Fleet Services team is committed to switching to electric

commercial vehicles, where possible, as set out in the our [Highways Decarbonisation Strategy](#).

### **3. Creating cleaner, healthier road networks**

Work to develop the next Local Transport Plan (LTP4) for Lancashire Combined County Authority is underway. The Public Health team has submitted an evidence base to inform the process, highlighting transport-related health challenges affecting the population of Lancashire and making recommendations about how local transport planning policy can contribute to addressing these. The local [Highways and Transport Masterplans](#) will be refreshed to align with the priorities of LTP4. This will provide an opportunity to identify longer-term network solutions that address issues in AQMAs and have a positive impact on air quality generally.

The county council's [Highways and Transport Strategy](#) published in early 2023 provides a helpful explanation of the county council's transport priorities and actions in support of public health improvements.

### **4. Embedding air quality into policy**

We work with district planners to ensure air quality is a key consideration of Local Plans, alongside wider public health issues. It supports district councils in developing policies that seek to ensure new developments do not contribute to increasing levels of air pollutants and that requirements for appropriate mitigation are in place.

The county council, as part of its highways input into planning applications, actively enables measures that aim to promote sustainable forms of travel. Working under the direction of the National Planning Policy Framework, the county council seeks measures that facilitate cycling and walking, increase the use of public transport and provide access to electric vehicle charge points. The county council also seeks funding from developers, through Section 106 contributions, to support existing bus services or to provide new bus services suitable to serve development sites once they are built.

## 5. Raising awareness and increasing engagement

Lancashire Insight provides information on the sources and health impacts of air pollution across the county. Webpages include a [Summary of Emissions Data](#) and [Monitoring of Air Quality and Health Impacts](#).

### Conclusions and Priorities

For the first time since monitoring started, many years ago, ALL the diffusion tubes across the borough showed compliance with the air quality objective in 2024. If this continues for a couple more years then AQMA 3 will be revoked.

A priority for the Council will be the installation of more electric vehicle charging points to encourage continued uptake of electric vehicles promoting the uptake of electric vehicles along with increased use of public transport and promoting a reduction in open burning.

### How to get Involved

Thinking about air pollution and climate change on a worldwide, or even country scale can be daunting because as individuals we can often feel insignificant. Yet if we all work to reduce the amount of fuel we use and the number of chemicals we use at home, we will improve the quality of the air that we breathe and help the local and global problem. Other ways we can all contribute to improving air quality are as follows:

- Using public transport more
- Reducing car use and doing more car sharing for things like the school runs sorted informally or see <https://liftshare.com/uk>
- Changing to an electric or hybrid vehicle see <https://www.gov.uk/government/organisations/office-for-zero-emission-vehicles>
- Cycling and walking where possible
- Using less chemicals and more natural products in the home to reduce the toxic load on your internal air quality see <https://www.nice.org.uk/guidance/ng149>

- Not having garden bonfires and only burning smokeless fuel on domestic stoves as the whole of Rossendale is a smoke control area (except for a few outlying rural properties see [https://www.rossendale.gov.uk/info/210197/environmental\\_protection/10622/report\\_pollution/4](https://www.rossendale.gov.uk/info/210197/environmental_protection/10622/report_pollution/4))
- Working from home, if you can, to reduce vehicle movements

There is no local air quality action group to the knowledge of the writer however there is an active Clean Air Parents Network public Facebook group.

The Rossendale Climate Network was created which is a group of like-minded individuals, schools, groups, businesses and organisations who are interested practical action to tackle the climate emergency in Rossendale. Find them on the Facebook page.

<https://www.facebook.com/groups/rossendaleclimatenetwork>. They would like to hear from anyone who is taking local action or has some information to share with others in the area. Client Earth are activist lawyers committed to securing a healthier planet. Their website is [ClientEarth | ClientEarth](#)

Further information on air quality and air pollution forecasts can be found on the DEFRA website UK Air quality Information Resource following this link [Home - Defra, UK](#)

The Choked up Campaign is teenagers in London raising awareness of air pollution issues Living Street UK is a charity who want a nation where walking is the natural choice for everyday local journeys see [Living Streets | Home Page | Living Streets](#)

## Table of Contents

|   |           |
|---|-----------|
| Local Responsibilities and Commitment .....   | i         |
| <b>Executive Summary: Air Quality in Our Area .....</b>   | <b>ii</b> |
| Air Quality in Rossendale Borough Council .....   | ii        |
| Actions to Improve Air Quality .....  | iii       |
| Conclusions and Priorities .....  | ix        |
| How to get Involved .....   | ix        |
| <b>1 Local Air Quality Management .....</b>   | <b>1</b>  |
| <b>2 Actions to Improve Air Quality .....</b>   | <b>2</b>  |
| 2.1 Air Quality Management Areas .....  | 2         |
| 2.2 Progress and Impact of Measures to address Air Quality in Rossendale<br>Borough Council .....                 | 4         |
| 2.3 PM <sub>2.5</sub> – Local Authority Approach to Reducing Emissions and/or<br>Concentrations .....             | 7         |
| <b>3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and<br/>National Compliance .....</b> | <b>8</b>  |
| 3.1 Summary of Monitoring Undertaken .....  | 8         |
| 3.2 Individual Pollutants .....   | 8         |
| 3.2.1 Nitrogen Dioxide (NO <sub>2</sub> ) .....   | 8         |
| <b>Appendix A: Monitoring Results .....</b>   | <b>10</b> |
| <b>Appendix B: Full Monthly Diffusion Tube Results for 2024 .....</b>   | <b>16</b> |
| <b>Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC<br/>.....</b>                 | <b>17</b> |
| New or Changed Sources Identified Within Rossendale Borough Council During 2024.....                              | 17        |
| QA/QC of Diffusion Tube Monitoring .....  | 17        |
| Diffusion Tube Annualisation .....  | 18        |
| Diffusion Tube Bias Adjustment Factors .....  | 18        |
| NO <sub>2</sub> Fall-off with Distance from the Road.....   | 19        |
| <b>Appendix D: Map(s) of Monitoring Locations and AQMAs .....</b>   | <b>20</b> |
| <b>Appendix E: Summary of Air Quality Objectives in England.....</b>  | <b>25</b> |
| <b>Glossary of Terms .....</b>  | <b>26</b> |
| <b>References .....</b>   | <b>27</b> |

## Figures

|  |    |
|--|----|
| Figure A.1 – Trends in Annual Mean NO <sub>2</sub> Concentrations..... | 14 |
| Figure D.1 – Map of Non-Automatic Monitoring Site.....                 | 20 |

## Tables

|  |    |
|--|----|
| Table 2.1 – Declared Air Quality Management Areas.....   | 3  |
| Table 2.2 – Progress on Measures to Improve Air Quality.....   | 5  |
| Table A.2 – Details of Non-Automatic Monitoring Sites .....  | 10 |
| Table A.4 – Annual Mean NO <sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m <sup>3</sup> ) .... | 12 |
| Table B.1 – NO <sub>2</sub> 2024 Diffusion Tube Results (µg/m <sup>3</sup> ) .....                             | 16 |
| Table C.2 – Bias Adjustment Factor .....   | 18 |
| Table E.1 – Air Quality Objectives in England .....  | 25 |

# 1 Local Air Quality Management

This report provides an overview of air quality in Rossendale Borough Council 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 Rossendale Borough 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.

A summary of the AQMA declared by Rossendale Borough Council can be found in Table 2.1. The table presents a description of the AQMA that is currently designated within Rossendale Borough Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objectives pertinent to the current AQMA designation is as follows:

- NO<sub>2</sub> annual mean

**Table 2.1 – Declared Air Quality Management Areas**

| AQMA Name | Date of Declaration            | Pollutants and Air Quality Objectives | One Line Description   | Is air quality in the AQMA influenced by roads controlled by Highways England? | Level of Exceedance: Declaration | Level of Exceedance: Current Year | Number of Years Compliant with Air Quality Objective | Name and Date of AQAP Publication | Web Link to AQAP  |
|-----------|--------------------------------|---------------------------------------|--|--|----------------------------------|-----------------------------------|--|-----------------------------------|-------------------|
| AQMA 3    | 22 <sup>nd</sup> December 2022 | NO <sub>2</sub> annual mean           | An area encompassing thirteen residential properties between Gas Street and Holden Place numbered 240 to 268 Grane Road Haslingden BB4 4PB | No   | 50.4 µg/m <sup>3</sup>           | 38.8 µg/m <sup>3</sup>            | 1  | Awaiting DEFRA approval           | Not published yet |

Rossendale Borough Council confirm the information on UK-Air regarding their AQMA is up to date

Rossendale Borough Council confirm that all current AQAPs have been submitted to Defra

## 2.2 Progress and Impact of Measures to address Air Quality in Rossendale Borough Council

Defra's appraisal of last year's ASR concluded that trends over the past five years show that concentrations have generally been decreasing, there was an overall increase in concentrations in 2021 following removal of COVID traffic restrictions, but as of 2023 concentrations have decreased to levels below those observed during COVID.

Rossendale Borough 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 in progress or planned are set out in Table 0.1. Six measures are included within Table 0.1, with the type of measure and the progress Rossendale Borough 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 0.1.

More detail on these measures can be found in the respective Action Quality Action Plan.

Rossendale Borough Council's priorities for the coming year are promoting the uptake of electric vehicles, increased use of public transport and reduction in open burning.

Rossendale Borough Council anticipates that the measures stated above and in Table 0.1 will achieve continued compliance in AQMA 3 and in the next couple of years enable the revocation of AQMA 3.

**Table 0.1 – 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           | Promotion of Car and lift sharing schemes                                | Alternatives to private vehicle use | Car and lift sharing schemes      | 2024                            | N/A                                | <b>Local Authority<br/>Lancashire County Council</b> | Not funded     | <£10k / £10k   | Planning phase            | Likely only a small reduction in emissions, emissions reduction can be maximised by targeting workplace schemes. Likely <1% reduction in NOx emissions. | Increased uptake of schemes (if possible to track)  | Planning phase            | There may be no schemes to promote   |                                       |
| 2           | Promotion of car clubs / encouraging car clubs to operated in Rossendale | Alternatives to private vehicle use | Car and lift sharing schemes      | 2024                            | N/A                                | <b>Local Authority</b>                               | Not funded     | <£10k / £10k   | Planning phase            | Likely only a small reduction in emissions, emissions eg 1-2% reduction in NOx emissions.   | numbers of members of car clubs   | Planning phase            | There may be no car clubs to promote or operators willing to start schemes in Rossendale |                                       |
| 3           | Prioritising low emission transport                                      | Promoting low emission transport    | Company vehicle procurement       | 2024                            | N/A                                | <b>Local Authority<br/>Lancashire County Council</b> | Not funded     | unknown        | Ongoing implementation    | Council fleet represents a small proportion of vehicles on the network – likely very small reduction in total emissions.                                | Reduction in business mileage travelled by staff in diesel or petrol vehicles – shown as a percentage | Planning phase            | Resources  |                                       |
| 4           | Encourage/facilitate home working  | Promoting Travel Alternatives       | Encourage/facilitate home working | 2021                            | N/A                                | <b>All organisations</b>                             | Not funded     | Nil            | Ongoing implementaion     | Potential reduction in emissions due to reduction in car trips. Likely to be small.   | Increase in days of home-working  | Ongoing                   | N/A  |                                       |

|   |   |                                 |   |                  |     |  |  |   |   |  |  |                    |   |
|---|---|---------------------------------|---|------------------|-----|--|--|---|---|--|--|--------------------|---|
| 5 | Active travel campaign and infrastructure   | Promoting Travel Alternatives   | Active travel campaign and infrastructure   | Already in place | N/A | Lancashire County Council  | Funding will likely come from ATE,LTG, s106, LUF, PfN and/or other Government funding                    | N/A   | Ongoing implementation                            | Potential reduction in emissions from moving trips from cars to active modes. Difficult to quantify. | Number of public campaigns run, reduction in emissions, increase in cycling and walking, increase in health outputs. | Ongoing            | Lack of political support to fund active travel schemes, lack of funding, planning issues (private land, ecological issues, physical constraints), lack of planning, design and construction resource |
| 6 | Increase Public Awareness of air quality issues, including reducing exposure, focus on active travel and domestic solid fuel burning. | Public Information              |   | 2024             | N/A | Local Authority  | Not funded   | Nil   | Planning phase                                    | Difficult to quantify as over long time period and will work in collaboration with other actions     | Number of campaigns launched   | Occurring          |   |
| 7 | Encouraging the use of Electric Vehicles  | Promoting Low Emission Vehicles | Procurng Alternative Refuelling Infrastructure to Promote Low Emission vehicles, EV Recharging, Gas Fuel Recharging | 2030             | N/A | Office for Zero Emissions (OZEV) Lancashire County Council, Rossendale Borough Council | Department for Transport, Office for Zero Emissions plus finding from the appointed chargepoint operator | £10 million LEVI fund award secured for Lancashire-12 districts, subject to procurement approvals from OZEV | Installations anticipated to begin in Spring 2026 | Difficult to quantify as over long time period and will work in collaboration with other actions     | Increased level of public EV charging infrastructure for residents without off street parking                        | Awaiting approvals | Charge point site selections will include resident engagement/inputs in collaboration with stakeholders and the appointed charge point operator   |

## 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.

Using the [Defra background mapping resource](#) the maximum background annual mean PM<sub>2.5</sub> concentrations within the Local Authority was 5.6µg/m<sup>3</sup>. This is a reduction from the year below as Rossendale in 2023 had a maximum background mean of 7.4µg/m<sup>3</sup>. This is slightly higher than the regional northern area which has a maximum of 4.8 µg/m<sup>3</sup>

Rossendale Borough Council is taking the following measures to address PM<sub>2.5</sub>:

In 2024 Environmental Health investigated 91 requests for service about open burning and smoky domestic chimneys, given advice and sent warning letters. Open burning is becoming more anti-social and we discourage it wherever possible. We've promoted National Clean Air Day and National Clean Air Night on social media.

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

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

This section sets out the monitoring undertaken within 2024 by Rossendale Borough 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

#### Non-Automatic Monitoring Sites

Rossendale Borough Council undertook non-automatic (i.e. passive) monitoring of NO<sub>2</sub> at 9 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.

### 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>)

**Error! Reference source not found.** and 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.

## 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) |
|-------------------|------------------------------------|-----------|-------------------------|--------------------------|----------------------|----------------------|--|---|---|-----------------|
| DT1               | 30/32 Bacup Road Rawtenstall       | Kerbside  | 381394                  | 422756                   | NO2                  | N/A                  | 0.0  | 2.0   | No  | 1.8             |
| DT2               | 366-368 Manchester Road Haslingden | Kerbside  | 379193                  | 422210                   | NO2                  | AQMA 3               | 0.0  | 1.0   | No  | 1.8             |
| DT3               | 222 Grane Road Haslingden          | Kerbside  | 378094                  | 422560                   | NO2                  | N/A                  | 0.0  | 4.0   | No  | 1.8             |
| DT4               | 250 Grane Road Haslingden          | Kerbside  | 377909                  | 422488                   | NO2                  | AQMA 3               | 0.0  | 1.0   | No  | 1.8             |
| DT5               | 256-258 Grane Road Haslingden      | Kerbside  | 377896                  | 422488                   | NO2                  | AQMA 3               | 0.0  | 1.0   | No  | 1.8             |
| DT6               | 264 Grane Road Haslingden          | Kerbside  | 377899                  | 422488                   | NO2                  | AQMA 3               | 0.0  | 1.0   | No  | 1.8             |
| DT7               | 277 Grane Road Haslingden          | Kerbside  | 377879                  | 422502                   | NO2                  | N/A                  | 0.0  | 4.0   | No  | 1.8             |
| DT8               | 450 Bacup Road Waterfoot           | Kerbside  | 382845                  | 421978                   | NO2                  | N/A                  | 0.0  | 1.0   | No  | 1.8             |
| DT9               | 1 Plantation View Weir             | Kerbside  | 386925                  | 424575                   | NO2                  | N/A                  | 0.0  | 2.0   | No  | 1.8             |

**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 |
|-------------------------|-------------------------|--------------------------|-----------|---|--|-------------|-------------|-------------|-------------|------|
| DT1<br>formerly<br>DT13 | 381394                  | 422756                   | Kerbside  | N/A   | 100.5                                      | 28.4        | 32.7        | 31.2        | 30.6        | 25.3 |
| DT2<br>Formerly<br>DT7  | 379193                  | 422210                   | Kerbside  | N/A   | 93.0                                       | 26.3        | 30.0        | 28.3        | 26.8        | 24.1 |
| DT3<br>Formerly<br>DT18 | 378094                  | 422560                   | Kerbside  | N/A   | 108.1                                      | 20.4        | 23.2        | 21.3        | 18.4        | 17.3 |
| DT4<br>Formerly<br>DT12 | 377909                  | 422488                   | Kerbside  | N/A   | 91.4                                       | <b>44.9</b> | <b>50.4</b> | <b>46.7</b> | <b>42.1</b> | 38.8 |
| DT5<br>Formerly<br>DT19 | 377896                  | 422488                   | Kerbside  | N/A   | 100.8                                      | <b>41.6</b> | <b>46.9</b> | <b>42.2</b> | <b>41.3</b> | 36.7 |
| DT6<br>Formerly<br>DT20 | 377899                  | 422488                   | Kerbside  | N/A   | 100.8                                      | 34.8        | 36.1        | 36.2        | 34.5        | 32.3 |
| DT7<br>formerly<br>DT10 | 377879                  | 422502                   | Kerbside  | N/A   | 93.5                                       | 34.8        | 36.1        | 36.2        | 34.5        | 14.4 |
| DT8<br>Formerly<br>DT11 | 382845                  | 421978                   | Kerbside  | N/A   | 93.3                                       | N/A         | N/A         | 29.9        | 29.6        | 24.9 |
| DT9                     | 386925                  | 424575                   | Kerbside  | N/A   | 75.0                                       | NA          | NA          | NA          | NA          | 18.9 |

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**.

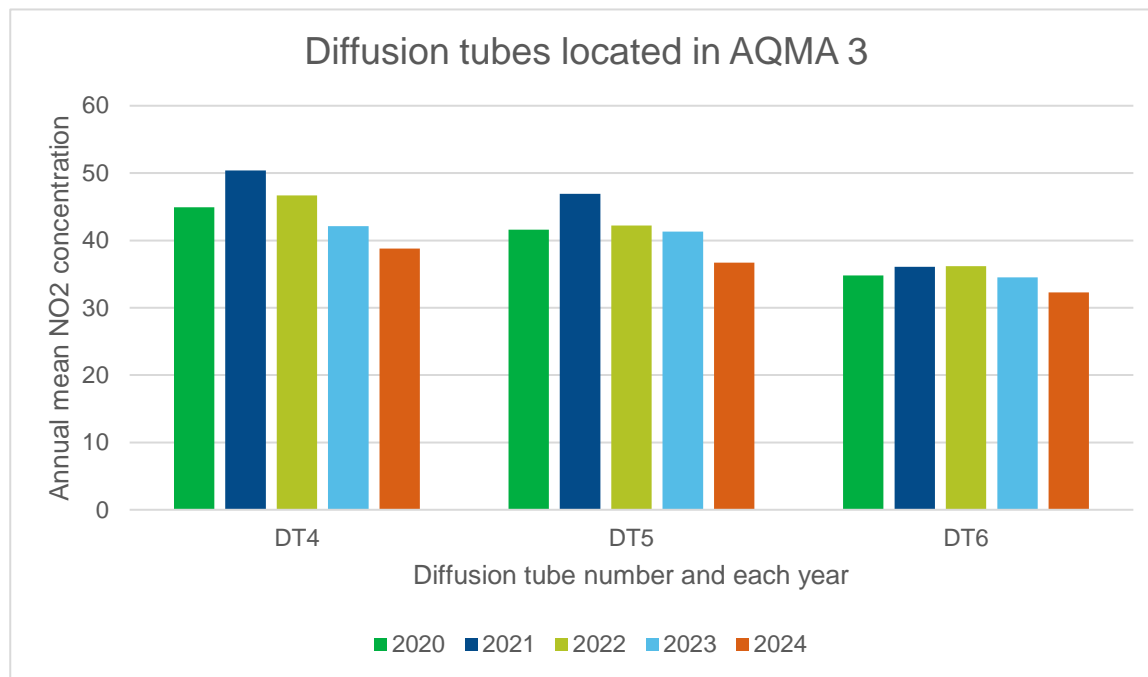
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

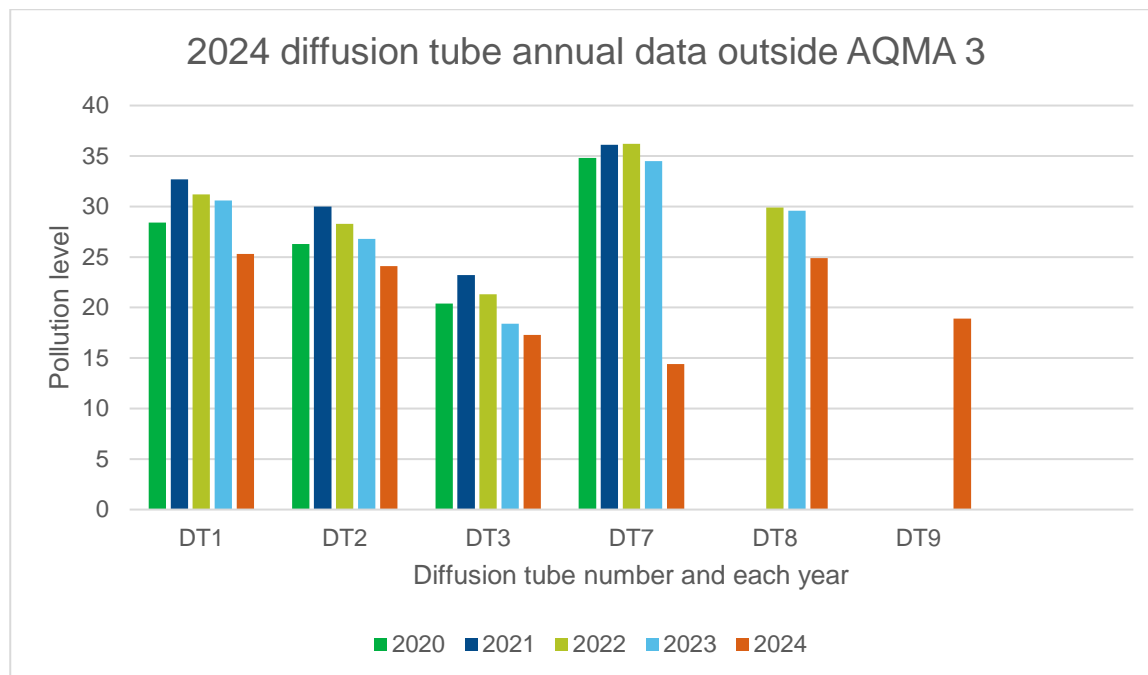
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(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**



Figures A.1 presents NO<sub>2</sub> annual mean concentrations for sites DT4 to DT 6 between years 2020 to 2024. There are no exceedances of the annual mean objective of 40µg/m<sup>3</sup> in 2024 and there is a general trend of reduction experienced across the sites.



This graph shows that all the remaining diffusion tubes located across the borough were within the range of 14.4 $\mu\text{g}/\text{m}^3$  to 25.3 $\mu\text{g}/\text{m}^3$ . There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced across the 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 0.78 | Annual Mean: Distance Corrected to Nearest Exposure | Comment |
|-------|-------------------------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------------|--|---|---------|
| DT1   | 381394                  | 422756                   | 35.1 | 39.3 | 35.8 | 29.0 | 44.6 | 35.9 | 32.8 | 30.0 |      | 32.9 | 39.9 | 17.5 | 32.5                  | 25.3   |   |         |
| DT2   | 379193                  | 422210                   | 29.0 | 28.0 | 35.7 | 31.4 | 32.6 |      |      | 22.3 | 36.7 | 37.2 | 37.2 | 26.4 | 31.0                  | 24.1   |   |         |
| DT3   | 378094                  | 422560                   | 29.0 | 24.8 | 24.6 | 22.3 | 24.0 | 15.9 | 19.9 | 16.1 | 25.0 | 23.2 | 30.9 | 17.1 | 22.1                  | 17.3   |   |         |
| DT4   | 377909                  | 422488                   |      | 68.2 | 47.0 | 45.7 | 55.6 | 48.2 | 53.4 |      | 32.7 | 56.4 | 54.8 | 39.7 | 49.7                  | 38.8   |   |         |
| DT5   | 377896                  | 422488                   |      | 53.3 | 48.7 | 37.6 | 53.9 | 41.6 | 48.9 | 45.0 | 48.1 | 53.0 | 59.0 | 36.9 | 47.0                  | 36.7   |   |         |
| DT6   | 377899                  | 422488                   |      | 45.3 | 39.2 | 39.5 | 41.7 | 37.8 | 39.3 | 36.0 | 35.2 | 47.4 | 54.8 | 40.0 | 41.4                  | 32.3   |   |         |
| DT7   | 377879                  | 422502                   |      | 25.8 | 17.2 | 17.6 | 17.9 | 13.3 | 14.2 | 12.9 | 19.6 | 21.3 |      | 20.8 | 18.5                  | 14.4   |   |         |
| DT8   | 382845                  | 421978                   |      | 30.8 | 32.4 | 38.1 | 31.6 | 27.8 | 23.9 | 18.1 |      | 39.6 | 34.1 | 37.3 | 31.9                  | 24.9   |   |         |
| DT9   | 386925                  | 424575                   |      |      | 17.1 | 16.8 | 14.4 | 10.9 | 12.2 |      | 30.2 | 37.6 | 23.7 | 36.9 | 24.2                  | 18.9   |   |         |

- 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
- Rossendale Borough 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 Rossendale Borough Council During 2024

Rossendale Borough Council has not identified any new sources relating to air quality within the reporting year of 2024

### QA/QC of Diffusion Tube Monitoring

The air quality monitoring has been completed in adherence with the 2024 Diffusion Tube Monitoring Calendar.

The supplier used for the provision and analysis of the diffusion tubes continued to be SOCOTEC, Didcot,

The samples have been analysed in accordance with SOCOTEC's standard operating procedure ANU/SOP/1015. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes For Ambient NO<sub>2</sub> Monitoring: Practical Guidance.'

The tubes were prepared by spiking acetone:triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow autoanalyser with ultraviolet detection. All samples were received in good condition, unless otherwise stated in the comments field of results table. Please note:

i) As set out in the practical guidance, the results were initially calculated assuming an ambient temperature of 11°C, the reported values **have** been adjusted to 20°C to allow for direct comparison with EU limits.

(ii) The reported results have not been bias adjusted.

This analysis of diffusion tube samples to determine the amount of nitrogen dioxide present on the tube is within the scope of our UKAS schedule. Any further calculations and assessments requiring exposure details and conditions fall outside the scope of our accreditation. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC currently holds the highest rank of a **Satisfactory** laboratory.

### Diffusion Tube Annualisation

All diffusion tube monitoring locations within Rossendale Borough Council recorded data capture of 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

### 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.

Rossendale Borough Council have applied a national bias adjustment factor of 0.78 to the 2024 monitoring data. It has 33 studies applicable to it. A summary of bias adjustment factors used by Rossendale Borough Council over the past five years is presented in Table C.1.

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

| Monitoring Year | Local or National | If National, Version of National Spreadsheet | Adjustment Factor |
|-----------------|-------------------|--|-------------------|
| 2024            | National          | 06/25  | 0.78              |
| 2023            | National          | 09/24  | 0.78              |
| 2022            | National          | 03/23  | 0.76              |
| 2021            | National          | 03/22  | 0.78              |
| 2020            | National          | 03/21  | 0.77              |

**Database\_Diffusion\_Tube\_Bias\_Factors\_v06\_25**

| Laboratory                        | Method             | Year | Studies    | No. Studies Added | Total No. of Studies | Factor | Change in Factor |
|-----------------------------------|--------------------|------|------------|-------------------|----------------------|--------|------------------|
| Aberdeen Scientific Services      | 20% TEA in water   | 2024 | 6          | 0                 | 6                    | 0.76   | 0.00             |
| Edinburgh Scientific Services     | 50% TEA in acetone | 2024 | 2          | 5                 | 7                    | 0.86   | 0.03             |
| Glasgow Scientific Services       | 20% TEA in water   | 2024 | 1          | 0                 | 1                    | 0.82   | 0.00             |
| Gracko                            | 20% TEA in water   | 2024 | 27         | 4                 | 31                   | 0.84   | 0.00             |
| Gracko                            | 50% TEA in acetone | 2024 | 12         | 0                 | 12                   | 0.88   | 0.00             |
| Lambeth Scientific Services       | 50% TEA in acetone | 2024 | 2          | 6                 | 8                    | 0.8    | -0.01            |
| Milton Keynes Council             | 20% TEA in water   | 2024 | 1          | 0                 | 1                    | 0.75   | 0.00             |
| SOCOTEC Didcot                    | 20% TEA in water   | 2024 | 1          | 1                 | 2                    | 0.74   | -0.01            |
| SOCOTEC Didcot                    | 50% TEA in acetone | 2024 | 33         | 4                 | 37                   | 0.78   | 0.00             |
| SOCOTEC Glasgow                   | 20% TEA in water   | 2024 | 1          | 0                 | 1                    | 0.77   | 0.00             |
| SOCOTEC Glasgow                   | 50% TEA in acetone | 2024 | 1          | 0                 | 1                    | 0.75   | 0.00             |
| Somerset County Council           | 20% TEA in water   | 2024 | 4          | 0                 | 4                    | 0.81   | 0.00             |
| Staffordshire County Council      | 20% TEA in water   | 2024 | 16         | 4                 | 20                   | 0.8    | -0.02            |
| Teayside Scientific Services      | 20% TEA in water   | 2024 | 1          | 0                 | 1                    | 0.76   | 0.00             |
| <b>Number of Studies Included</b> |                    |      | <b>108</b> | <b>24</b>         | <b>132</b>           |        |                  |

**Previous Revisions Record:**

| Laboratory | Method | Year | Studies | New (04/25) Updates |
|------------|--------|------|---------|---------------------|
|------------|--------|------|---------|---------------------|

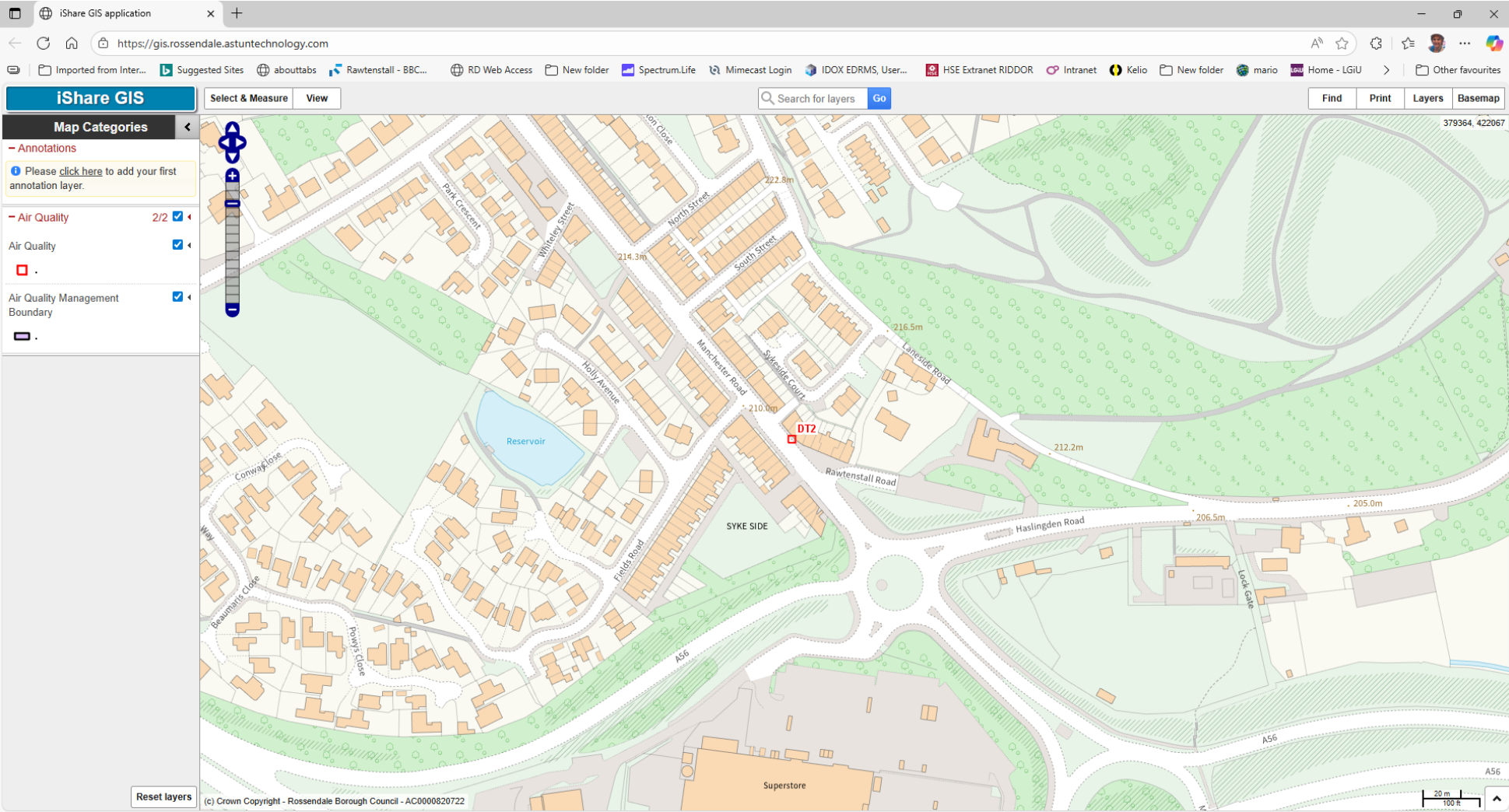
## NO<sub>2</sub> Fall-off with Distance from the Road

All monitoring locations are representative of exposure so no fall-off with distance calculations were necessary.

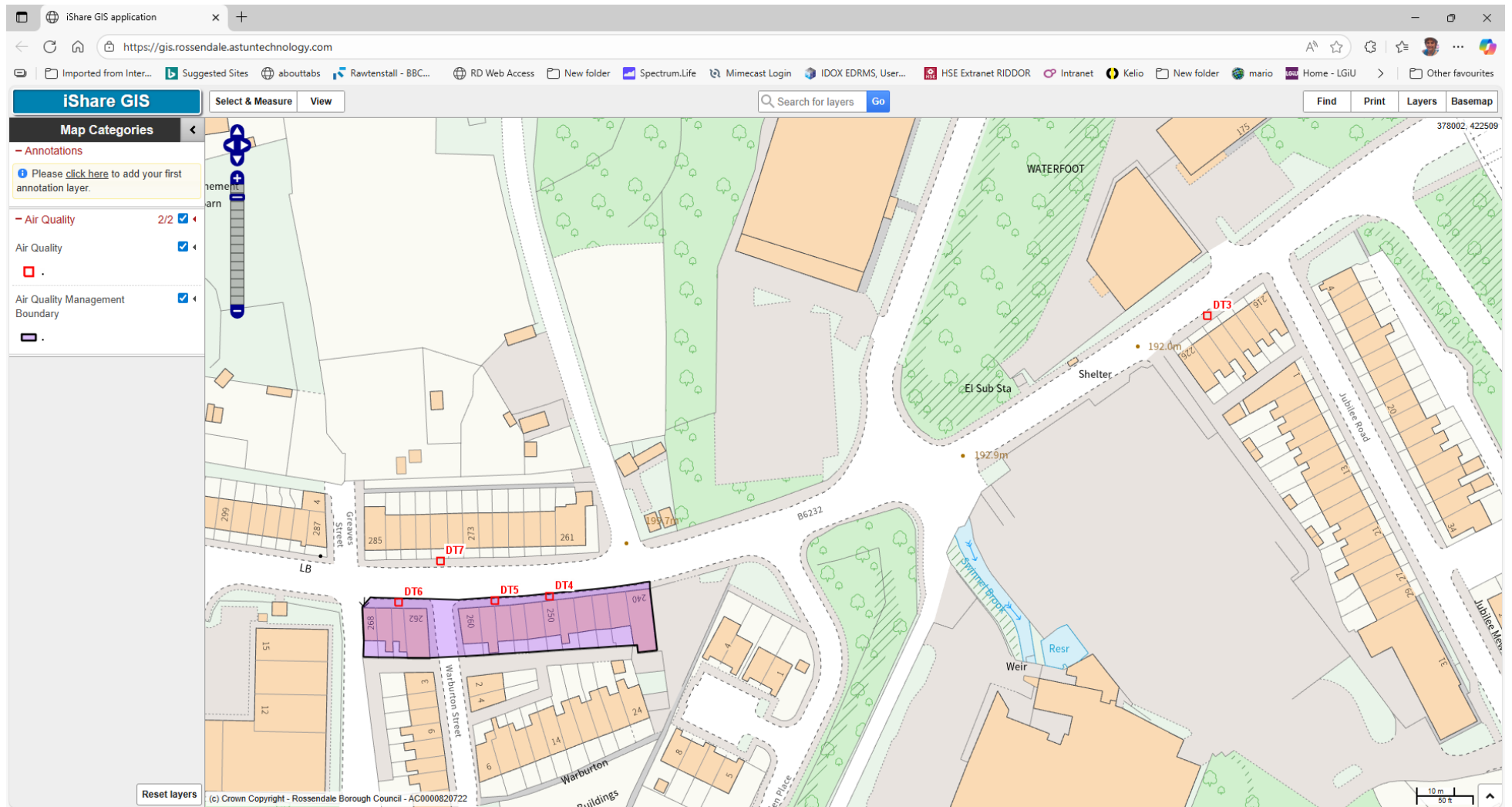
## Appendix D: Map(s) of Monitoring Locations and AQMAs

### Figure D.1 – Maps of Non-Automatic Monitoring Site

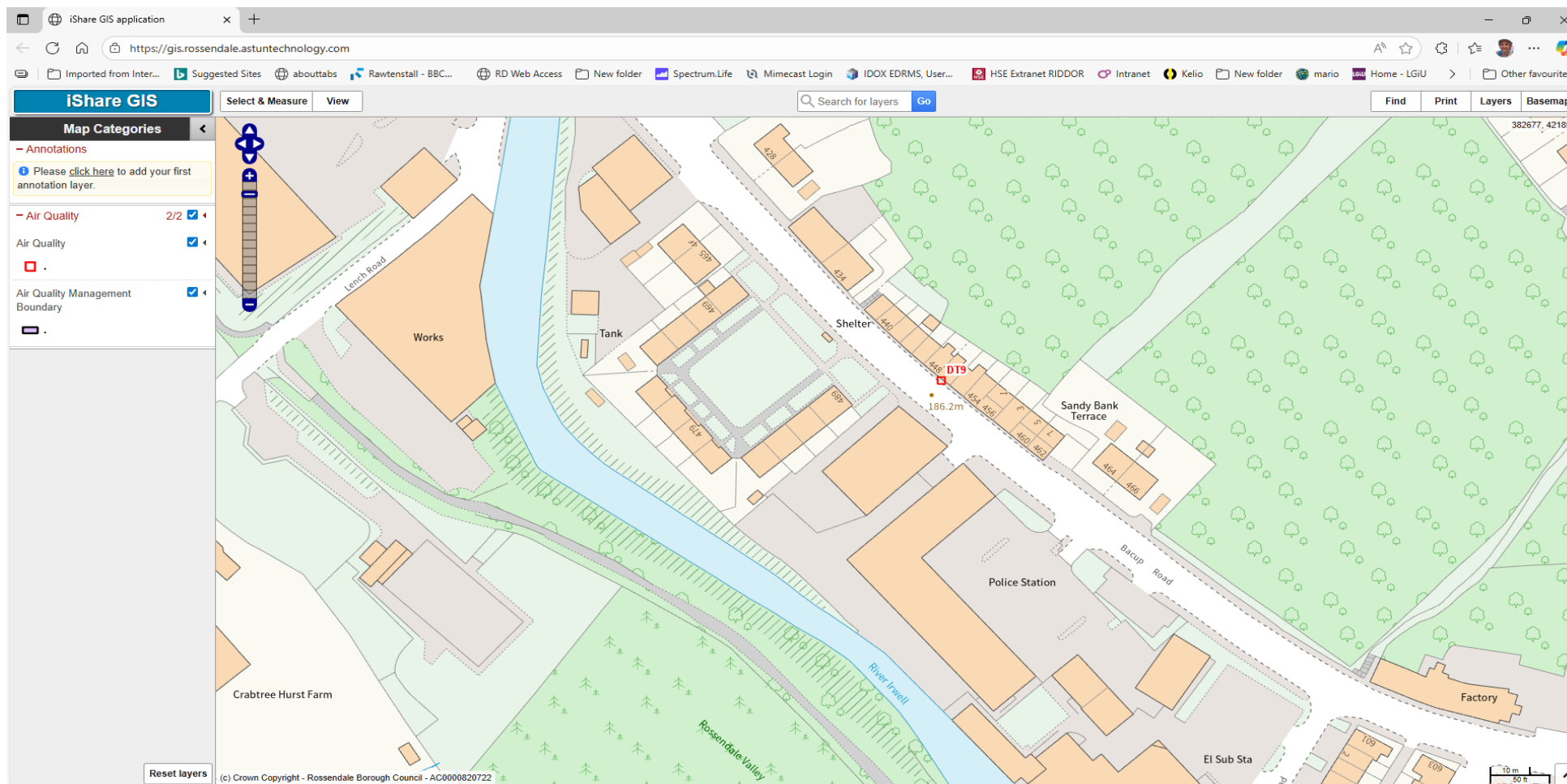
Diffusion tube 2



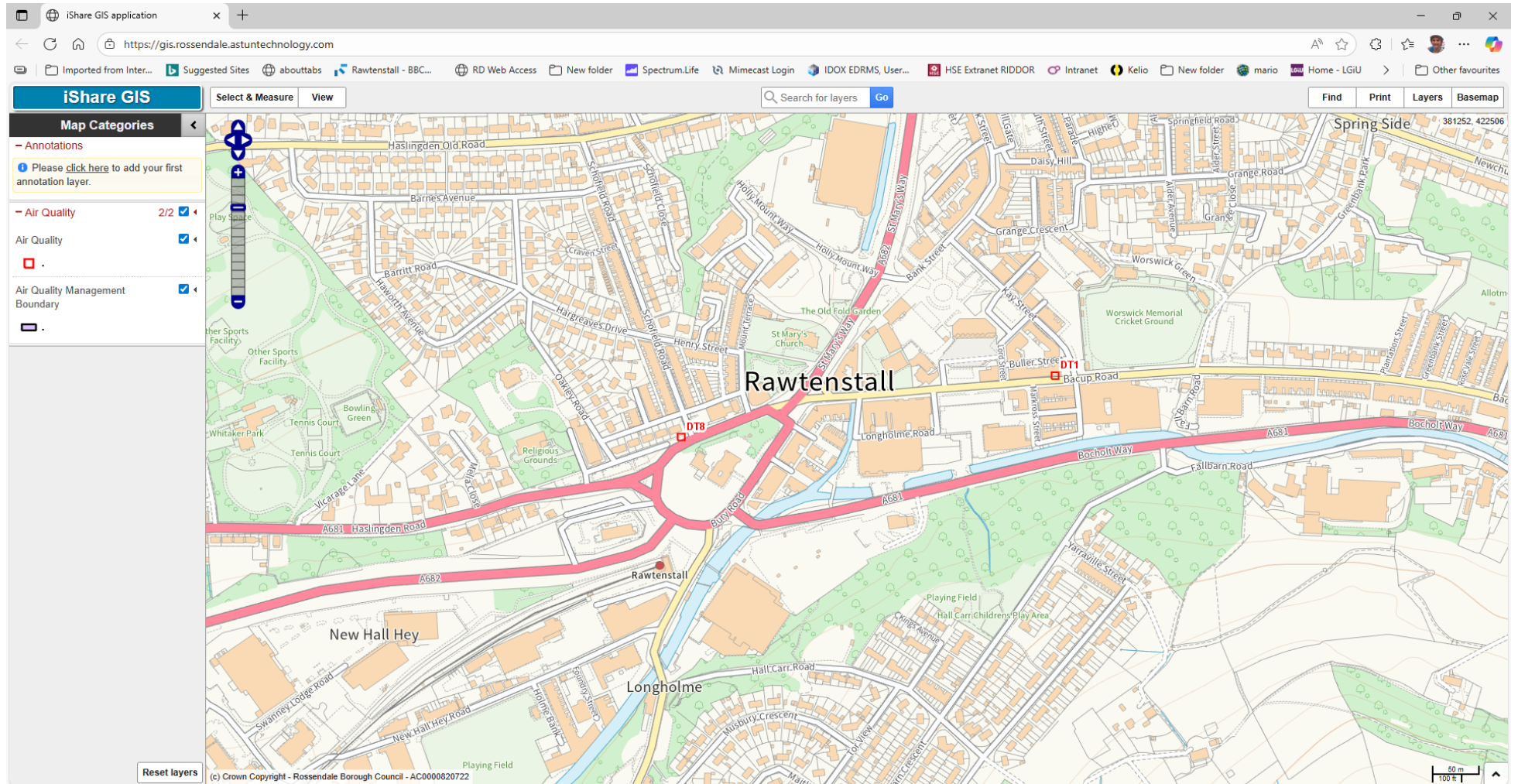
Diffusion tubes 3,4,5,6 and 7



Diffusion tube 9



Diffusion tubes 1 and 8



## 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.
- 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.