West Suffolk Council Air Quality Annual Status Report (ASR) 2025

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

June 2025

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Local responsibilities and commitment

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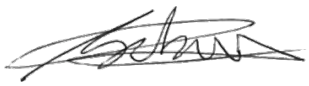

This ASR has been signed off by a Director of Public Health.

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Executive summary: Air quality in our area

Air quality in West Suffolk

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.

(Public Health England Air Quality - A guide for directors of public health (local.gov.uk) 2017, and
Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006).

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 ES1 - Description of key pollutants

Pollutant	Description
Nitrogen dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. 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. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages (Defra. Air quality appraisal: damage cost guidance, February 2024), with a total estimated healthcare cost to the NHS and social care of £157 million in 2017 (Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018). The public health outcomes framework indicator for the fraction of mortality attributable to

particulate air pollution for West Suffolk was 5.3 per cent, this is in line with the value for England, which is 5.2 per cent.

West Suffolk is a mix of market towns (Brandon, Bury St Edmunds, Haverhill, Mildenhall and Newmarket) and more rural village communities. The regionally important strategic road links of the A11 and A14 also cross the area. The north of the area hosts two large air bases operated by the United States air force, whilst many of the districts towns have large industrial areas. Agriculture is also an important part of the district economy, with both arable farming and pig farming being prevalent.

One of the main sources of pollution in the area is road traffic, which is generally worst in the market towns. We monitor for the pollutant nitrogen dioxide, which is considered the main pollutant of concern for road vehicles and is particularly linked to heavy goods vehicles (HGVs) and other diesel vehicles. Consequently, the majority of our monitoring is adjacent to busy roads within our market towns, with the main exception to this being the village of Great Barton where significant monitoring is also undertaken adjacent to the A143. Monitoring is undertaken using diffusion tubes, which are small plastic test tubes that contain a material that reacts with the air. Diffusion tubes passively monitor the air for approximately a month before being sent to an independent laboratory for analysis and replaced with a new tube to monitor the next month.

Particulates, also known as PM_{10} and $PM_{2.5}$ (particulate matter with an aerodynamic diameter of 10µm (micrometres) or less and 2.5µm or less respectively), are also an important pollutant. Particulates are associated with various sources of pollution including domestic burning, road traffic and industrial processes. Particulates can also be associated with natural sources, such as pollen and sea salt, and international sources. The east and southeast of England have a greater proportion of international particulate pollution than the north and west of England. Secondary particulate pollutants can also form from ammonia, nitrogen dioxide and other gases, with the most significant source of secondary particulate pollution being ammonia from farming activities, currently PM_{10} and $PM_{2.5}$ are not monitored in West Suffolk.

Other pollutants, such as sulphur dioxide and carbon monoxide, have been considered and assessed and confirmed as not being at risk of exceeding their respective air quality objectives based on Defra modelling data.

Air quality was impacted in 2020, and to a lesser extent in 2021, by the changes to day-to-day life caused by the COVID-19 pandemic. The reduced level of traffic due to lock downs and changes in working patterns caused a drop in levels of nitrogen dioxide at every monitored location in West Suffolk in 2020. 2021 was again impacted by COVID-19 related lockdowns and restrictions, however, this impact was not as significant as the previous year. When comparing levels of nitrogen dioxide recorded in 2024 to previous years it is important to understand that 2020 and 2021 were not typical years and a better appreciation of the long-term trend can be established from comparing 2024 levels to pre-pandemic years.

Nitrogen dioxide pollution in West Suffolk is generally relatively low and is showing a long-term improvement at monitored locations throughout the area. Particulate pollution is, slightly higher than the national average, however, this is not due to local sources, but is a result of the disproportionate impact of international particulate pollution on the eastern region. However, the importance of continuing to improve the local air quality is at a higher profile than ever before as more information on the health impacts of air pollution is discovered.

Each of the five market towns, as well as the village of Great Barton and a small number of other villages, have air quality monitoring, the results of which are summarised below:

- **Brandon, Haverhill, Mildenhall and Newmarket** continue to show concentrations of nitrogen dioxide below (that is compliant with) the air quality objective level. Recorded levels in 2024 were broadly comparable to those measured in 2023, with all sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years.

- **Bury St Edmunds** is the largest town in West Suffolk and consequently has the most monitoring points. Recorded levels in 2024 were broadly comparable to those measured in 2023, with all sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years.

- **Great Barton** is a village to the northeast of Bury St Edmunds with a main road (A143), which is a designated HGV route, cutting through it. A row of cottages either side of, and including, the former Post Office are situated close to this road and are were designated as an AQMA, however, nitrogen dioxide levels have been below the objective since 2020. Recorded levels in 2024 were broadly comparable to those measured in 2023, with majority of sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years. Due to this West Suffolk will progress the revocation of the Great Barton AQMA. (Air Quality Management Area)

- **Tuddenham** has a single monitoring point that was introduced in the village at the beginning of 2022 at the request of the parish council; this showed relatively low levels of pollution, being less than half of the annual mean objective, this has carried on in 2023 and 2024 with results remaining low.

- **Lakenheath and Kentford** have a monitoring point in the centre of the village. The recorded level for 2024 was lower than that recorded in 2023, which have continued to be below half of the national objective.

- **Exning** has had two monitoring points introduced in the village in March 2023, both monitoring points have recorded results being less than half of the annual mean objective. Recorded levels in 2024 were broadly comparable to those measured in 2023

- **Clare** has two monitoring points, both monitoring points have recorded results being less than the annual mean objective. Recorded levels in 2024 were broadly comparable to those measured in 2023.

As most of the nitrogen dioxide pollution within West Suffolk originates from road traffic, West Suffolk works closely with the local highway authority (Suffolk County Council), who have a designated point of contact for air quality matters. We are also working closely with the Suffolk County Council public health team who are delivering an engagement plan to increase awareness and understanding of air quality issues within Suffolk.

Actions to improve air quality

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

The Environmental Improvement Plan (Defra. Environmental Improvement Plan 2023, January 2023) sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term $PM_{2.5}$ targets. The National Air Quality Strategy, published in 2023, provides more information on local authorities' responsibilities to work towards these new targets and reduce $PM_{2.5}$ in their areas. The Road to Zero (Department for Transport. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018) details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of AQMAs are designated due to elevated concentrations heavily influenced by transport emissions.

Anti-idling campaign

West Suffolk Council has directly engaged with schools with an anti-idling campaign. This has involved going into schools to work directly with pupils and teachers who are then engaging with parents at school collection. The first events proved successful with positive feedback received from teachers, parents, and children. We have worked with Suffolk County Council road safety officers to help distribute anti-idling materials to all schools currently on the road safety scheme. We contacted all schools in West Suffolk during the 2024/2025 school year to try and organise anti-idling event and throughout the academic year we have continued to distribute anti idling banners and other materials to schools.

Zero emission vehicles

West Suffolk Council has focused on the promotion of electric vehicles (EVs) since undertaking our first EV showcase event in 2016. As growth and awareness in EVs has increased we have switched our focus to the delivery of infrastructure, and during 2022 we delivered our third round of chargepoint installations under the Office for Zero Emission Vehicles (OZEV) on-street residential chargepoint scheme (ORCS). At the end of March 2024, West Suffolk owned public EV chargepoints to allow 74 vehicles to charge at any one time.

As of April 2025, the West Suffolk Council district area was shown on the Department for Transport map of electric vehicle charging devices by local authority as being in the top 20per cent of local authority areas for total number of Electric vehicle charging devices and devices per 100,000 of population.

West Suffolk Council also have the following electric vehicles:

- five small vans
- one transit van
- four street sweepers
- one mowing machine
- one mobile plant (digger)

Figure 1: Pictures of electric street sweeper

Figure 2: Picture of electric vehicle

West Suffolk Council are also working with partners across Suffolk and Norfolk to ensure regional strategies and plans are aligned and complementary. Colleagues at Suffolk County Council are delivering public chargepoints in more rural areas through their Plug-in Suffolk scheme.

West Suffolk Council have been working towards increasing the EV infrastructure by installing 12 bays capable of charging electric vehicles simultaneously at the West Suffolk operational hub, six bays at the Haverhill depot and one bay at the Mildenhall depot.

We have also installed eight new bays for charging at our public car parks across the district.

Carbon reduction activities

West Suffolk Council undertake a number of carbon reduction activities that will help to reduce our impact on the environment and reduce our reliance on fossil fuels. This includes our solar farm, our solar for business scheme, tree planting, reduction in fuel use and increased recycling rates. Although these are generally not direct air quality improvement measures, they do all have a positive impact on air quality and underline our commitment to sustainability.

Further information on our carbon direction work can be found in the environmental policy statement. Tackling climate change

Suffolk County Council actions

As a district council, West Suffolk Council works closely with Suffolk County Council (SCC) on air quality. Many of the areas that impact air quality, such as highways and sustainable transport are the responsibility of Suffolk County Council. Some of the works undertaken by SCC in the past year include:

- Suffolk Air Quality Strategy
- Programme of community engagement relating to the health impacts of air quality
- Bikeability courses at schools throughout the district
- Plug-in Suffolk electric vehicle charging infrastructure scheme
- First Mile - Last Mile

Conclusions and priorities

Air Quality in West Suffolk continues to be relatively good, with all the monitored locations being below (that is compliant with) the air quality objectives. Most monitoring locations in 2024 were relatively similar to 2023 but were below pre-pandemic levels at every location which is consistent with the long-term downward trend in nitrogen dioxide pollution levels. Nitrogen dioxide monitoring will continue throughout the district.

West Suffolk continues to grow, with major developments in Bury St Edmunds, Newmarket and Haverhill continuing. It is important for West Suffolk to continue to monitor throughout the area and react to any new information that becomes available.

Our main ongoing actions for 2025 are to continue to expand the provision for EV charging infrastructure and continue working with schools and other organisations with our anti-idling campaign. We will also endeavour to continue working with Suffolk County Council in supporting their air quality strategy and air quality engagement plan.

Gaining significant engagement at a local level given the largely rural locality will remain a challenge in West Suffolk.

Local engagement and how to get involved

As an individual there are many actions that can be taken to improve the air quality and reduce air pollution. This will improve the quality of life for everyone, below are a few suggestions of how to get involved:

- Use your car less. Try to walk, cycle, and use the bus or train wherever possible. Conventionally fuelled cars are particularly polluting over short journeys, so aim to cut these out first.
- Consider purchasing an electric vehicle; the costs are reducing, and the technology and infrastructure are making this technology more practical for more people.
- Reduce emissions from your car by ensuring it is regularly serviced and well maintained, ensure you only carry the weight you need, and you drive in a gentle, steady manner.
- Don't idle your vehicle's engine when parked. You can contact West Suffolk Council if you would like us to do a presentation about vehicle idling to your school or organisation.
- When buying a traditionally fuelled vehicle consider the most fuel-efficient petrol vehicle rather than buying a diesel vehicle.
- Encourage your employer, school, or college to set up a Green Travel Plan.
- Car share, to reduce emissions and save money. See the Suffolk Car Share website for further details.
- If you own a property with a log burner or open fire make sure you only burn the cleanest fuels such as well seasoned wood approved under the "Ready to Burn" scheme. See the Ready to Burn website for further information.
- Avoid having bonfires at home, try to compost instead.
- Make sure your domestic boiler is well serviced to avoid unnecessary nitrogen dioxide or particulate emissions.

For up-to-date information on air quality in West Suffolk, please visit our Air quality webpage.

1. Local air quality management

This report provides an overview of air quality in West Suffolk 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. It shall also include the dates by which each measure will be carried out. This annual status report (ASR) is an annual requirement showing the strategies employed by West Suffolk 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 ES1.**

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.

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
Great Barton AQMA	Declared 11 May 2011 Revoked 1 January 2013 Declared 18 April 2017	NO2 annual mean (40µg/m3)	An area incorporating Gatehouse Cottage and 1 to 8 The Street (A143) in the parish of Great Barton	No	48.2 µg/m^3 (2011)	No exceedance – 32.1 µg/m3	Five years	Great Barton AQMA Action Plan – Jan 2024

2.2 Progress and impact of measures to address air quality in West Suffolk

Defra's appraisal of last year's ASR concluded that West Suffolk Council should continue to undertake monitoring for nitrogen dioxide throughout the district and report results in the 2024 ASR.

West Suffolk 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 2.2. 19 measures are included within Table 2.2, with the type of measure and the progress West Suffolk Council or its partners 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 2.2.

Key completed measures are the launch of the clean air business scheme, the continued increase of electric vehicle charging infrastructure and the public awareness campaigns that West Suffolk is supporting Suffolk County Council to complete.

West Suffolk Council's priorities for the coming year are to establish which actions can be taken to better tackle particulate pollution.

West Suffolk Council worked to implement these measures in partnership with the following stakeholders during 2024:

- Suffolk County Council
- University of Suffolk

The principal challenges and barriers to implementation that West Suffolk Council anticipates facing are reducing car use in a largely rural area and understanding the various sources of particulate pollution.

Table 2.2 – Progress on measures to improve air quality

Measure number	Measure	Category	Classification	Year measure introduced in AQAP	Estimated or actual completion date	Organisations involved	Funding source	Defra AO grant funding	Funding Status	Estimated cost of measure	Measure status	Reduction in pollutant or emission from measure	Key performance indicator	Progress to date	Comments or barriers to implementation
1	Electric vehicle charging points through planning	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote low emission vehicles, EV recharging, gas fuel recharging	2016	Ongoing	West Suffolk	Not applicable	No	Funded	Less than £10k	Implementation	Not possible to directly measure	Number of relevant planning applications with conditions successfully applied	Implemented and conditions being successfully imposed and delivered on new developments	Where building regulations require installation of charge points this action is no longer required
2	Electric vehicle charging infrastructure on council owned land	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote low emission vehicles, EV recharging, gas fuel recharging	2017	Jan 2019	West Suffolk, Babergh Mid Suffolk, Highways England providing funding for Rapid chargers	Highways England	No	Funded	£10k - 50k	Completed	Not possible to directly measure	Number of additional charge points installed	Rapid charge point installed January 2019	Energy delivered to drivers powered 546,241 miles up 30% compared to 2023-24
3	Electric vehicle charging infrastructure on council owned land	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote low emission vehicles, EV recharging, gas fuel recharging	2016	Ongoing	West Suffolk	Section 106 funds, council investment and private investment	No	Funded	£100k - £500k	Implementation	Not possible to directly measure	Number of additional charge points installed	Fast chargers installed in Brandon, Bury St Edmunds, Haverhill, Mildenhall and Newmarket. Rapid chargers installed in Newmarket and Mildenhall	Charger points installed in 2017, 2020, 2021 and 2022. Strategy for future installations developed.
4	On street electric vehicle charging infrastructure	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote low emission vehicles, EV recharging, gas fuel recharging	2018	Phase 1 completed Q1 2019	West Suffolk, OLEV and EST	OLEV and West Suffolk Council	No	Funded	£10k - 50k	Completed	Not possible to directly measure	Number of additional charge points installed	22 points installed	Chargepoints being upgraded in 2023

Measure number	Measure	Category	Classification	Year measure introduced in AQAP	Estimated or actual completion date	Organisations involved	Funding source	Defra AO grant funding	Funding Status	Estimated cost of measure	Measure status	Reduction in pollutant or emission from measure	Key performance indicator	Progress to date	Comments or barriers to implementation
5	Business grant promotions for businesses to move to ULEV including 'Electric Innovation' event as part of the West Suffolk Business Festival	Promoting low emission transport	Company vehicle procurement - prioritising uptake of low emission vehicles	2016	Ongoing	West Suffolk and BEE Anglia	ongoing	No	Funded	£10k - 50k	Implementation	Not possible to directly measure	Increased uptake in electric vehicles	Seven businesses now have had a EV charger installed and one has receive an electric vehicle	
6	Taxi licensing conditions making idling in a taxi rank or on the highway a penalty within the taxi handbook, with the potential for penalty points to be added to the drivers council licence.	Promoting low emission transport	Taxi licensing conditions	2017	Conditions implemented in 2017	West Suffolk Council	Not applicable	No	Funded	Less than £10k	Completed	12% reduction in pollution at taxi rank between 2017 and 2019	Reduction in Nitrogen dioxide at taxi rank locations	Implemented and continue to monitor	Measure was backed up by regular visits to taxi rank by licensing enforcement officer during 2024
7	Anti-idling campaigns including school anti-idling events	Public information	Via other mechanisms	2018	June 2019	West Suffolk Council Suffolk County Council	West Suffolk Council	No	Partially funded	Less than £10k	Implementation	Not possible to directly measure	Reduction in idling at key locations	Work on updated campaign messages and resources for a 2024 launch.	
8	Eco driving courses for council staff	Vehicle fleet efficiency	Driver training and eco driving aids	2017	Ongoing	West Suffolk Council	Energy Savings Trust	No	Funded	Less than £10k	Implementation	Not possible to directly measure	Number of staff completing course	Ongoing	Staff mileage has significantly reduced since start of COVID-19 pandemic due to a more flexible working approach

Measure number	Measure	Category	Classification	Year measure introduced in AQAP	Estimated or actual completion date	Organisations involved	Funding source	Defra AO grant funding	Funding Status	Estimated cost of measure	Measure status	Reduction in pollutant or emission from measure	Key performance indicator	Progress to date	Comments or barriers to implementation
9	Promotion of better domestic solid fuel burning	Public information	Via the Internet	2018	Ongoing	West Suffolk Council	West Suffolk Council	No	Partially funded	Less than £10k	Implementation	Not possible to directly measure	Lower emissions from private fuel burning (not measurable)	Promoted on West Suffolk website and via West Suffolk and Environmental Health Social Media pages	
10	South-east Bury St Edmunds relief road	Traffic management	Strategic highway improvements, re-prioritising road space away from cars, including access management, selective vehicle priority, bus priority, high vehicle occupancy lane	2020	2025	West Suffolk Council, Suffolk County Council and developer	Development	No	Funded	£1 million - £10 million	Planning	Due to open 2025	Measured concentration in Nitrogen Dioxide on Sicklesmere Road	Planning permission granted in Spring 2020	Completion of road prior to 400 dwellings completed to be a condition of the planning approval
11	Haverhill north-west relief road	Traffic management	Strategic highway improvements, re-prioritising road space away from cars, including access management, selective vehicle priority, bus priority, high vehicle occupancy lane	2018	2025	West Suffolk Council, Suffolk County Council and developer	Development	No	Funded	£1 million - £10 million	Implementation	To be confirmed closer to opening date - likely in the region of 20% reduction in NO_2 along Withersfield Road	Measured concentration in Nitrogen Dioxide on Withersfield Road	Development commenced March 2018. Construction underway, estimated completion spring 2025.	

Measure number	Measure	Category	Classification	Year measure introduced in AQAP	Estimated or actual completion date	Organisations involved	Funding source	Defra AO grant funding	Funding Status	Estimated cost of measure	Measure status	Reduction in pollutant or emission from measure	Key performance indicator	Progress to date	Comments or barriers to implementation
12	Great Barton AQAP - improvement of Bunbury Arms junction to Thurston	Traffic management	Strategic highway improvements, re-prioritising road space away from cars, including access management, selective vehicle priority, bus priority, high vehicle occupancy lane	2018	2024	Suffolk County Council	Section 106 funds	No	Funded	£100k - £500k	Planning	To be confirmed	Monitoring of queues through Great Barton	Outline design completed	
13	Suffolk Car Share	Alternatives to private vehicle use	Car and lift sharing schemes	Ongoing	Ongoing	Suffolk County Council	Suffolk County Council	No	Funded	Less than £10k	Implementation	Not possible to directly measure for a single district	Number of scheme participants	Over 3,000 members	
14	West Suffolk Council cycling initiatives	Alternatives to private vehicle use	Other	Ongoing	Ongoing	West Suffolk Council	West Suffolk Council	No	Funded	Less than £10k	Implementation	Not possible to directly measure	Numbers of employees cycling to work, business miles completed by bike	Seven pool bikes available at main office with plans to buy more in 2025, incentives to cycle to work, free bike servicing at work	
15	Clean air business scheme	Public information	Other	2022	Ongoing	West Suffolk Council, Suffolk County Council	West Suffolk Council	No	Funded	£1,000	Implementation	Not possible to directly measure	Number of business presented with a Clean Air Business award	Scheme launched on clean air day 2022. Good interest from businesses on how to improve air quality but no formal awards presented	Although businesses are interested, the commitment needed to gain a formal award is not a priority

Measure number	Measure	Category	Classification	Year measure introduced in AQAP	Estimated or actual completion date	Organisations involved	Funding source	Defra AO grant funding	Funding Status	Estimated cost of measure	Measure status	Reduction in pollutant or emission from measure	Key performance indicator	Progress to date	Comments or barriers to implementation
16	Bikeability scheme	Promoting travel alternatives	Promotion of cycling	2022	Ongoing	Suffolk County Council	Suffolk County Council	No	Funded	Less than £10k	Implementation	Not possible to directly measure	Number of children passing	Well established scheme targeting primary schools throughout the county. Bikeability completed at 14 schools in West Suffolk in 2023. In 2024, 1,199 pupils across Suffolk received Bikeability training.	Added to the ASR in 2022 but has been ongoing for a number of years
17	Modeshift stars schools	Promoting travel alternatives	School travel plans	2022	Ongoing	Suffolk County Council	Suffolk County Council	No	Funded	Less than £10k	Implementation	Not possible to directly measure	Number of schools registered	Well established scheme targeting schools throughout the county. Eight schools currently registered in West Suffolk including Great Barton Primary School located close to the Great Barton AQMA	Added to the ASR in 2022 but has been ongoing for a number of years.
18	Plug-in Suffolk	Promoting low emission transport	Procuring alternative refuelling infrastructure to promote low emission vehicles, EV recharging, gas fuel recharging	2018	Ongoing	Suffolk County Council	Suffolk County Council	No	Funded	Over £200k	Implementation	Not possible to directly measure	Number of charge points installed	Well established scheme funding EV charge points in community locations.	Locations in West Suffolk include Hundon, Ixworth, Kedington, Risby and West Row

Measure number	Measure	Category	Classification	Year measure introduced in AQAP	Estimated or actual completion date	Organisations involved	Funding source	Defra AO grant funding	Funding Status	Estimated cost of measure	Measure status	Reduction in pollutant or emission from measure	Key performance indicator	Progress to date	Comments or barriers to implementation
19	E-Cargo Bike trial	Promoting travel alternatives	Promotion of cycling	2022	Ongoing	Suffolk County Council	Suffolk County Council	No	Funded	Over £10k	Implementation	Not possible to directly measure	Number of businesses that change to e-cargo bikes	Seven business took part in Bury St Edmunds in summer 2024	

2.3 $PM_{2.5}$ – Local authority approach to reducing emissions and/or concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of $PM_{2.5}$ (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that $PM_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

West Suffolk Council is undertaking a number of measures to improve air quality generally, as described above, which we consider will also have a positive impact on PM2.5. Some of these measures, such as the promotion of clean burning, will specifically tackle particulate matter emissions.

During the latter part of 2019 and in 2020, the Council, together with all the other Local Authorities across Suffolk worked with Suffolk County Council's Transport and Public Health colleagues to prepare an 'Air Quality Profile' report for Suffolk. The report maps, at a district and borough level, local air pollution levels and explores evidence-based interventions that can be undertaken by local authorities, businesses, communities and individuals to improve air quality. The report was published in June 2021 following sign-off from the Suffolk Director of Public Health.

As a result of the report, air quality was made a priority by the Suffolk Health and Wellbeing board as part of their duty to "encourage integrated working" between health, care, police and other public services in order to improve wellbeing outcomes for Suffolk. The recommendations from the Suffolk Profile have also informed both the development of a Suffolk-wide Air Quality Strategy that was published in May 2023 and the Suffolk Community Engagement Plan.

The Air Quality Strategy sets out the range of actions identified as being important to the improvement of air quality (both concentrations of nitrogen dioxide and particulate matter), along with who is the lead authority for the work, timescales for implementation, and what measurements or outcomes will be achieved. A strategy review and update took place at the end of 2024. Updates include an increased focus on indoor air quality, reflecting advances in data and evidence on the impacts of poor indoor air quality on health; action to support more nature friendly farming through Suffolk's County Farms Programme; and an evaluation project with the University of Suffolk looking at the impacts of school streets on Suffolk children's health. Updates on progress with the Air Quality Strategy can be found on Healthy Suffolk – Suffolk Air Quality.

The Suffolk Community Engagement Plan 2023-2024 set out the action Suffolk County Council (SCC), working with borough and district partners, would take to raise awareness of the health impacts of air quality in Suffolk. The aim was to increase awareness to enable individuals to make choices that would protect both their health and the health of others from the harmful effects of pollution. The findings from this programme of engagement can be found at Healthy Suffolk – Suffolk Air Quality (under Your Feedback).

Key highlights

88per cent (of 508 respondents) were aware that air pollution can affect health. Awareness levels in Suffolk have increased by up to 22per cent since a 2022 survey. However, while the majority of people were aware that pollution affected health they

weren't always sure how (an action that has been picked up in Suffolk County Council's updated Air Quality Strategy Action Plan).

Only 12per cent (of 565 respondents) said they already use, or would consider using, 'Ready to Burn' wood and smokeless fuels *if* burning at home. Awareness levels in Suffolk of household burning as a source of air pollution have been low in the past. In SCC's 2022 air pollution survey, only 8per cent of respondents identified home burning as a source of pollution compared to 89per cent who identified transport as a source. From these findings, coupled with national data, it is likely that there is still low public awareness of the contribution of home burning to air pollution and the subsequent health risks. This demonstrates the need for domestic burning campaigns, such as the Defra grant funded project, mentioned above, to help encourage people to think about what they are burning at home and its impacts. The updated Suffolk Air Quality Strategy and Action Plan will include a focus on indoor air quality, including home burning. It will involve forging closer links with other programmes of work including Warm Homes Healthy People to ensure people are getting the support they need to heat their homes.

We will continue to consult with Suffolk County Council Public Health colleagues and be advised by them, and national guidance, on any relevant measures that will reduce exposure to poor air quality, particularly $PM_{2.5,}$ and help reduce the health impacts on our residents and visitors.

Between 1 September 2020 and 31 August 2022 the University of Suffolk carried out a case study monitoring PM2.5 and PM10 using a Zephyr Sensor. The findings of this study showed a strong correlation between $PM_{2.5}$ and PM_{10} data at all locations analysed. However, a strong relationship could not be found between traffic volumes and particulates. The only times that the levels recorded were elevated were around bonfire night both years and in March 2022 when the UK experienced a dust cloud from the Sahara Desert.

3. Air quality monitoring data and comparison with air quality objectives and national compliance

This section sets out the monitoring undertaken within 2024 by West Suffolk 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 non-automatic monitoring undertaken

West Suffolk Council undertook non-automatic (that is passive) monitoring of NO_2 at 80 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. More details on Quality Assurance and Quality Control (QA and QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (for example annualisation and/or distance correction), are included in Appendix C.

3.2 Individual pollutants: Nitrogen dioxide (NO2)

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

Table A.2 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. 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 (that is 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.

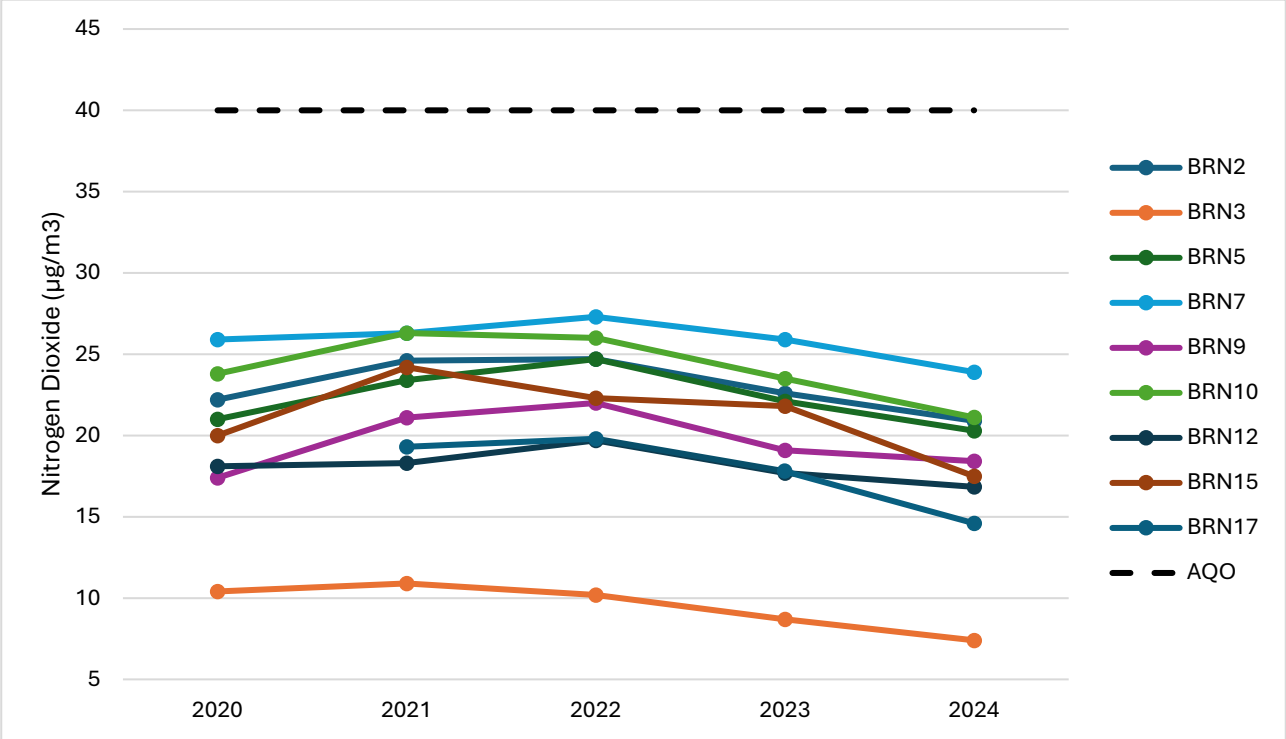
Details from each of the monitoring areas is provided below.

3.2.1 Brandon

The town of Brandon continues to show concentrations of nitrogen dioxide below (that is compliant with) the air quality objective level of 40µg/m^3. Recorded levels in 2024 were broadly comparable to those measured in 2023, with all sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years.

The highest concentration (23.9µg/m^3) was recorded at monitoring point BRN7 located at the junction of London Road and Church Road, with the monitoring site at BRN10 on the High Street recording the second highest concentration (21.1µg/m^3). Figure 3.1 shows the trend for all monitoring sites where data has been collected for all of the past five years and compares them to the air quality objective (AQO).

Figure 3.1: Five-year trend data for nitrogen dioxide in Brandon



3.2.2 Bury St Edmunds

Bury St Edmunds is the largest town in West Suffolk and consequently has the most monitoring points. Recorded levels in 2024 were broadly comparable to those measured in 2023, with all sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years.

Figure 3.2 shows the five-year trend of nitrogen dioxide from monitoring locations on Sicklesmere Road, both inside and outside of the former AQMA.

The highest recorded concentration of nitrogen dioxide in Bury St Edmunds away from the AQMA was recorded at BSE16 which is at the Northgate Lodge roundabout and was 23.9µg/m^3, with the next highest being 23.4µg/m^3 at BSE6 the Kings Road roundabout, although it should be appreciated that these values are well below the objective level of 40µg/m^3.

All the monitoring locations within the former Sicklesmere AQMA, which was revoked in June 2024, remain well below the objective level.

In October 2023 two additional monitoring points (BSE36 and BSE37) were added along Beetons Way to monitor outside local schools, these will be reported on in next year's report.

Figure 3.2 Five-year trend data for nitrogen dioxide along Sicklesmere Road, Bury St Edmunds

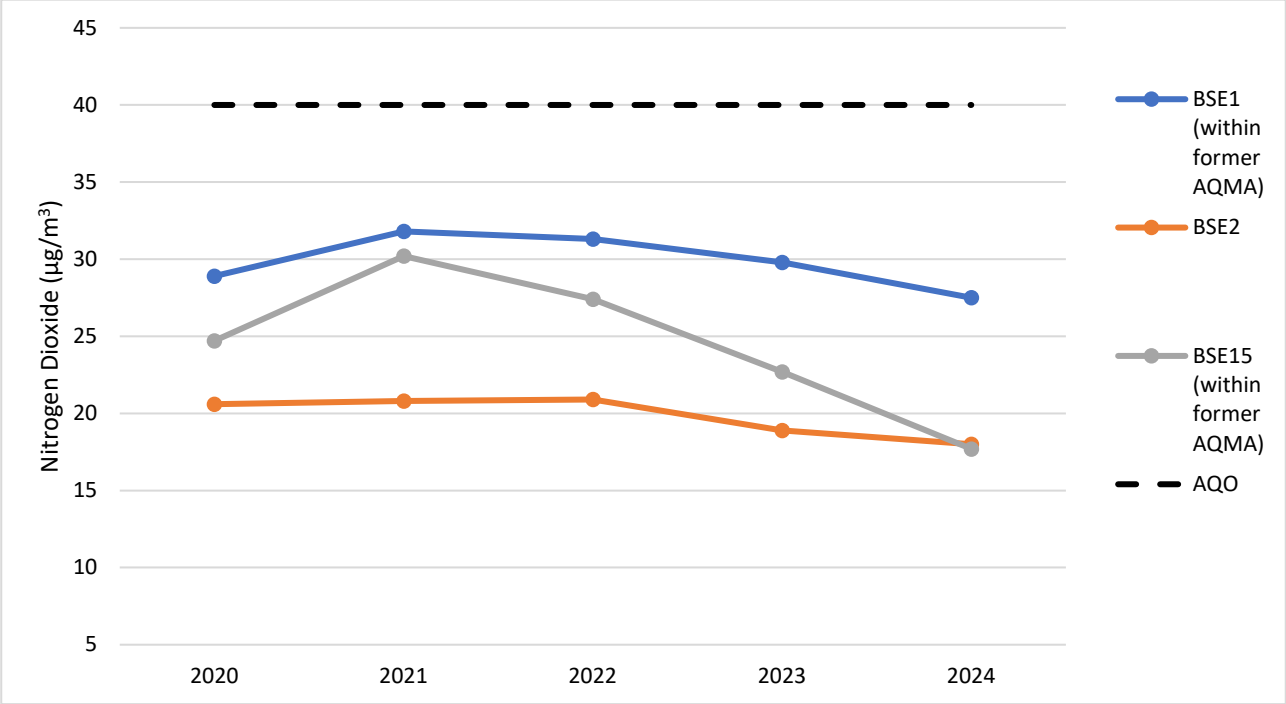
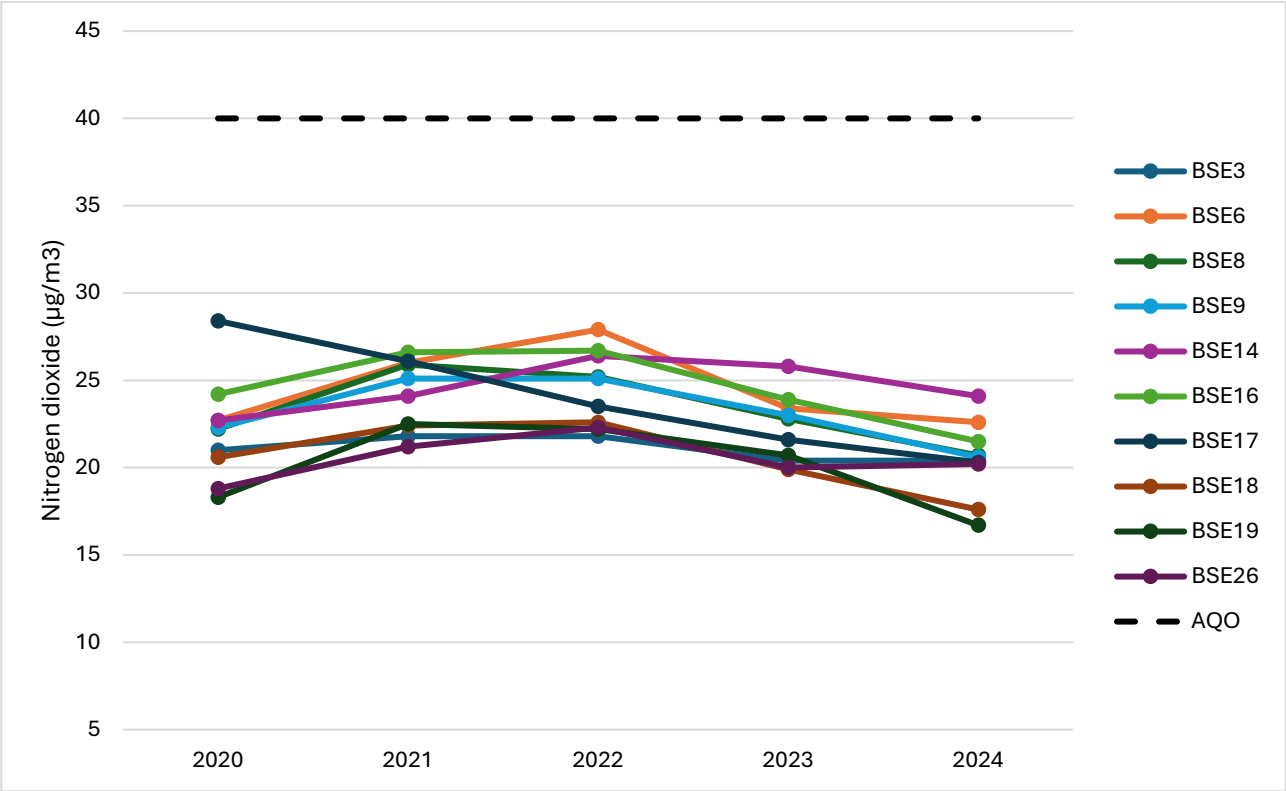


Figure 3.3 shows the five-year trend of nitrogen dioxide from monitoring locations within Bury St Edmunds. Sites with less than five-years of monitoring data have not been included.

Figure 3.3 Five-year trend data for nitrogen dioxide at selected Bury St Edmunds monitoring sites



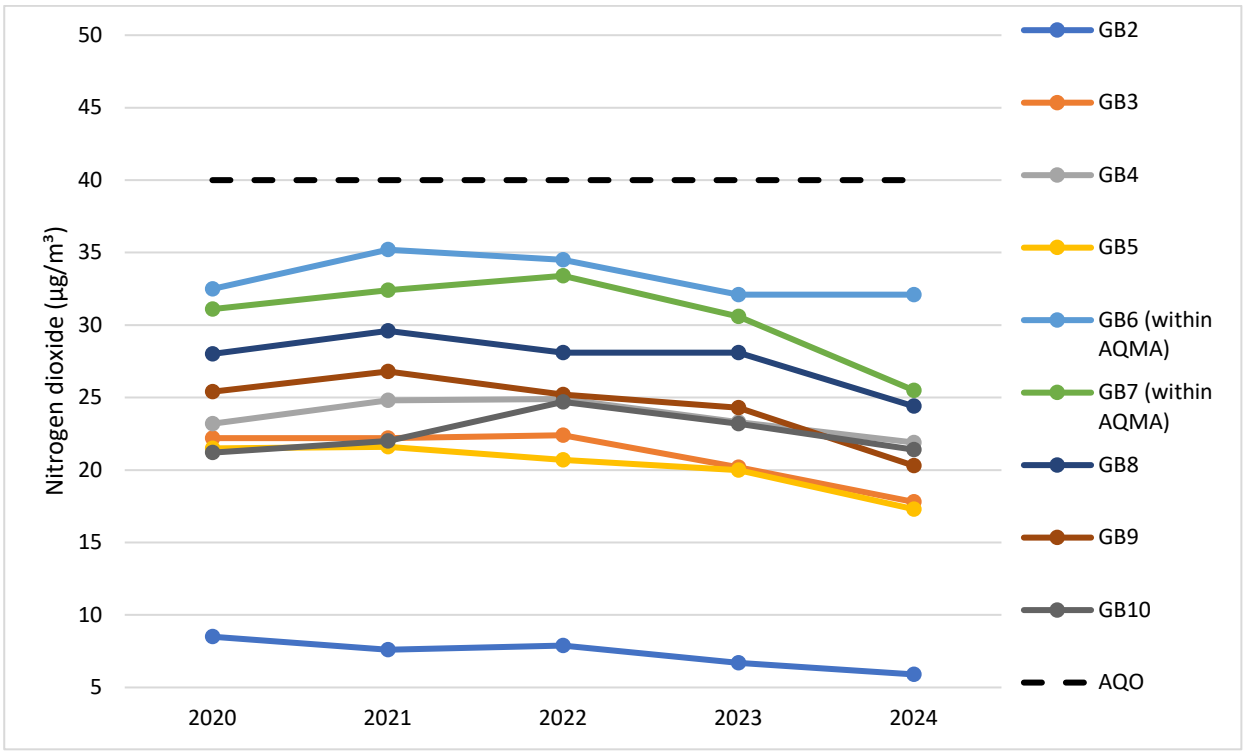
3.2.3 Great Barton

Great Barton is a village to the northeast of Bury St Edmunds with a main road (A143), which is a designated HGV route, cutting through it. A row of cottages either side of, and including, the Post Office are situated close to this road and were designated as an AQMA, however, nitrogen dioxide levels have been below the objective since 2020 and the AQMA is currently being progressed for revocation. Recorded levels in 2024 were similar to those in 2023, with monitoring points recording a majority of results as slightly lower values, with the highest recorded value of 32.1µg/m^3 being within the former AQMA at monitoring point GB6.

All monitoring points remain below the 2019 levels, which is partly due to the moving of the pedestrian crossing with the use of a Defra grant. This was completed at the end of 2019 and was the main action from the previous AQAP and was estimated to have resulted in a 7.8per cent reduction in concentrations between 2019 and 2020. This reduction was in addition to the reductions caused by the COVID-19 pandemic.

Figure 3.4 shows the five-year trend of nitrogen dioxide from monitoring locations within Great Barton, showing a significant drop for the monitoring locations within and immediately adjacent to the former AQMA.

Figure 3.4 Five-year trend data for nitrogen dioxide at Great Barton monitoring sites



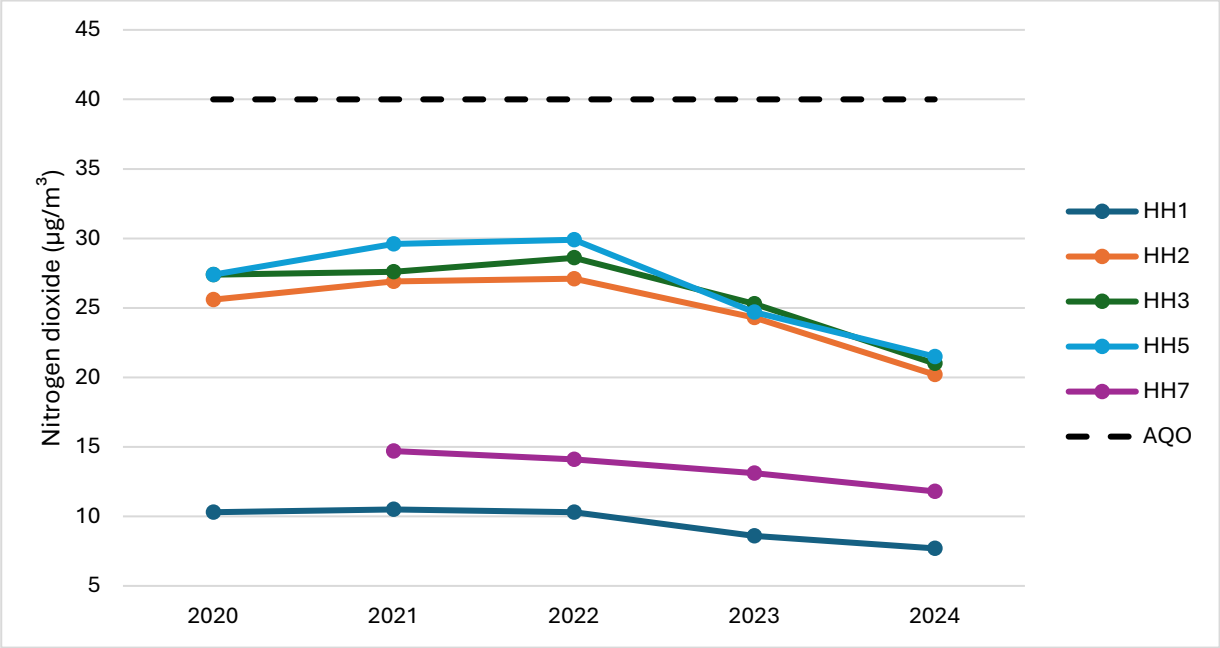
3.2.4 Haverhill

Monitoring points in Haverhill continue to show concentrations of nitrogen dioxide below (that is compliant with) the air quality objective level. Recorded levels in 2024 were broadly comparable to those measured in 2023, with all sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years. The highest recorded concentration was monitoring point HH5 along Withersfield Road with a value of 21.5µg/m^3.

Haverhill north-west relief road is due to open in Spring/Summer 2025 and should have a positive impact on the monitoring locations on Withersfield Road and Wratting Road (HH2, HH3 and HH5). Further information will be presented in future ASRs.

Figure 3.5 shows the five-year trend of nitrogen dioxide from monitoring locations within Haverhill.

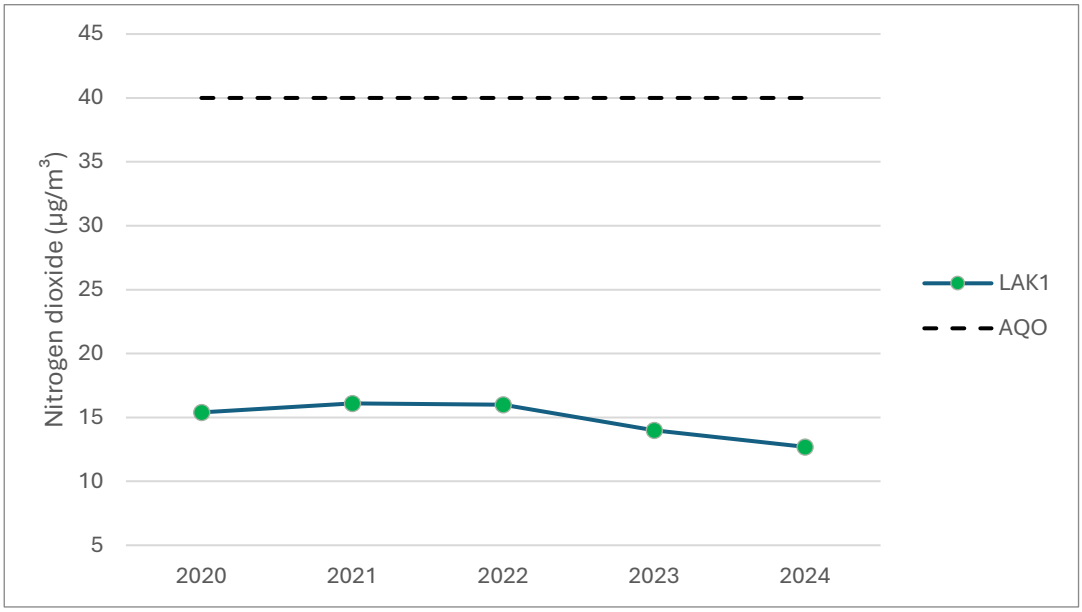
Figure 3.5 Five-year trend data for nitrogen dioxide at Haverhill monitoring sites



3.2.5 Lakenheath

Lakenheath has a monitoring point in the centre of the village. The recorded level for 2024 (12.7µg/m^3) was lower than that recorded in 2021 (16.1µg/m^3), which was lower than pre-pandemic records (19.7µg/m^3 in 2019).

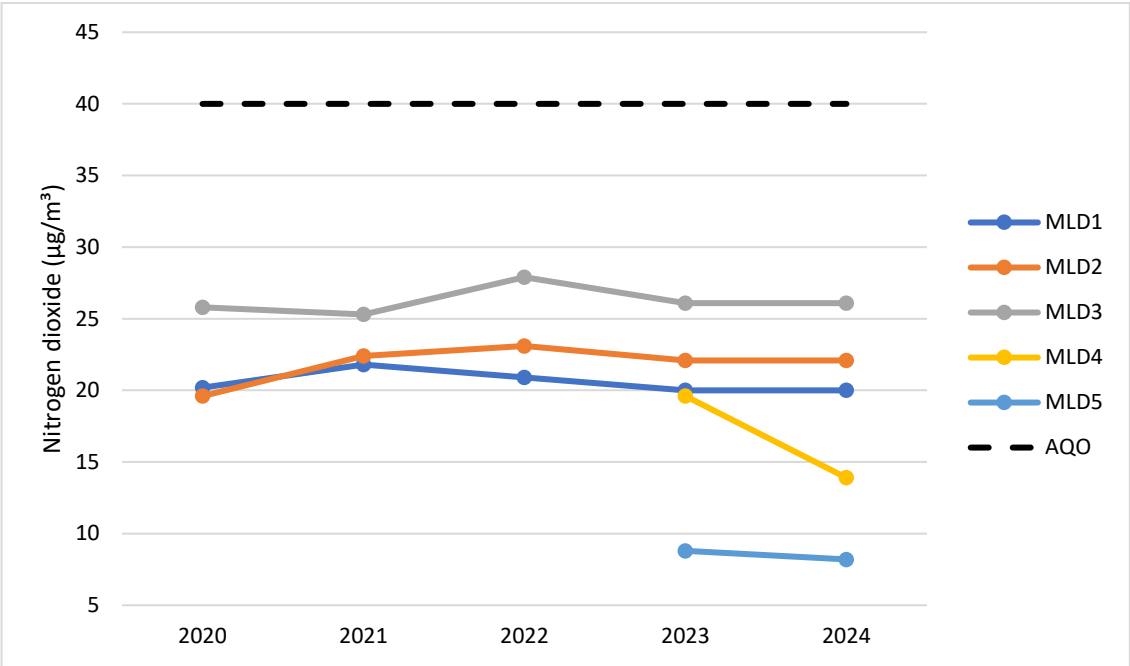
Figure 3.6 Five-year trend data for nitrogen dioxide at Lakenheath monitoring sites



3.2.6 Mildenhall

Mildenhall continue to show concentrations of nitrogen dioxide below (that is compliant with) the air quality objective level of 40µg/m^3 with a high of 24.9µg/m^3 recorded at monitoring point MLD3 on Kingsway. Recorded levels in 2024 were broadly comparable to those measured in 2023, with all sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years. Figure 3.7 shows the five-year trend of nitrogen dioxide from monitoring locations within Mildenhall, showing a drop in concentrations over the monitoring period.

Figure 3.7 Five-year trend data for nitrogen dioxide at Mildenhall monitoring sites



3.2.7 Newmarket

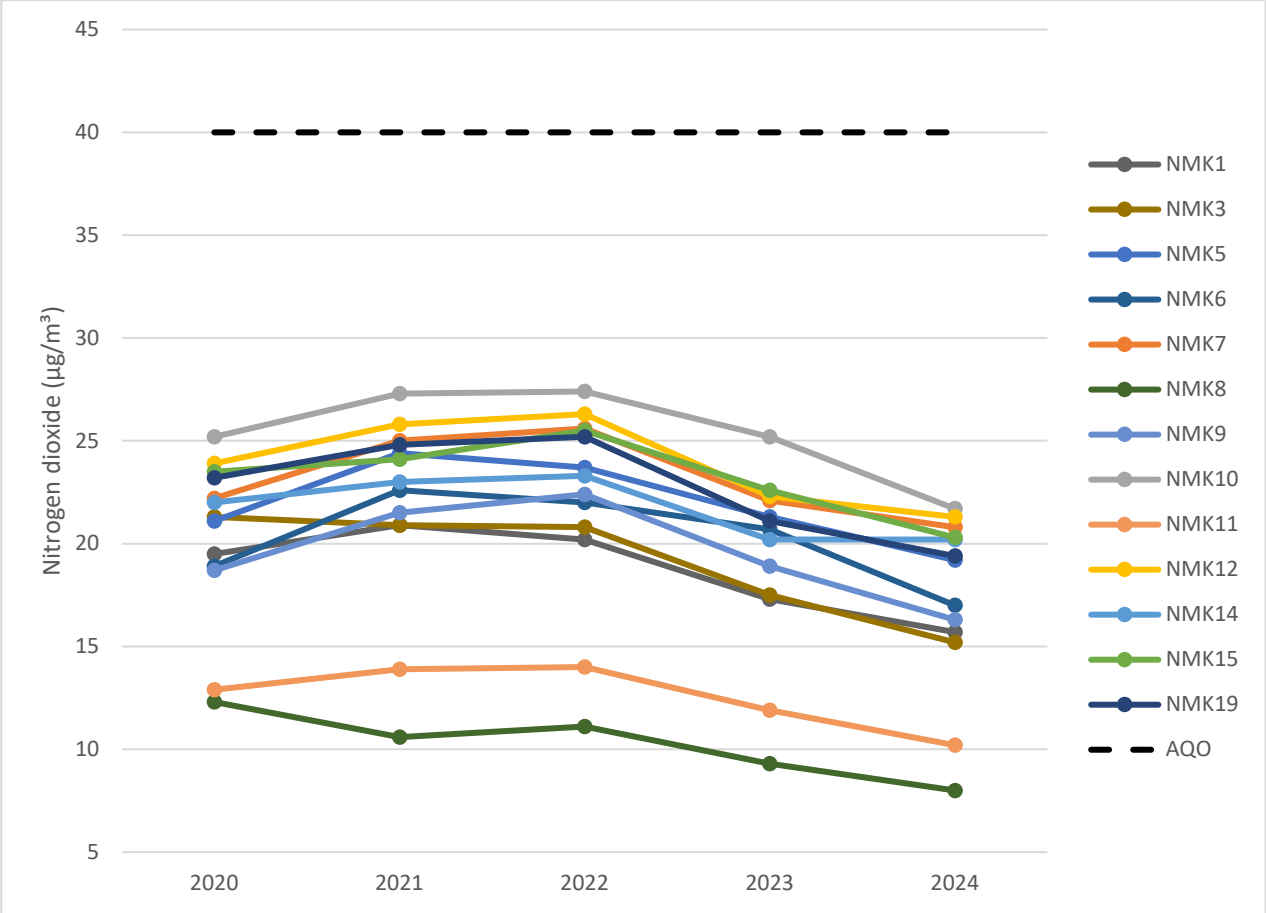
Newmarket continues to show concentrations of nitrogen dioxide below (that is compliant with) the air quality objective level, with the highest concentration of nitrogen dioxide recorded at monitoring point NMK10 (adjacent to the taxi rank on the High Street) as 21.7µg/m^3.

All the monitoring locations within the former Newmarket AQMA, which was revoked in September 2021, remain well below the objective level.

Recorded levels in 2024 were broadly comparable to those measured in 2023, with all sites slightly lower. Results from all sites remain lower than those from 2019 and other pre-pandemic years.

Figure 3.8 shows the five-year trend of nitrogen dioxide from the monitoring locations in Newmarket with the highest records of nitrogen dioxide in 2022.

Figure 3.8 Five-year trend data for nitrogen dioxide at Newmarket monitoring sites

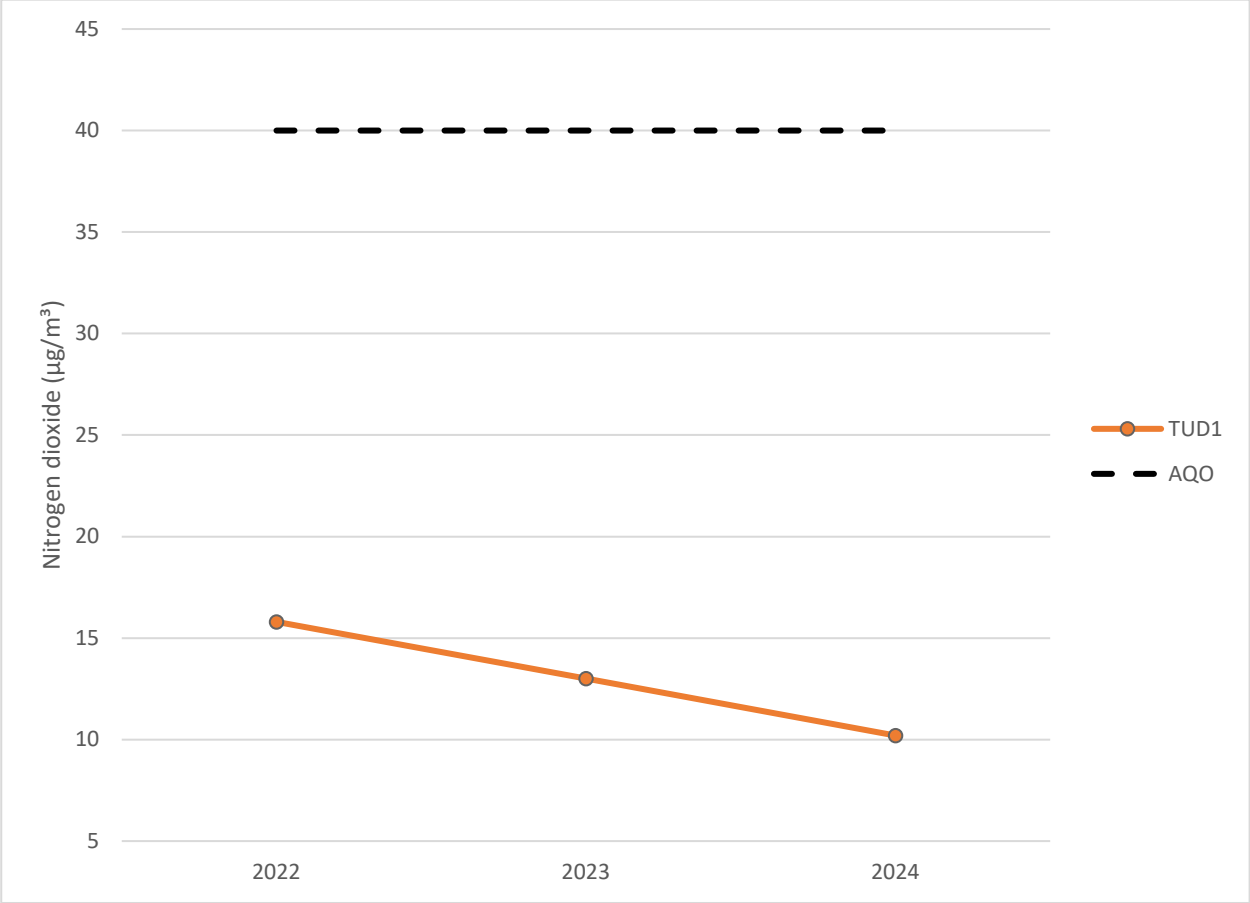


3.2.8 Tuddenham

Tuddenham continues to show concentrations of nitrogen dioxide below (that is compliant with) the air quality objective level.

Recorded levels in 2024 were broadly comparable to those measured in 2023, with a lower result as shown in Figure 3.9.

Figure 3.9 shows the three-year trend of nitrogen dioxide from the monitoring locations in Tuddenham



3.2.9 Clare

Two monitoring points were installed in the village of Clare in January 2023. These both showed low levels of pollution at 20.4µg/m^3 and 16.7µg/m^3 and have continued in 2024 to remain below the annual mean objective with a reading of 19.1µg/m^3 and 16.1µg/m^3.

3.2.10 Kentford

A single monitoring point was introduced to the village of Kentford at the beginning of 2023, this monitoring point showed low levels of pollution at 12.1µg/m^3 in 2023 and has continued in 2024 to remain below half the annual mean objective with a reading of 10.9µg/m^3.

3.2.11 Exning

Two monitoring points have been installed in the village of Exning in March 2023 close to the local primary school. These both showed low levels of pollution at 11.0µg/m^3 and 14.5µg/m^3 which is less than half of the annual mean objective of 40µg/m^3. In 2024 these both continued to show low level results of 11.5µg/m^3 and 11.6µg/m^3 which is below the annual mean objective.

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)	Distance to kerb of nearest road (m)	Tube height (m)
BRN2	Brandon – 104 London Road	Roadside	577993	286163	NO_2	Not in AQMA	3.3	1.7	2.2
BRN3	Brandon - Town Hall	Urban centre	578406	286460	NO_2	Not in AQMA	0 – hourly Not applicable - annual	Not applicable	2.4
BRN5	Brandon - 52 London Road	Roadside	578206	286407	NO_2	Not in AQMA	7.0	1.1	2.2
BRN7	Brandon - London Road and Church Road	Kerbside	578073	286254	NO_2	Not in AQMA	8.0	1.0	2.1
BRN9	Brandon - Riverside Lodge, High Street	Kerbside	578372	286867	NO_2	Not in AQMA	3.3	0.3	2.2
BRN10	Brandon - 'Boots', High Street	Roadside	578395	286633	NO_2	Not in AQMA	0 – hourly 0.5 -annual	2.5	2.4
BRN12	Brandon - 1 Thetford Road	Roadside	578486	286558	NO_2	Not in AQMA	0.0	1.7	2.1
BRN15	Brandon - 92B High Street	Roadside	578317	287103	NO_2	Not in AQMA	3.6	1.5	2.2

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)	Distance to kerb of nearest road (m)	Tube height (m)
BRN17	Brandon - 25 London Road	Roadside	578297	286469	NO_2	Not in AQMA	0.0	1.2	2.1
LAK1	Lakenheath - Zebra Crossing	Kerbside	571378	282855	NO_2	Not in AQMA	3.5	1.0	2.1
MLD1	Mildenhall – 8 North Terrace	Roadside	571136	274878	NO_2	Not in AQMA	1.5	1.9	2.1
MLD2	Mildenhall – 2 Queensway	Roadside	571092	274785	NO_2	Not in AQMA	0.0	1.8	2.3
MLD3	Mildenhall - 14 Kingsway	Roadside	571326	274780	NO_2	Not in AQMA	0.5	2.0	2.1
MLD4	Mildenhall – St Mary's (A1101 entrance)	Roadside	571121	275063	NO_2	Not in AQMA	0.5	4.0	2.2
MLD5	Mildenhall – St Mary's – Trinity Avenue	Roadside	571259	275083	NO_2	Not in AQMA	0.5	2.7	2.2
NMK1	Newmarket – 23 Old Station Road	Roadside	564716	263502	NO_2	Not in AQMA	0.0	2.0	2.2
NMK3	Newmarket - Old Station Road and Rous Road	Roadside	564707	263493	NO_2	Not in AQMA	2.0	1.7	2.2
NMK5	Newmarket - 'Café Nero' crossing	Kerbside	564337	263343	NO_2	Not in AQMA	0 – hourly Not applicable -annual	Less than 1.0	2.2

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)	Distance to kerb of nearest road (m)	Tube height (m)
NMK6	Newmarket - 'KFC' downpipe	Roadside	564307	263338	NO_2	Not in AQMA	0 – hourly 0 - annual	6.5	2.3
NMK7	Newmarket - 'White Hart' crossing	Kerbside	564233	263274	NO_2	Not in AQMA	0 – hourly 5.9 - annual	1.0	2.3
NMK8	Newmarket - Park area	Urban background	564138	263301	NO_2	Not in AQMA	0 – hourly Not applicable - annual	Not applicable	2.2
NMK9	Newmarket - Blackbear Lane and High Street	Kerbside	564043	263159	NO_2	Not in AQMA	3.0	0.6	2.3
NMK10	Newmarket - Taxi rank	Roadside	564362	263381	NO_2	Not in AQMA	0 – hourly Not applicable -annual	Less than 1.0	2.3
NMK11	Newmarket - Market Street 'EE'	Urban centre	564380	263407	NO_2	Not in AQMA	0 – hourly Not applicable - annual	11.0	2.0
NMK12	Newmarket - clock tower crossing	Roadside	564550	263544	NO_2	Not in AQMA	0 – hourly 0.3 - annual	2.5	2.1
NMK14	Newmarket - 'Rutland Arms' crossing	Kerbside	564480	263464	NO_2	Not in AQMA	0 – hourly Not applicable - annual	Less than 1.0	2.3
NMK15	Newmarket - 'Savers' lamppost	Roadside	564383	263381	NO_2	Not in AQMA	0 – hourly 5.5 -annual	Lea than 1.0	2.3

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)	Distance to kerb of nearest road (m)	Tube height (m)
NMK19	Newmarket - Old Station Road, Nancy's Tearoom	Kerbside	564626	263525	NO_2	Not in AQMA	1.9	0.5	2.1
TUD1	Tuddenham - 37 High Street	Roadside	573521	271656	NO_2	Not in AQMA	0.3	1.5	2.0
BSE1	BSE - 2 Sicklesmere Road	Roadside	586253	263147	NO_2	Not in AQMA	0.0	1.7	2.1
BSE2	BSE - 14 Sicklesmere Road	Roadside	586320	263053	NO_2	Not in AQMA	0.0	4.0	2.0
BSE3	BSE - Cullum Road roundabout	Roadside	585236	263746	NO_2	Not in AQMA	0.0	3.4	2.0
BSE6	BSE - Kings Road roundabout	Roadside	584905	264171	NO_2	Not in AQMA	2.4	2.4	2.2
BSE8	BSE - Fornham Road (Northgate roundabout)	Roadside	585461	265050	NO_2	Not in AQMA	6.0	1.5	2.0
BSE9	BSE - Fornham Road (Tollgate)	Roadside	585085	265924	NO_2	Not in AQMA	2.8	1.5	2.2

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)	Distance to kerb of nearest road (m)	Tube height (m)
BSE14	BSE - 19F Mustow Street	Roadside	585624	264334	NO_2	Not in AQMA	0.2	2.3	2.2
BSE15	BSE - 7 Sicklesmere Road	Roadside	586273	263135	NO_2	Not in AQMA	0.0	1.2	2.0
BSE16	BSE - Northgate Lodge roundabout	Roadside	585424	264977	NO_2	Not in AQMA	0.4	1.2	2.2
BSE17	BSE - Tayfen Road (Ipswich Street junction)	Roadside	585264	264921	NO_2	Not in AQMA	Not applicable	2.1	1.9
BSE18	BSE - 68/69 Southgate Street	Roadside	586126	263328	NO_2	Not in AQMA	0.2	1.6	1.9
BSE19	BSE - Out Risbygate	Roadside	584618	264471	NO_2	Not in AQMA	0.5	1.5	2.0
BSE21	BSE - Northgate Street	Roadside	585555	264494	NO_2	Not in AQMA	0.0	2.6	2.0
BSE23	BSE - Guildhall Street	Roadside	585285	263841	NO_2	Not in AQMA	0.3	1.0	2.0
BSE25	BSE - Orttewell Road	Roadside	587454	264216	NO_2	Not in AQMA	10 – hourly Not applicable - annual	1.0	2.0

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)	Distance to kerb of nearest road (m)	Tube height (m)
BSE26	BSE - 24 Kings Road	Roadside	584957	264164	NO_2	Not in AQMA	0.0	1.2	2.0
BSE27	BSE - Westgate Street	Roadside	585349	263781	NO_2	Not in AQMA	0.0	1.6	2.0
BSE28	BSE - Tayfen Road – New Havebury Housing	Roadside	585314	264960	NO_2	Not in AQMA	0.0	1.4	2.2
BSE30	BSE - St Andrews Street South	Urban centre	585185	264285	NO_2	Not in AQMA	0 – hourly Not applicable - annual	1.5	2.3
BSE32	BSE - Buttermarket	Urban centre	585315	264287	NO_2	Not in AQMA	0.0	1.5	2.2
BSE33	BSE - Market Place - Preston and Duckworth	Urban centre	585281	264330	NO_2	Not in AQMA	0.0	0.5	2.2
BSE31	BSE – Newmarket Road and Western Way	Roadside	583648	264767	NO_2	Not in AQMA	3.5	2.0	2.2
BSE36	BSE – County High School, Beetons Way, crossing	Roadside	584451	265563	NO_2	Not in AQMA	0.0	1.0	2.0
BSE37	BSE – St Benedicts School, Beetons Way	Roadside	584472	265616	NO_2	Not in AQMA	0.0	1.0	2.2

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)	Distance to kerb of nearest road (m)	Tube height (m)
BSE38	BSE – Tollgate – lamppost directly outside school fence	Roadside	584818	265826	NO_2	Not in AQMA	0.5	3.5	2.2
BSE39	BSE – Tollgate – 137 Tollgate Lane	Roadside	584743	265777	NO_2	Not in AQMA	2.5	0.3	2.2
BSE40	BSE - St Edmunds – road sign outside church	Roadside	585331	263766	NO_2	Not in AQMA	0.5	3.0	2.2
BSE41	BSE - St Edmunds – Lamppost opposite YMCA	Kerbside	585405	263775	NO_2	Not in AQMA	0.0	1.5	2.2
GB2	Great Barton Downing Drive	Suburban	588917	267370	NO_2	Not in AQMA	Not applicable	1.5	1.9
GB3	Great Barton The Forge Bungalows	Roadside	589163	267013	NO_2	Not in AQMA	4.0	1.4	2.3
GB4a GB4b GB4c	Great Barton Post Office (lamppost)	Roadside	589130	266969	NO_2	Not in AQMA	0.0	1.4	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)	Distance to kerb of nearest road (m)	Tube height (m)
GB5	Great Barton Church Road junction	Roadside	588993	266838	NO_2	Not in AQMA	22.0	1.3	2.2
GB6	Great Barton Post Office 2, Telegraph Pole	Roadside	589120	266960	NO_2	Not in AQMA	0.3	1.0	2.4
GB7a GB7b GB7c	Great Barton The Drift, 8 The Street	Roadside	589100	266941	NO_2	Not in AQMA	0.0	1.1	2.2
GB8	Great Barton Opposite AQMA 1	Roadside	589093	266949	NO_2	Not in AQMA	Not applicable	1.3	2.1
GB9	Great Barton Opposite AQMA 2	Roadside	589117	266970	NO_2	Not in AQMA	Not applicable	1.3	2.1
GB10	Great Barton Between crossing and garage	Roadside	589228	267071	NO_2	Not in AQMA	5.0	1.3	2.1
HH1	Shetland Road	Suburban	568609	245575	NO_2	Not in AQMA	Not applicable	1.7	2.3
HH2	Wratting Road	Roadside	567270	245981	NO_2	Not in AQMA	3.0	1.8	2.1
HH3	29 Withersfield Road	Roadside	566891	245892	NO_2	Not in AQMA	2.4	1.7	2.2

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)	Distance to kerb of nearest road (m)	Tube height (m)
HH5	22 Withersfield Road	Roadside	566941	245850	NO_2	Not in AQMA	0.3	1.4	2.1
HH7	Mount Road	Kerbside	567553	245289	NO_2	Not in AQMA	1.6	0.1	2.1
CLA1	Clare - 2 Cavendish Road	Kerbside	577028	245412	NO_2	Not in AQMA	0.0	0.5	1.8
CLA2	Clare - Membury House, Well Lane	Roadside	576994	245281	NO_2	Not in AQMA	0.5	1.5	2.2
KNT1	Kentford – Bus Stop, Bury Road (1 Orchard Place)	Roadside	570549	266761	NO_2	Not in AQMA	0.5	1.5	2.2
EXN1	Exning – Primary School Lamppost	Roadside	561763	265670	NO_2	Not in AQMA	0.0	4.0	2.2
EXN2	Exning – Oxford Street, Swan Lane and Chapel Street	Roadside	561804	265663	NO_2	Not in AQMA	0.0	1.5	2.0

Table A.2 – Annual mean NO_2 monitoring results: Non-automatic monitoring ($\mu g/m^3$)

Note: The annual mean concentrations are presented as µg/m3 and have been corrected for bias. All annual means have been 'annualised' as per LAQM.TG22 if valid data capture for the full calendar year is less than 75 per cent. See Appendix C for details. Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment. Exceedances of the NO2 annual mean objective of 40µg/m3 are shown in bold. All diffusion tube locations were monitored for the full calendar year.

Diffusion tube ID	X OS Grid ref (easting)	Y OS Grid ref (northing)	Site type	Valid data capture 2024 (%)	2020	2021	2022	2023	2024
BRN2	577993	286163	Roadside	92.5%	22.2	24.6	24.7	22.6	20.9
BRN3	578406	286460	Urban centre	83.0%	10.4	10.9	10.2	8.7	7.4
BRN5	578206	286407	Roadside	90.6%	21.0	23.4	24.7	22.1	20.3
BRN7	578073	286254	Kerbside	100.0%	25.9	26.3	27.3	25.9	23.9
BRN9	578372	286867	Kerbside	67.9%	17.4	21.1	22.0	19.1	18.4
BRN10	578395	286633	Roadside	100.0%	23.8	26.3	26.0	23.5	21.1
BRN12	578486	286558	Roadside	100.0%	18.1	18.3	19.7	17.7	16.8
BRN15	578317	287103	Roadside	92.5%	20.0	24.2	22.3	21.8	17.5
BRN17	578297	286469	Roadside	100.0%		19.3	17.7	17.8	14.6
LAK1	571378	282855	Kerbside	92.5%	15.4	16.1	16.0	14.0	12.7
MLD1	571136	274878	Roadside	100.0%	20.2	21.8	20.9	20.0	19.3
MLD2	571092	274785	Roadside	92.5%	19.6	22.4	23.1	22.1	22.2
MLD3	571326	274780	Roadside	100.0%	25.8	25.3	27.9	26.1	22.3
MLD4	571121	275063	Roadside	84.9%				19.6	13.9
MLD5	571259	275083	Roadside	92.5%				8.8	8.2
NMK1	564716	263502	Roadside	100.0%	19.5	20.9	20.2	17.3	15.7

Diffusion tube ID	X OS Grid ref (easting)	Y OS Grid ref (northing)	Site type	Valid data capture 2024 (%)	2020	2021	2022	2023	2024
NMK3	564707	263493	Roadside	75.0%	21.3	20.9	20.8	17.5	15.2
NMK5	564337	263343	Kerbside	100.0%	21.1	24.4	23.7	21.3	19.2
NMK6	564307	263338	Roadside	92.5%	18.9	22.6	22.0	20.7	17.0
NMK7	564233	263274	Kerbside	100.0%	22.2	25.0	25.6	22.1	20.8
NMK8	564138	263301	Urban background	100.0%	11.6	10.6	11.1	9.3	8.0
NMK9	564043	263159	Kerbside	83.0%	18.7	21.5	22.4	18.9	16.3
NMK10	564362	263381	Roadside	100.0%	25.2	27.3	27.4	25.2	21.7
NMK11	564380	263407	Urban centre	100.0%	12.9	13.9	14.0	11.9	10.2
NMK12	564550	263544	Roadside	100.0%	23.9	25.8	26.3	22.3	21.3
NMK14	564480	263464	Kerbside	83.0%	22.0	23.0	23.3	20.2	20.2
NMK15	564383	263381	Roadside	90.6%	23.5	24.1	25.5	22.6	20.3
NMK19	564626	263525	Kerbside	100.0%	23.2	24.8	25.2	21.1	19.4
TUD1	573521	271656	Roadside	92.5%			15.8	13.0	10.2
BSE1	586253	263147	Roadside	100.0%	28.9	31.8	31.3	29.8	27.5
BSE2	586320	263053	Roadside	100.0%	20.6	20.8	20.9	18.9	18.0
BSE3	585236	263746	Roadside	100.0%	21.0	21.8	21.8	20.4	20.4
BSE6	584905	264171	Roadside	100.0%	22.7	26.0	27.9	23.4	22.6
BSE8	585461	265050	Roadside	92.5%	22.2	25.9	25.2	22.8	20.7
BSE9	585085	265924	Roadside	90.6%	22.3	25.1	25.1	23.0	20.6
BSE14	585624	264334	Roadside	90.6%	22.7	24.1	26.4	25.8	24.1
BSE15	586273	263135	Roadside	92.5%	24.7	30.2	27.4	22.7	17.7
BSE16	585424	264977	Roadside	100.0%	24.2	26.6	26.7	23.9	21.5

Diffusion tube ID	X OS Grid ref (easting)	Y OS Grid ref (northing)	Site type	Valid data capture 2024 (%)	2020	2021	2022	2023	2024
BSE17	585264	264921	Roadside	90.6%	28.4	26.1	23.5	21.6	20.3
BSE18	586126	263328	Roadside	100.0%	20.6	22.4	22.6	19.9	17.6
BSE19	584618	264471	Roadside	92.5%	18.3	22.5	22.2	20.7	16.7
BSE21	585555	264494	Roadside	90.6%	20.7	23.4	22.6	20.0	17.6
BSE23	585285	263841	Roadside	84.9%	13.8	15.1	14.4	13.8	11.3
BSE25	587454	264216	Roadside	100.0%			16.2	13.8	11.9
BSE26	584957	264164	Roadside	83.0%	18.8	21.2	22.3	20.0	20.2
BSE27	585349	263781	Roadside	100.0%	16.7	21.5	20.0	17.3	17.8
BSE28	585314	264960	Roadside	100.0%	16.3	17.8	20.2	23.0	20.7
BSE30	585185	264285	Urban centre	100.0%	16.3	17.8	20.2	16.5	15.8
BSE32	585315	264287	Urban centre	100.0%	22.5	24.0	24.5	21.3	11.1
BSE33	585281	264330	Urban centre	100.0%				12.3	10.9
BSE31	583648	264767	Roadside	100.0%				12.5	18.1
BSE36	584451	265563	Roadside	75.0%					13.3
BSE37	584472	265616	Roadside	92.5%					12.4
BSE38	584818	265826	Roadside	83.0%				16.1	12.0
BSE39	584743	265777	Roadside	100.0%				15.0	12.6
BSE40	585331	263766	Roadside	100.0%				15.6	15.0
BSE41	585405	263775	Kerbside	54.7%				17.0	15.3
GB2	588917	267370	Suburban	100.0%	8.5	7.6	7.9	6.7	5.9
GB3	589163	267013	Roadside	100.0%	22.2	22.2	22.4	20.2	17.8
GB4a GB4b GB4c	589130	266969	Roadside	100.0%	23.2	24.8	24.9	23.3	21.9

Diffusion tube ID	X OS Grid ref (easting)	Y OS Grid ref (northing)	Site type	Valid data capture 2024 (%)	2020	2021	2022	2023	2024
GB5	588993	266838	Roadside	100.0%	21.5	21.6	20.7	20.0	17.3
GB6	589120	266960	Roadside	49.1%	32.5	35.2	34.5	32.1	32.1
GB7a GB7b GB7c	589100	266941	Roadside	100.0%	31.1	32.4	33.4	30.6	25.5
GB8	589093	266949	Roadside	90.6%	28.0	29.6	28.1	28.1	24.4
GB9	589117	266970	Roadside	83.0%	25.4	26.8	25.2	24.3	20.3
GB10	589228	267071	Roadside	92.5%	21.2	22.0	24.7	23.2	21.4
HH1	568609	245575	Suburban	100.0%	10.3	10.5	10.3	8.6	7.7
HH2	567270	245981	Roadside	92.5%	25.6	26.9	27.1	24.3	20.2
HH3	566891	245892	Roadside	83.0%	27.4	27.6	28.6	25.3	21.0
HH5	566941	245850	Roadside	100.0%	27.4	29.6	29.9	24.7	21.5
HH7	567553	245289	Kerbside	100.0%		14.7	14.1	13.1	11.8
CLA1	577028	245412	Kerbside					20.4	19.1
CLA2	576994	245281	Roadside	90.6%				16.7	16.1
KNT1	570549	266761	Roadside	100.0%				12.1	10.9
EXN1	561763	265670	Roadside	100.0%				11.0	11.5
EXN2	561804	265663	Kerbside	92.5%				14.5	11.6

West Suffolk Council can confirm that:

- Annualisation has been conducted where data capture is less than 75 per cent and more than25 per cent 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), that is, prior to any fall-off with distance correction.

Table A.3 – Annual mean NO_2 monitoring results for sites monitored in last five years but not during 2024: non-automatic monitoring (µg/m^3)

Note: The annual mean concentrations are presented as µg/m^3 and have been corrected for bias. All annual means have been 'annualised' as per LAQM.TG22 if valid data capture for the full calendar year is less than 75 per cent. Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

Diffusion tube ID	Site name	X OS Grid ref (Easting)	Y OS Grid ref (Northing)	Site type	2020	2021	2022	2023	2024
BRN1	Brandon – 6 Church Road	578044	286249	Roadside	17.1				
BRN8	Brandon - Hellesdon House, High Street	578372	286774	Roadside	20.2	21.1			
BRN16	Brandon – 83 and 85 London Road	578176	286357	Roadside	24.3				
NMK2	Newmarket – 36 Old Station Road	564689	263500	kerbside	23.2				
NMK17	Newmarket – Exning Roa and Depot Road	563397	264498	Roadside	16.1	16.6	16.2		
BSE20	BSE – Risbygate Street	585031	264466	Roadside	13.4	16.8	14.5		
BSE24	BSE - Hollow Road Bridge	586418	265179	Roadside	25.2	26.6			
BSE29	BSE – 7 Southgate Street	585845	263730	Roadside	13.6	13.9	13.4		
IXW1	Ixworth Micklesmere Drive	593655	270127	Roadside		16.3	16.6		
IXW2	Ixworth High Street	593281	270545	Roadside		18.3	17.5		

Appendix B: Full monthly diffusion tube results for 2024

Table B.1 – NO_2 2024 diffusion tube results ($\mu g/m^3$)

Notes: No sites required distance correction. See Appendix C for details on bias adjustment and annualisation.

Diffusion tube ID	X OS Grid ref (easting)	X 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)	Comments
BRN2	577993	286163	35.9	27.6	30.4	27.8	24.4	19.4	14.6	27.0	31.6	31.8		24.3	26.8	20.9	
BRN3	578406	286460			11.7	9.0	8.7	7.5	5.3	7.8	7.6	12.1	16.8	8.4	9.5	7.4	
BRN5	578206	286407	32.0	31.0	29.7	24.4		22.9	24.0	23.6	15.6	30.6	35.3	17.1	26.0	20.3	
BRN7	578073	286254	32.7	36.9	34.7	29.3	29.2	26.6	20.1	30.6	30.6	36.7	35.0	25.3	30.6	23.9	
BRN9	578372	286867		19.7	24.9	20.2	21.8		21.6	20.2	26.8	22.7			22.2	18.4	
BRN10	578395	286633	20.3	28.2	33.8	25.7	30.4	21.2	24.6	25.6	27.9	33.9	31.2	22.0	27.1	21.1	
BRN12	578486	286558	25.0	25.3	20.6	20.1	20.5	21.6	15.1	18.6	22.7	24.9	25.6	19.1	21.6	16.8	
BRN15	578317	287103		27.1	26.3	23.3	27.4	21.4	10.4	23.0	21.6	28.0	25.1	13.1	22.4	17.5	
BRN17	578297	286469	25.8	23.1	21.0	18.7	18.8	17.5	14.2	17.6	20.1	20.8	18.7	8.3	18.7	14.6	
LAK1	571378	282855		19.6	17.6	14.4	16.0	12.3	14.2	15.3	15.2	22.7	23.6	8.4	16.3	12.7	
MLD1	571136	274878	30.3	25.6	25.4	22.7	24.2	19.4	23.0	22.9	24.5	29.2	28.8	21.5	24.8	19.3	
MLD2	571092	274785		35.8	33.8	26.6	24.1	26.4	27.5	26.9	26.7	31.9	32.9	20.0	28.4	22.2	

Diffusion tube ID	X OS Grid ref (easting)	X 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)	Comments
MLD3	571326	274780	27.9	28.5	34.8	25.2	27.9	25.8	22.4	27.2	30.4	33.2	33.6	25.8	28.6	22.3	
MLD4	571121	275063		25.8	20.3	21.0	18.5	17.1	17.6	17.4	9.3	23.7		7.0	17.8	13.9	
MLD5	571259	275083	14.8	11.5	11.6	9.9	8.0		7.4	9.4	8.6	13.1	17.2	4.2	10.5	8.2	
NMK1	564716	263502	15.1	19.1	21.8	21.6	23.9	18.4	17.4	17.7	23.5	18.8	26.5	18.4	20.2	15.7	
NMK3	564707	263493		22.5	20.2	20.0	16.3	20.0	13.7	18.6	21.3	22.4			19.4	15.2	
NMK5	564337	263343	27.3	28.8	27.9	22.8	25.3	21.2	19.0	22.0	20.0	26.0	29.7	25.2	24.6	19.2	
NMK6	564307	263338	34.0	24.7	22.0	25.5	22.9	21.9	6.4	21.7	22.8	21.5		16.0	21.8	17.0	
NMK7	564233	263274	21.2	29.9	27.5	27.4	26.8	27.3	24.9	25.9	25.9	28.0	30.9	24.9	26.7	20.8	
NMK8	564138	263301	15.9	15.0	14.0	8.5	8.4	6.1	8.2	8.1	6.2	14.0	15.3	4.0	10.3	8.0	
NMK9	564043	263159		30.6	22.1	19.5	21.8	20.1	17.3	19.2	20.5		19.5	18.1	20.9	16.3	
NMK10	564362	263381	38.6	33.1	26.3	27.5	27.6	29.1	22.1	25.6	17.4	25.0	32.7	29.4	27.9	21.7	
NMK11	564380	263407	18.2	17.0	15.6	12.6	11.1	9.8	9.8	11.6	7.7	14.6	17.2	11.7	13.1	10.2	
NMK12	564550	263544	30.9	35.4	28.3	23.6	26.5	27.9	21.5	28.6	16.0	28.5	32.4	28.5	27.3	21.3	
NMK14	564480	263464			28.9	26.4	24.0	21.8	18.3	24.3	36.9	25.0	27.7	25.9	25.9	20.2	
NMK15	564383	263381	30.0	31.6	30.7	22.6		20.7	23.2	21.9	23.1	29.3	28.8	24.3	26.0	20.3	

Diffusion tube ID	X OS Grid ref (easting)	X 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)	Comments
NMK19	564626	263525	31.8	32.3	31.3	24.6	26.7	23.8	19.3	24.5	15.1	25.8	30.9	13.0	24.9	19.4	
TUD1	573521	271656		9.8	15.9	13.4	14.8	10.3	6.6	12.2	14.4	11.9	21.8	12.5	13.1	10.2	
BSE1	586253	263147	45.7	37.4	35.8	39.6	36.0	32.5	33.8	37.2	33.6	25.6	44.5	21.8	35.3	27.5	
BSE2	586320	263053	30.6	22.0	26.5	22.8	20.7	19.4	19.8	22.5	19.9	25.2	32.2	15.6	23.1	18.0	
BSE3	585236	263746	33.3	24.7	26.5	26.9	23.9	23.8	19.8	22.8	28.0	25.8	31.2	26.6	26.1	20.4	
BSE6	584905	264171	34.2	34.7	25.7	27.1	29.2	23.9	24.0	26.7	29.0	34.3	36.4	21.9	28.9	22.6	
BSE8	585461	265050	34.8	31.1	32.1	24.3	26.7	21.8	22.9	22.0	27.4	25.1		24.4	26.6	20.7	
BSE9	585085	265924	31.9		32.3	26.0	27.5	24.0	25.9	20.5	27.9	24.5	30.8	19.6	26.4	20.6	
BSE14	585624	264334	35.9	35.4	37.6	28.3	28.6	27.5	26.8	30.8	25.2	27.3	36.2		30.9	24.1	
BSE15	586273	263135		22.0	27.7	20.3	20.8	20.8	20.5	21.5	21.0	23.6	30.8	20.0	22.6	17.7	
BSE16	585424	264977	8.0	35.7	38.4	25.7	27.4	27.2	25.9	29.7	26.1	33.8	34.5	17.6	27.5	21.5	
BSE17	585264	264921	35.7		35.6	24.2	25.2	20.0	20.5	26.2	15.8	29.1	33.3	20.1	26.0	20.3	
BSE18	586126	263328	28.3	28.0	27.8	21.0	25.4	19.5	11.3	18.6	17.3	23.9	31.2	18.7	22.6	17.6	
BSE19	584618	264471	28.7	26.2	28.0		20.5	19.6	15.6	17.5	21.9	12.9	26.4	18.1	21.4	16.7	
BSE21	585555	264494	32.9	23.0	29.2	24.6	19.8	22.1	16.4	24.1	11.2		28.0	17.0	22.6	17.6	

Diffusion tube ID	X OS Grid ref (easting)	X 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)	Comments
BSE23	585285	263841	22.8	19.4	16.6	12.7	12.9	10.9		11.5	11.7	22.1		4.9	14.6	11.3	
BSE25	587454	264216	19.1	18.5	16.6	15.5	14.3	13.4	11.6	13.9	13.5	19.7	21.6	5.7	15.3	11.9	
BSE26	584957	264164		28.1	32.3	19.5	23.6	20.4	22.8	27.5	26.3		33.4	25.2	25.9	20.2	
BSE27	585349	263781	30.6	25.3	21.4	19.8	22.1	20.7	15.5	16.6	23.0	22.7	35.3	21.0	22.8	17.8	
BSE28	585314	264960	30.6	18.4	28.7	24.9	29.6	28.7	24.7	25.0	33.5	26.6	35.1	12.3	26.5	20.7	
BSE30	585185	264285	23.4	29.9	23.5	18.1	19.7	16.5	15.7	16.8	18.8	22.1	22.7	16.1	20.3	15.8	
BSE32	585315	264287	18.8	18.7	17.1	12.8	11.9	9.8	11.8	11.8	14.7	16.1	17.0	10.6	14.3	11.1	
BSE33	585281	264330	14.3	14.5	17.5	12.9	12.9	10.8	11.6	10.6	11.0	16.5	20.6	14.1	13.9	10.9	
BSE31	583648	264767	31.9	27.4	31.8	24.4	25.1	21.6	7.6	22.3	4.9	31.2	31.4	19.0	23.2	18.1	
BSE36	584451	265563	24.4	19.5	20.0	16.0		11.7			17.0	18.2	12.5	14.5	17.1	13.3	
BSE37	584472	265616		21.4	22.2	15.8	14.4	12.7	14.7	12.8	18.4	20.4	13.4	8.4	15.9	12.4	
BSE38	584818	265826	19.4	17.8	19.2	12.6	14.0	11.4	12.8	11.9			20.2	14.3	15.4	12.0	
BSE39	584743	265777	18.9	20.5	19.9	13.7	15.1	13.4	7.8	12.8	19.8	21.9	25.0	5.2	16.2	12.6	
BSE40	585331	263766	24.4	24.5	21.2	15.9	17.4	18.3	10.5	16.1	16.1	20.5	24.9	21.2	19.3	15.0	
BSE41	585405	263775			23.7	17.1		16.5	15.4		14.6	24.0	25.5		19.5	15.3	

Diffusion tube ID	X OS Grid ref (easting)	X 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)	Comments
GB2	588917	267370	12.6	8.2	9.6	6.4	6.3	5.3	5.2	6.0	6.3	10.4	13.4	1.2	7.6	5.9	
GB3	589163	267013	26.6	29.2	23.0	24.6	21.5	22.2	13.6	22.2	17.4	25.2	31.4	17.7	22.9	17.8	
GB4a	589130	266969	32.8	28.3	24.9	27.3	29.1	24.0	22.0	24.8	31.0	29.0	39.3		28.1	21.9	
GB4b	589130	266969		28.1	26.2	29.2	31.6	29.1	23.9	27.9	18.0	35.5					
GB4c	589130	266969	36.1	30.7	25.4	31.0	27.1	27.7	17.2	24.7	29.8	27.3	35.1	22.3			
GB5	588993	266838	29.6	25.2	24.2	22.4	24.1	23.6	8.9	22.9	18.9	25.9	29.2	12.0	22.2	17.3	
GB6	589120	266960				34.4		38.5	35.3	36.6	39.1			23.7	34.6	32.1	
GB7a	589100	266941	38.6	38.7	33.1	34.5	26.9	33.1	29.2	34.5	0.6	40.6	38.7	25.5	32.7	25.5	
GB7b	589100	266941	43.7	40.1	27.7	39.4	39.3	36.6	34.2	35.2	0.6	37.7	40.3	22.6			
GB7c	589100	266941	35.7	41.4	35.3	34.4	38.7	36.6	32.7	34.6	20.9	37.0	40.7	17.6			
GB8	589093	266949	42.1	39.5	31.0	40.2	30.5	29.9	27.0	28.5	14.8		37.1	24.1	31.3	24.4	
GB9	589117	266970	34.6	31.1	24.6	32.2	28.4	28.2	18.4	23.2			22.0	18.1	26.1	20.3	
GB10	589228	267071	29.1	31.4	27.0	25.7	27.5	26.0		24.3	28.6	27.3	34.8	19.6	27.4	21.4	
HH1	568609	245575	14.7	13.8	12.4	8.8	6.8	6.1	3.5	7.3	8.3	11.9	16.4	9.2	9.9	7.7	
HH2	567270	245981		35.6	29.2	23.0	23.6	22.4	22.1	26.4	22.8	30.7	32.6	16.3	25.9	20.2	

Diffusion tube ID	X OS Grid ref (easting)	X 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)	Comments
HH3	566891	245892	38.9	31.9		24.3	27.2	24.3	16.1	25.6	16.5		36.4	27.6	26.9	21.0	
HH5	566941	245850	36.9	34.0	30.5	24.7	26.4	21.9	16.5	21.3	29.0	34.5	34.3	20.0	27.5	21.5	
HH7	567553	245289	22.6	13.7	18.0	14.1	11.5	10.4	11.7	12.3	11.8	19.2	20.5	16.2	15.2	11.8	
CLA1	577028	245412	31.9	25.9	23.7	24.5	27.4	23.1	15.4	22.4	14.6	27.5	33.3		24.5	19.1	
CLA2	576994	245281	31.0	29.8	24.0	18.5	17.9	17.6	15.1	17.8	17.7	22.1	26.5	9.4	20.6	16.1	
KNT1	570549	266761	21.4	14.5	16.7	14.1	12.2	10.3	4.9	11.3	12.3	15.9	23.3	10.7	14.0	10.9	
EXN1	561763	265670	19.9	16.1	16.3	12.6	14.0	10.6	10.4	12.5	13.1	21.0	19.9	10.3	14.7	11.5	
EXN2	561804	265663	19.4	14.7	17.6	13.4	15.0	14.5	13.1	14.4	8.5	20.5		11.9	14.8	11.6	

West Suffolk Council confirm that:

- All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1
- Annualisation has been conducted where data capture is <75 per cent and >25 per cent in line with LAQM.TG22
- The national bias adjustment factor has been used
- All 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System

Appendix C: Supporting technical information / air quality monitoring data quality assurance and quality control

New or changed sources identified within West Suffolk Council during 2024

West Suffolk Council has not identified any significant new sources relating to air quality within the reporting year of 2024.

Additional air quality works undertaken by West Suffolk Council during 2024

West Suffolk Council has not completed any additional modelling or monitoring works within the reporting year of 2024.

Quality assurance and quality control of diffusion tube monitoring

During 2024, West Suffolk Council used Socotec, based in Didcot, for the supply and processing of diffusion tubes. 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 auto-analyser with ultraviolet detection. This analysis of diffusion tube samples to determine the amount of nitrogen dioxide present on the tube is within the scope of our UKAS (United Kingdom Accreditation Service) schedule. In the AIR PT (Air and Stack Emissions proficiency testing) intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, Socotec currently holds the highest rank of a satisfactory laboratory.

All monitoring has taken place in line with the 2024 diffusion tube monitoring calendar as published by Defra.

Diffusion tube annualisation

Annualisation is required for any site with data capture less than 75 per cent but greater than 25 per cent where results may not be reflective of the yearly average. Annualisation ensures that these sites are more reflective of a whole year’s data rather than just the months where data was collected.

Annualisation was required for three diffusion tube monitoring locations in West Suffolk, BRN9 67.9 per cent, BSE41 54.7 and GB6 49.1. Annualisation was completed using the DEFRA diffusion tube data processing tool using data from automatic monitoring sites in Cambridgeshire (Wicken Fen and Cambridge Roadside) and Essex (St Osyth). Details of the annualisation process is included in Table C.1.

Table C.1 - Annualisation summary (concentrations presented in µg/m^3)

Site ID	Annualisation factor Wicken Fen	Annualisation factor St Osthys	Annualisation factor Cambridge Roadside	Average Annualisation factor	Raw data annual mean	Annualised annual mean
BRN9	1.0493	1.1023	1.0359	1.0625	22.2	23.6
BSE41	1.0143	1.0181	0.9811	1.0045	19.5	19.6
GB6	1.1759	1.2900	1.1029	1.1896	34.6	41.2

Diffusion tube bias adjustment factors

The diffusion tube data presented within the 2025 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_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

West Suffolk Council have applied a national bias adjustment factor of 0.78 to the 2024 monitoring data. A summary of bias adjustment factors used by West Suffolk Council over the past five years is presented in Table C.2.

Table C.2 – Bias adjustment factors from 2020 to 2024

Monitoring year	Local or national	If national, version of national spreadsheet	Adjustment factor
2024	National	04/25	0.78
2023	National	03/24	0.77
2022	National	03/23	0.76
2021	National	03/22	0.78
2020	National	03/21	0.77

NO_2 fall-off with distance from the road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool and NO2 fall-off with distance calculator available on the LAQM Support website.

Distance correction should be considered at any monitoring site where the annual mean concentration is greater than 36µg/m^3 and the monitoring site is not located at a point of relevant exposure (taking the limitations of the calculator into account).

No diffusion tube NO2 monitoring locations within West Suffolk met the above requirements distance correction during 2023.

Appendix D: Maps of monitoring locations and AQMAs

Figure D.1 – Map of non-automatic monitoring sites: Brandon

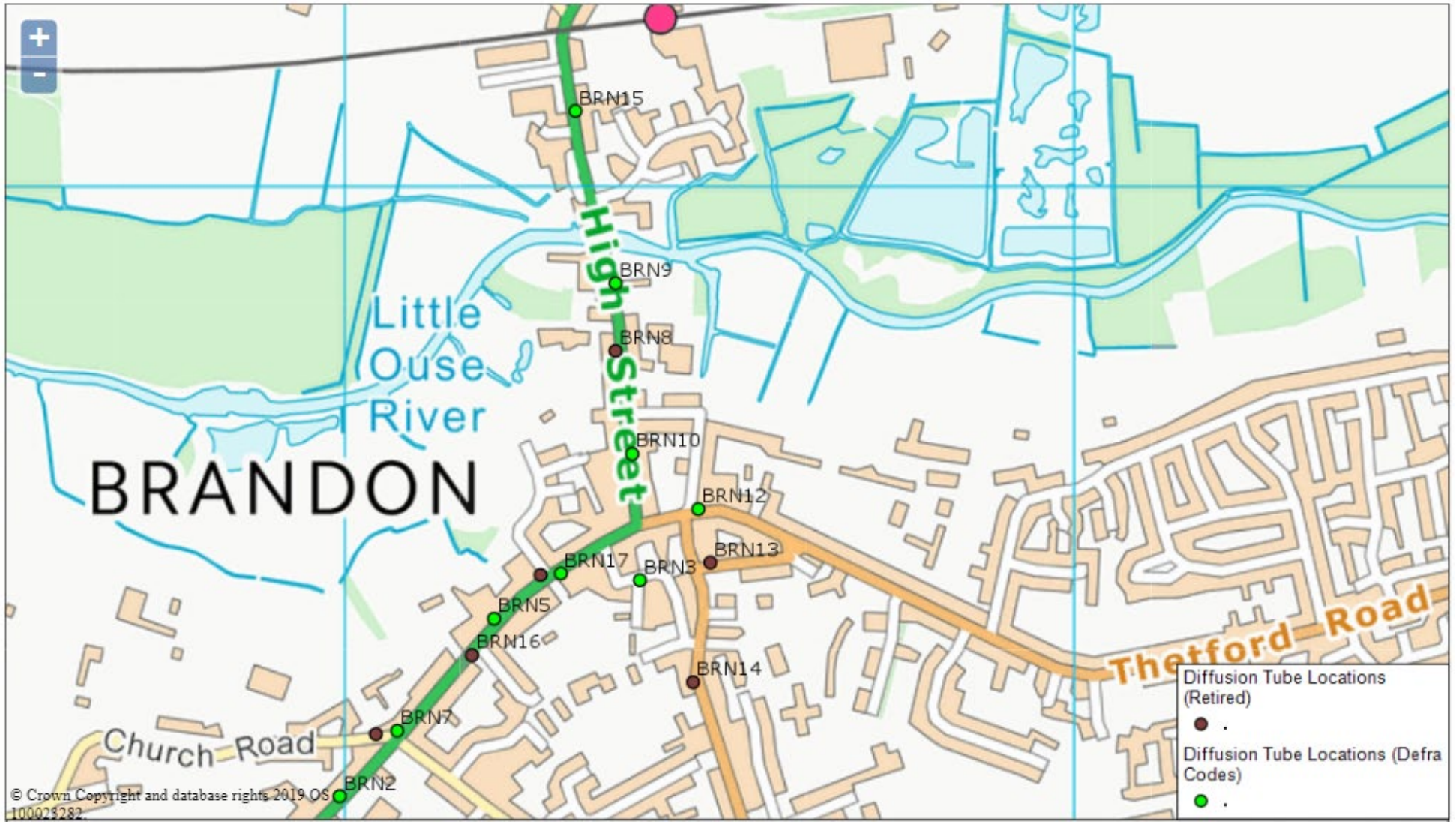


Figure D.2 – Map of non-automatic monitoring sites: Bury St Edmunds (north)

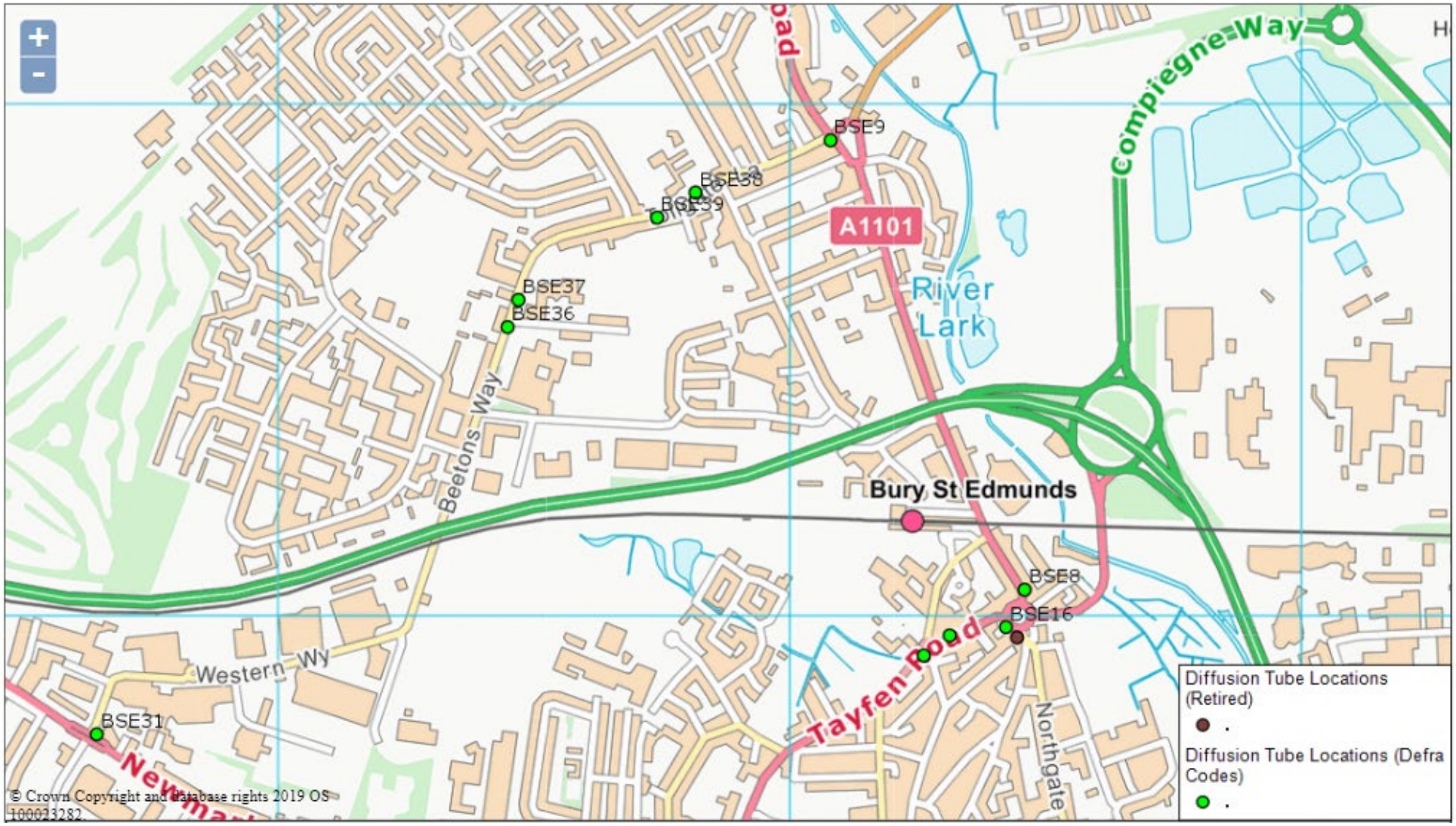


Figure D.3 – Map of non-automatic monitoring sites: Bury St Edmunds (south)

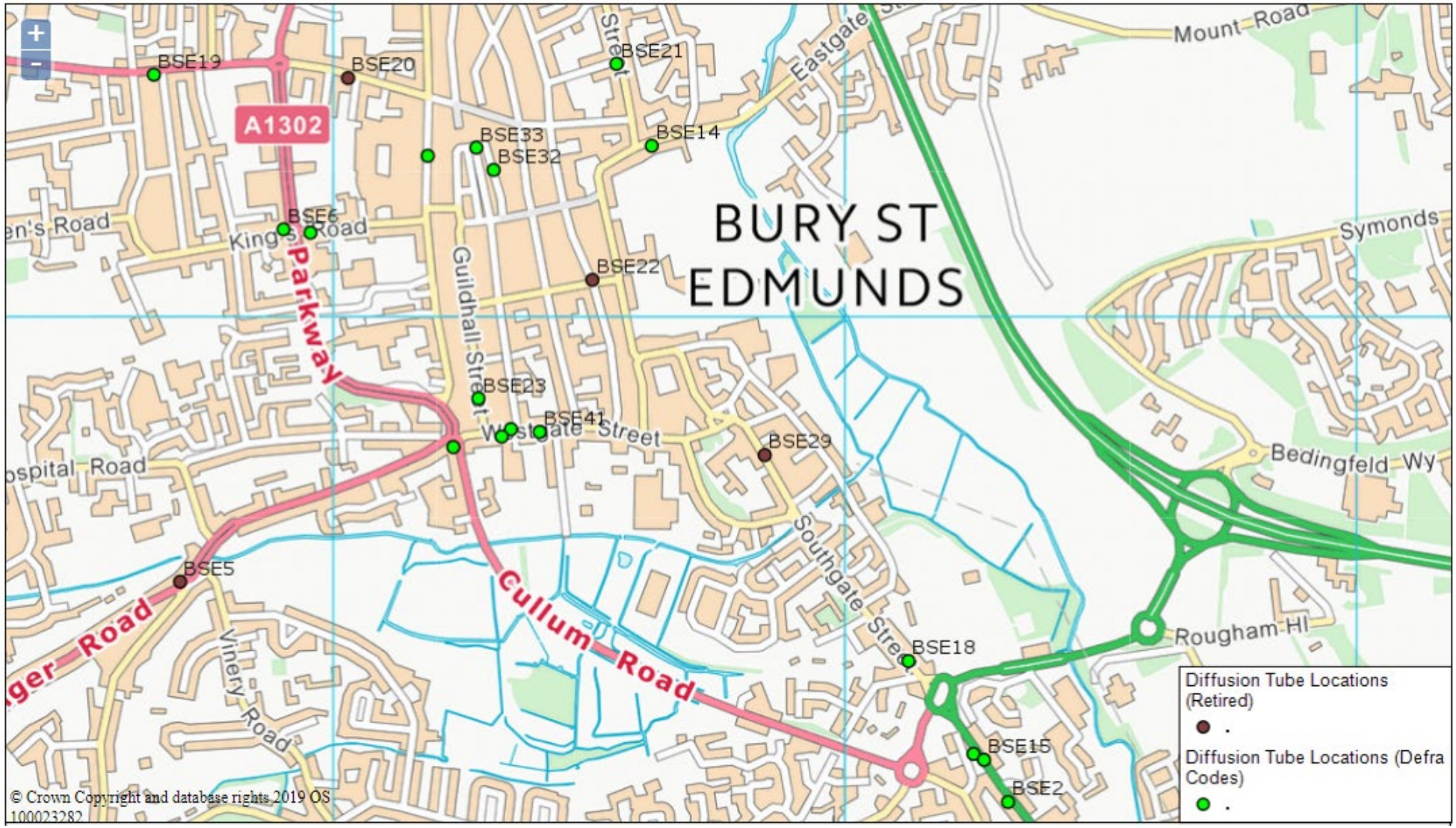


Figure D.4 – Map of non-automatic monitoring sites: Bury St Edmunds (east)

Figure D.5 – Map of non-automatic monitoring sites: Great Barton

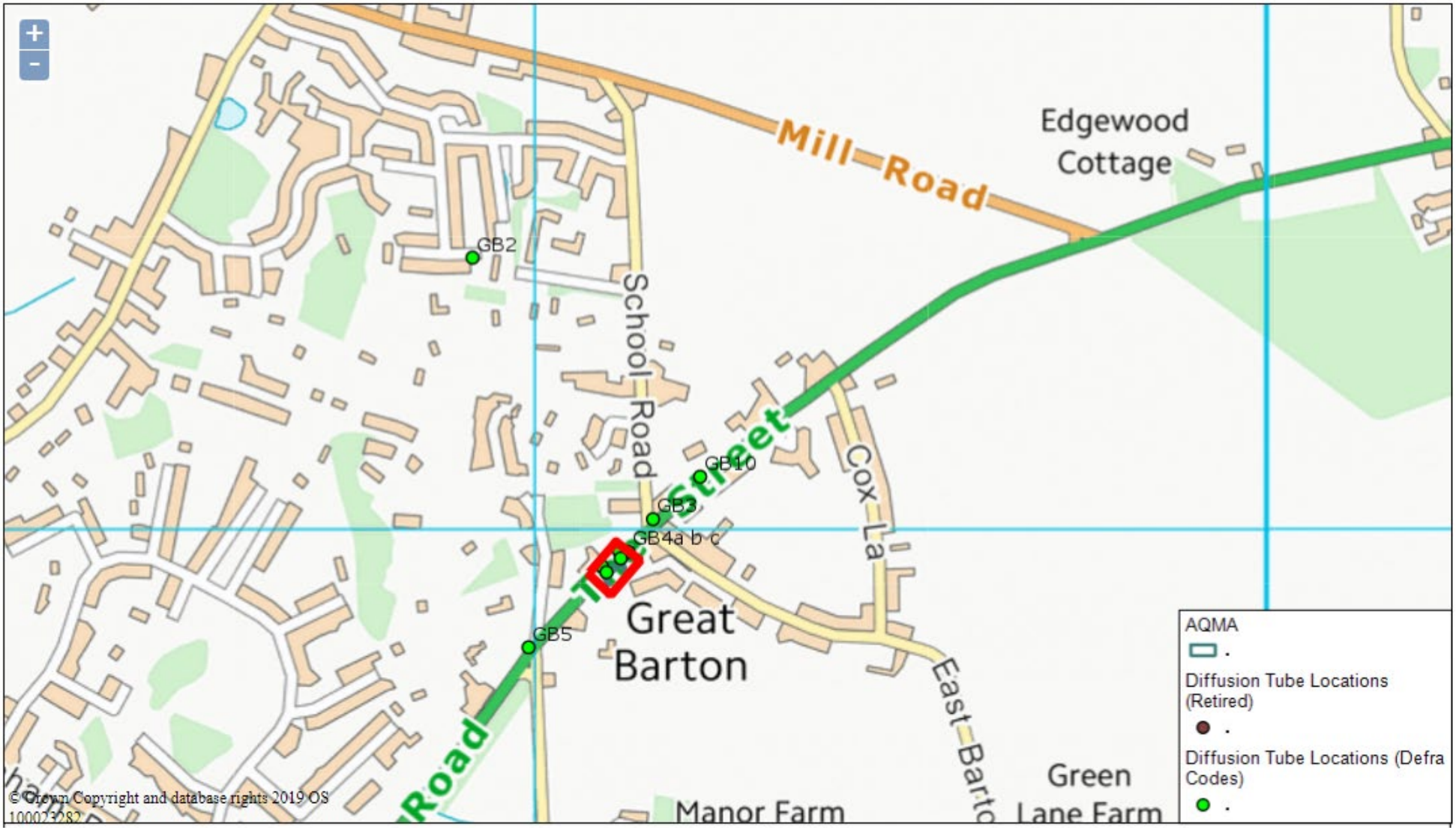


Figure D.7 – Map of non-automatic monitoring sites: Haverhill

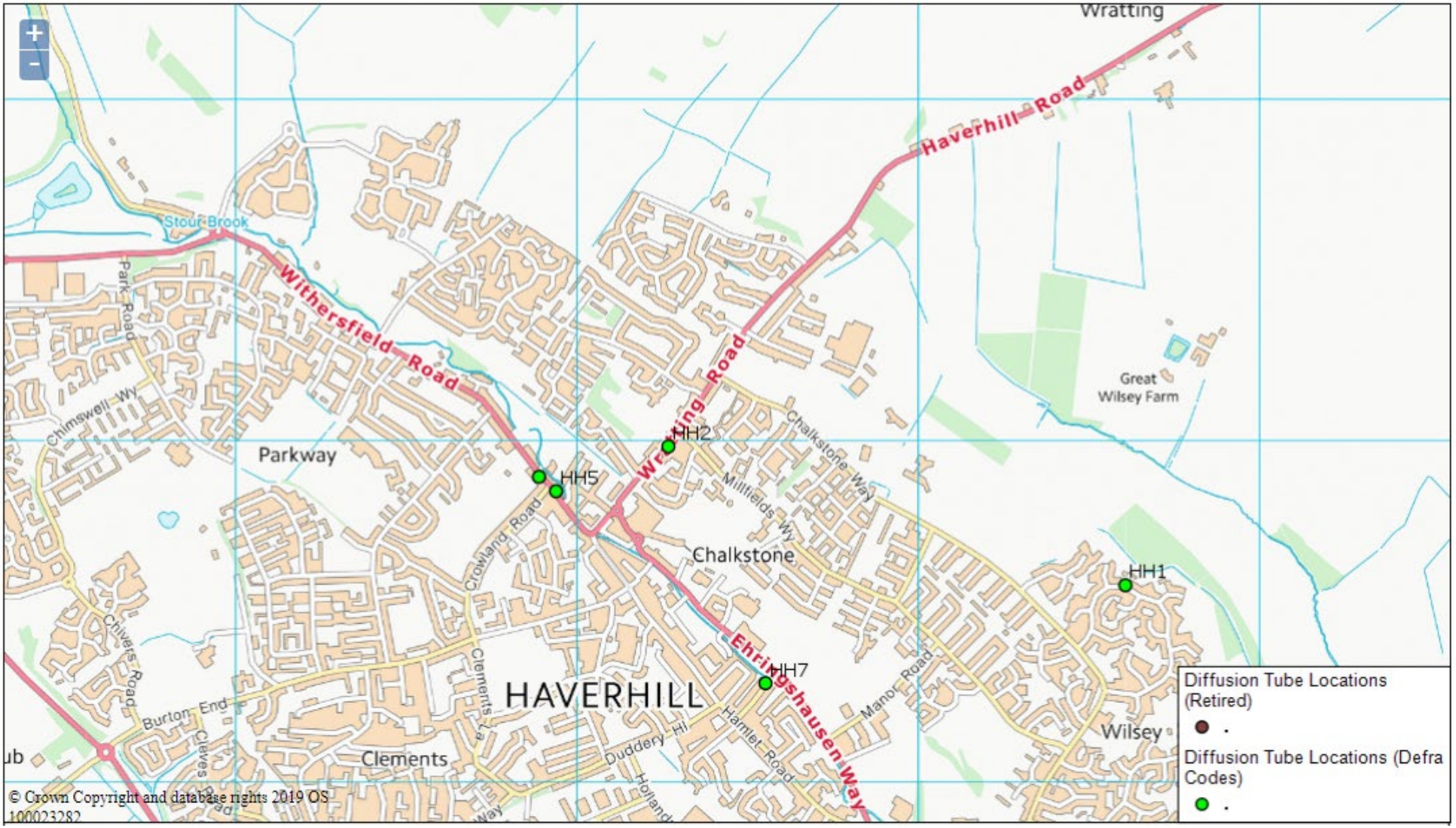


Figure D.8 – Map of non-automatic monitoring sites: Clare

Figure D.9 – Map of non-automatic monitoring sites: Lakenheath

Figure D.10 – Map of non-automatic monitoring sites: Mildenhall

Figure D.11 – Map of non-automatic monitoring sites: Newmarket town centre

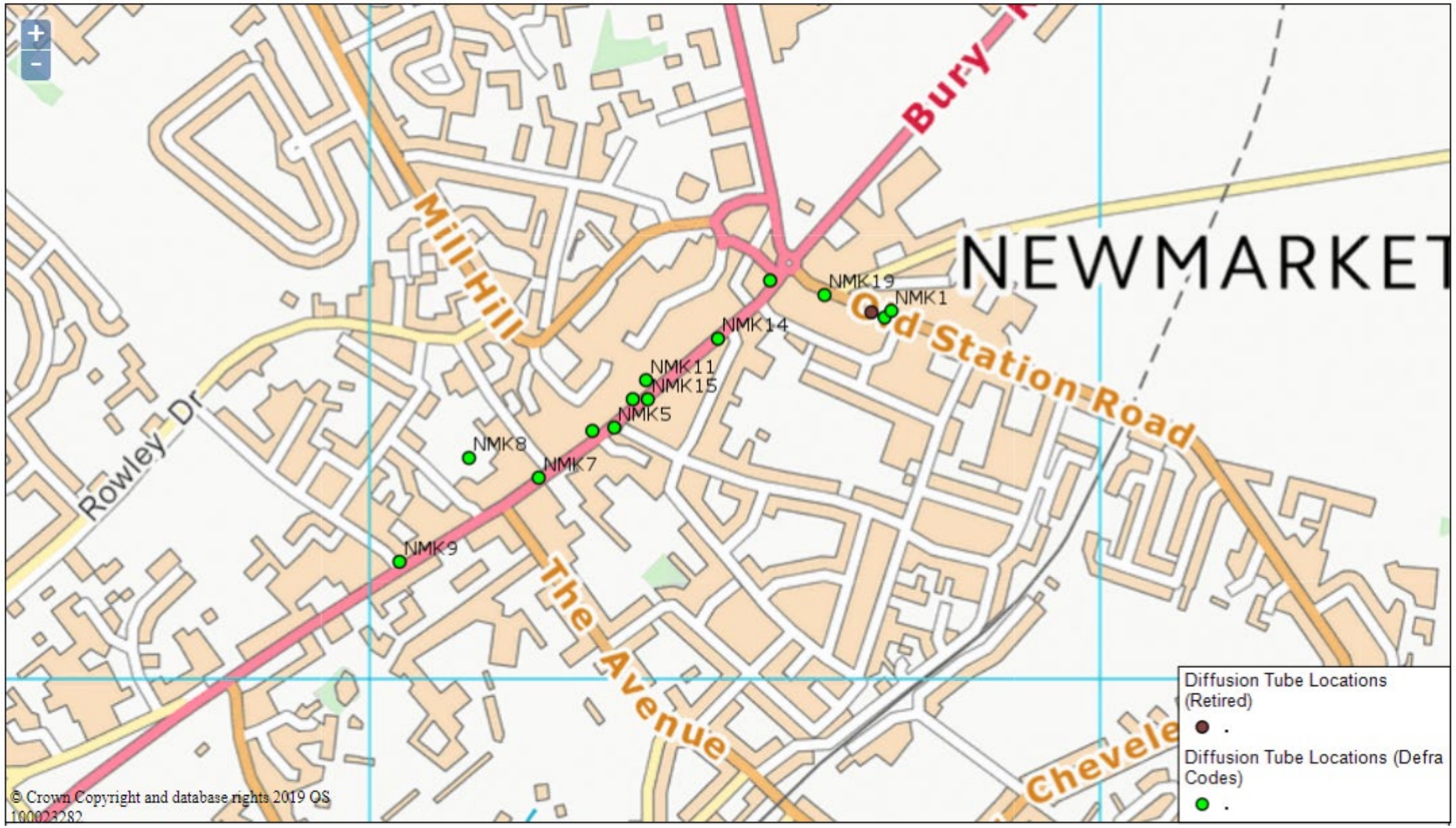


Figure D.12 – Map of non-automatic monitoring sites: Newmarket North

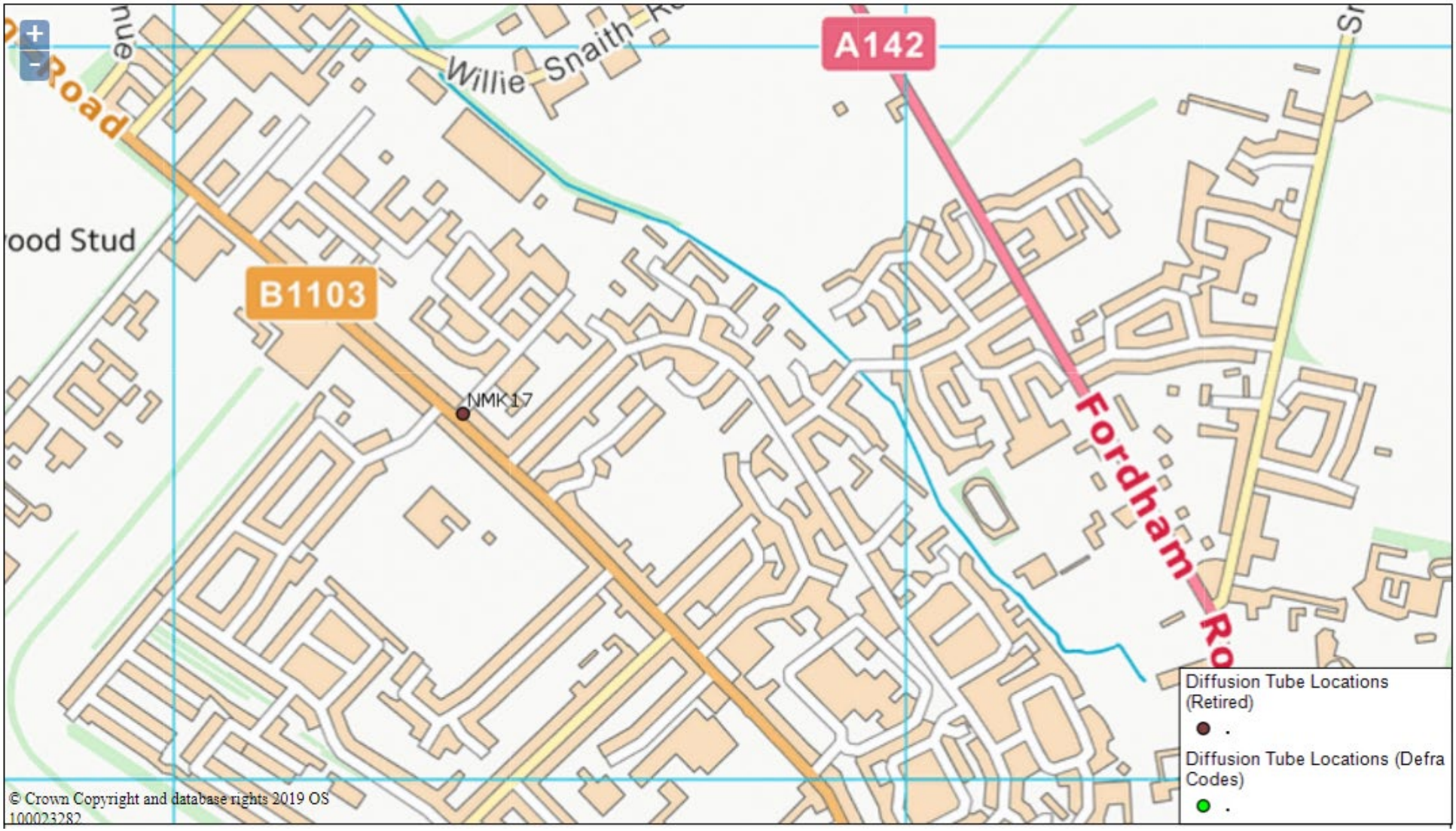


Figure D.13 – Map of non-automatic monitoring sites: Tuddenham

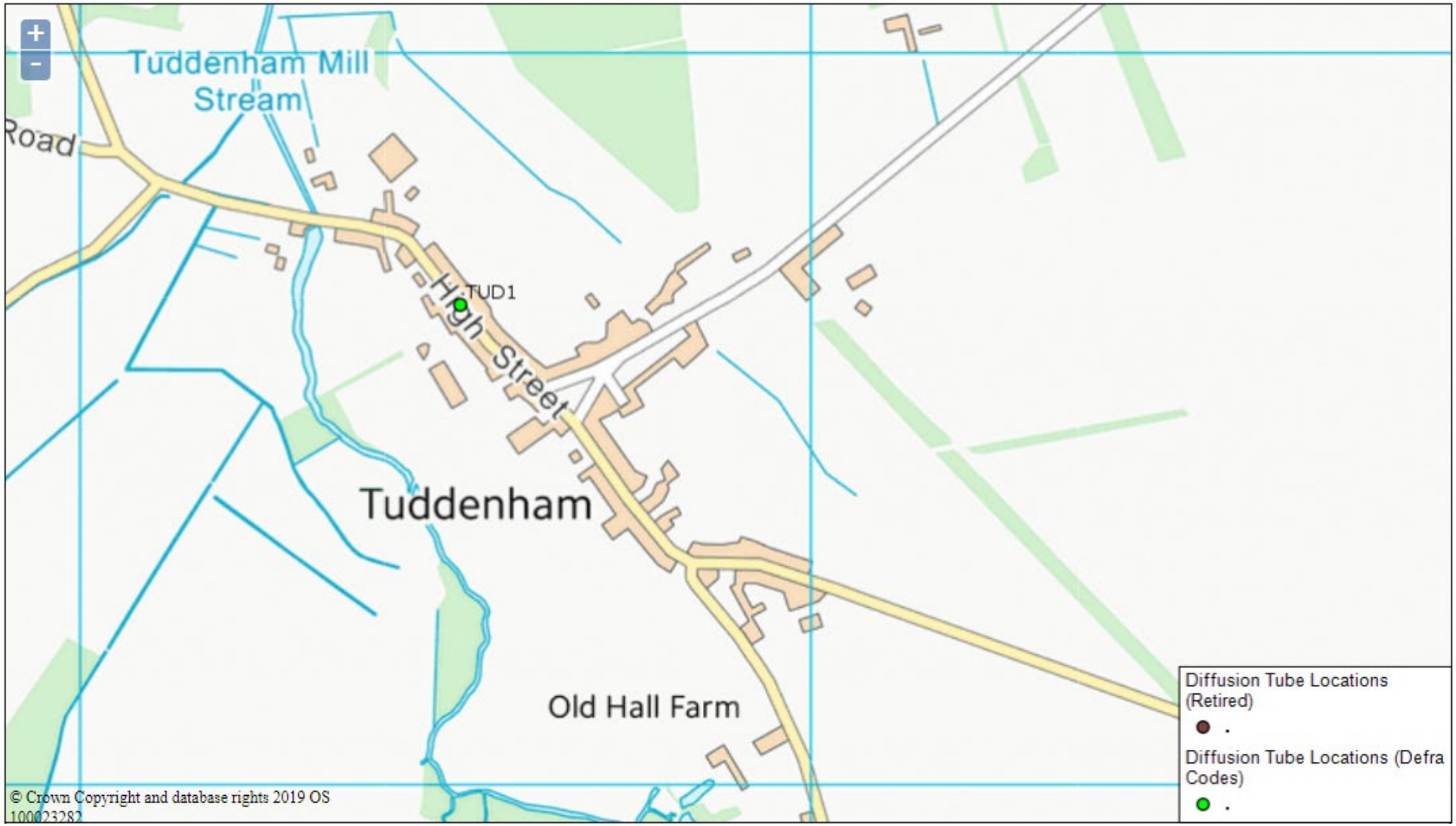


Figure D.14 – Map of non-automatic monitoring sites: Kentford

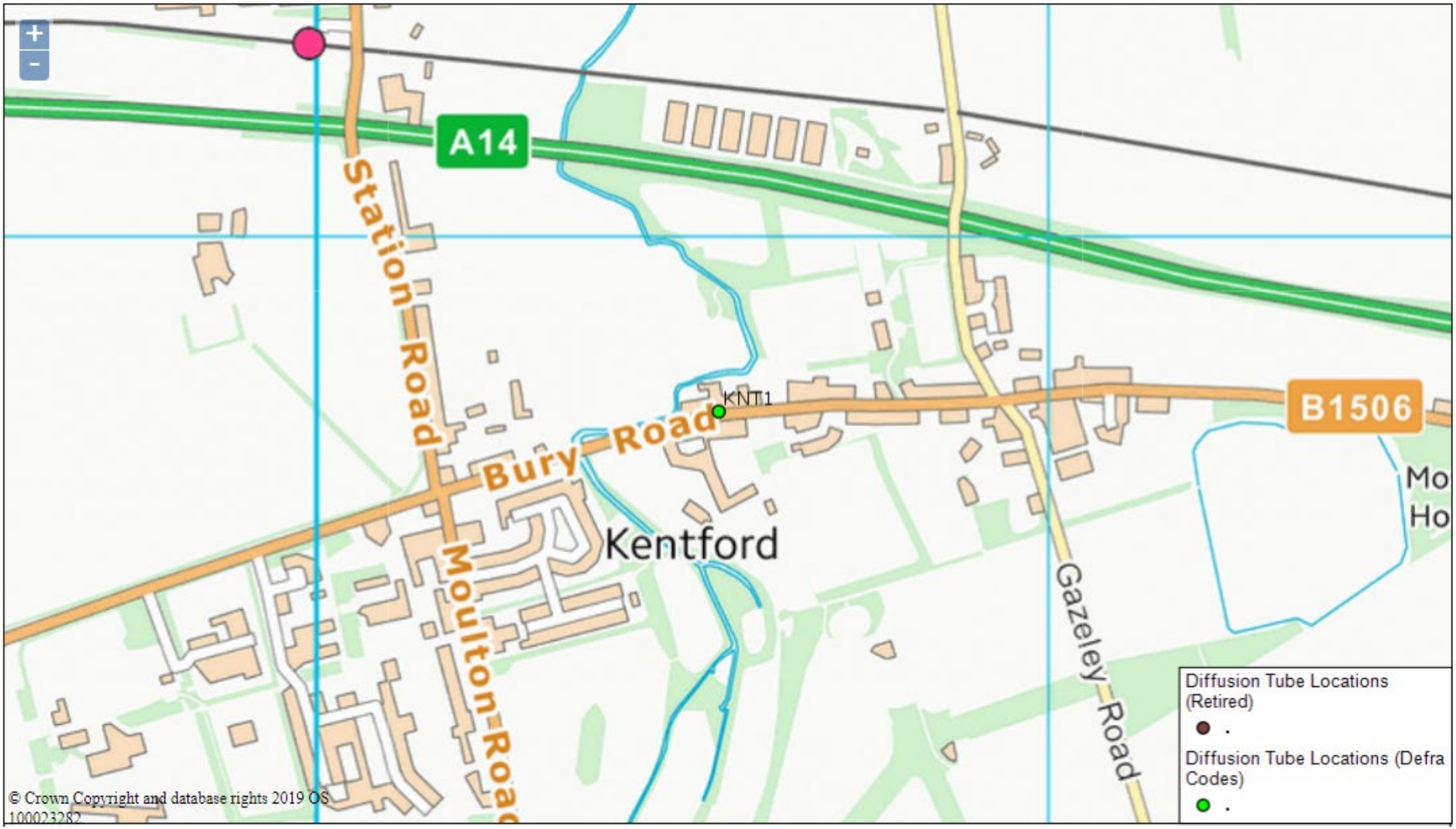


Figure D.15 – Map of non-automatic monitoring sites: Exning

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 or 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
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local air quality management
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality assurance and quality control
SO_2	Sulphur dioxide
EV	Electric vehicle

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.