



2024 Air Quality Annual Status Report (ASR)

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

Date: June, 2024

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Executive Summary: Air Quality in Our Area

Air Quality in East 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. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year¹.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are most exposed to dangerous levels of air pollution².

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 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})	<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>PM₁₀ refers to particles under 10 micrometres. Fine particulate matter or PM_{2.5} are particles under 2.5 micrometres.</p>

¹ UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

² Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

Generally, the air quality within East Suffolk is good. Following revocation of the Air Quality Management Area (AQMA) declared in Woodbridge in 2022, there is now one small, localised area where the objective for annual mean nitrogen dioxide (NO₂) has been exceeded in the past, and for which an AQMA is currently declared;

- The Suffolk Coastal District Council Air Quality Management Area Order No. 3 – four residential properties within Long Row, Main Road (A12) in Stratford St Andrew. Additional information can be seen on the Council's website at [Stratford St Andrew AQMA » East Suffolk Council](#)

Further detail regarding this AQMA is provided below and in Section 2.

The main source of emissions within East Suffolk is road traffic, which means that the pollutants of concern are nitrogen dioxide (NO₂) and particulate matter. Within the town of Felixstowe, emissions from, and associated with, the Port are also a source of these two pollutants. Emerging evidence on the percentage contribution of domestic burning to emissions of particulate matter also makes this an important source for East Suffolk.

NO₂ is measured in the district by an automatic analyser and multiple diffusion tubes. The automatic analyser is situated within Woodbridge, and in 2023 there were 90 diffusion tube monitoring locations covering 25 areas; Beccles, Blythburgh, Bungay, Farnham, Felixstowe, Halesworth, Kesgrave, Little Glemham, Leiston, Lowestoft, Marlesford, Martlesham, Melton, Middleton, Oulton Broad, Saxmundham, Stratford St. Andrew, Theberton, Trimley St. Martin, Trimley St. Mary, Tunstall, Walton, Wickham Market, Woodbridge and Yoxford.

The 2023 monitoring results show **no** exceedances of the annual mean NO₂ objective at any site - the highest recorded concentration in the district was 28µg/m³.

To improve the accuracy of data collection, a number of triplicate sets of diffusion tubes are reported. In 2023, there were 14 new monitoring locations sited, 4 to investigate concerns raised by local residents and 10 outside primary schools across the district as part of the Theatre in Schools programme (see measure ESC 29 in Table 2.2). Five sites across the district were removed, 4 showing low concentrations of NO₂, and 1 site changed location to a more relevant site. Further detail is provided in Section 3.

NO₂ concentrations within the Suffolk Coastal District Council Air Quality Management Area No. 3, located Stratford St. Andrew, were within the objective in 2023 for the seventh year running, and outside of 10% of the objective (<36µg/m³) for four consecutive years. These four years include monitoring data within the years of 2020 and 2021, for which the

Department for Environment, Food and Rural Affairs (Defra) Helpdesk advised that this data is likely to have been impacted by the COVID-19 pandemic and should not be used. Defra further advised that if the 2023 data confirms continued reductions, revocation should be undertaken as the overall trend within the AQMA is one of reduction over time. The 2023 AQMA data is the lowest seen to date and therefore confirms continued reduction within the AQMA. Our intention to proceed with the revocation process was accepted by the AQMA Steering Group on 30/04/24 and a revocation assessment report is being prepared.

There is a general trend of annual mean NO₂ reductions across the district over time. Concentrations in 2020 reduced at all monitoring locations, which is likely due to the impact of COVID-19 and associated travel restrictions. During 2021, and at some sites in 2022, there was a slight increase in NO₂ concentrations following the removal of the of travel restrictions. These trends are in line with those seen Nationally. In 2023, the overall trend at all sites in East Suffolk, with the exception of BEC 3 and BEC 5a,b,c, is one of reduction in NO₂ concentrations between 2019 and 2023.

NO₂ concentrations at BEC 3 and BEC 5a,b,c have shown a decrease between 2022 and 2023 but have not fallen to below those figures recorded in 2019 (pre-Covid), although they are still well within the objective level of 40µg/m³. Both locations are at Ingate, close to the railway crossing in Beccles. We will continue to monitor at these locations for the foreseeable future to check concentrations. Further detail is provided in Section 3.

In order to fulfil the council's statutory duties, ESC continues to retain one 0.4 full-time equivalent dedicated air quality officer within the Environmental Protection Team, with support from other members of the team undertaking air quality work, including responses to planning applications.

Links and contacts have been forged through the Suffolk Air Quality Group to allow partnership working with the following organisations:

- Suffolk local authorities;
- Suffolk County Council (Highways, Public Health and Trading Standards);
- Highways England;
- Public Health England;
- NHS

Liaison with the Environment Agency is undertaken as and when required for specific premises.

Actions to Improve Air Quality

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

The Environmental Improvement Plan³ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter (PM_{2.5}), the pollutant of most harm to human health. The Air Quality Strategy⁴ provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero⁵ details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

There have been a number of actions undertaken by ESC during 2023 to help reduce pollutant emissions and/or provide information to aid with our air quality plans. These are detailed in Section 2. Key measures completed this year are:

- 6 new electric capable replacement Ae-Rubber Tyred Gantry cranes at the Port of Felixstowe;
- Purchase of 100 autonomous battery powered trucks by the Port of Felixstowe;
- 2 Electric Vehicle cars and 4 vans added to the Port of Felixstowe fleet;



Courtesy of the Port of Felixstowe
Showing Port of Felixstowe electrified equipment

³ Defra. Environmental Improvement Plan 2023, January 2023

⁴ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

⁵ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018



- Theatre company production on air quality completed at 10 further schools in ESC area, including provision of resources on air quality to the schools and NO₂ diffusion tube monitoring outside of each school;
- Domestic burning education campaign undertaken Autumn/Winter 2023;
- Katch-a-lift scheme completed its trial year;
- Suffolk Air Quality Strategy and Action Plan published May 2023;

- Suffolk Air Quality Network first meeting undertaken November 2023;
- Plug-In-Suffolk - installed 100 electric vehicle charge points within Suffolk at 31 sites. 10 of these sites are within ESC;
- Completion of the first year of monitoring using the new SCS OPCube, together with setting up of a second site for this equipment. Purchase and siting of a second SCS OPCube.

Development Consent Orders

There have been a number of Nationally Significant Infrastructure Projects (NSIPs) recently consented with Development Consent Orders (DCOs) in the ESC district. The Council has been involved extensively in scrutinising the proposals and participating in the Public Examinations with regard to air quality impacts within the district, including the declared Suffolk Coastal District Council Air Quality Management Area Order No. 3, located at Stratford St Andrew, and the revoked AQMA at Woodbridge. Our involvement is continuing – we now need to monitor the construction, in accordance with the approved plans, for Sizewell C, EA1N, EA2 and EA3 NSIPs as works begin - Outline Construction Traffic Management Plan, Travel Plan, Code of Construction Practice, Air Quality Management Plan, Construction Workforce Travel Plan, Dust Management Plan, Dust Monitoring and Mitigation Plans.

The Gull Wing, Lowestoft

In 2015 Suffolk County Council was given funding to identify and assess a number of ways of improving north-south connections across Lake Lothing which has culminated in the addition of a third crossing - Gull Wing. The Gull Wing should reduce traffic congestion in the town, and it is hoped will help regenerate the area and attract new investment for the

local economy. Work started in 2020 but has been delayed, and the crossing is due to open during the latter part of 2024. Additional information can be found at [Gull Wing Lowestoft \(gullwingbridge.co.uk\)](https://gullwingbridge.co.uk)

East Anglia ONE North and East Anglia TWO Offshore Windfarms

The DCO applications for these two projects were submitted to the Planning Inspectorate in October 2019, the Public Examinations closed on 6th July 2021 and the applications were granted consent on 31st March 2022. At present, pre-commencement surveys have begun and it is expected that onshore construction will commence 2024/2025 with energisation in 2027. Further detail on the DCO process is provided by the Planning Inspectorate at [National Infrastructure Planning \(planninginspectorate.gov.uk\)](https://planninginspectorate.gov.uk)

The Sizewell C Project

The DCO application by EDF Energy for a new nuclear power station, Sizewell C, was submitted to the Planning Inspectorate in May 2020. The Public Examination closed on 14th October 2021 and the Secretary of State granted permission on 20th July 2022. The DCO application was subject to Judicial Review in the High Court at the end of March 2023 regarding water supply. The outcome was received 22nd June 2023 and the Judicial Review was dismissed. The Final Investment Decision from the Government is still awaited and the outcome is expected during 2024. Pre-commencement and early years construction has begun in 2024. Further detail is provided by the Planning Inspectorate at [The Sizewell C Project - planninginspectorate.gov.uk](https://planninginspectorate.gov.uk)

Conclusions and Priorities

In 2023, annual mean NO₂ concentrations within the Suffolk Coastal District Council Air Quality Management Area Order No. 3, located at Stratford St. Andrew, were below the objective, as were all concentrations of NO₂ monitored throughout the district.

Concentrations in the AQMA were below the annual mean NO₂ objective for the seventh year running, and outside of 10% of the objective (<36 µg/m³) for four consecutive years. This period includes the Covid-19 lockdown years of 2020 and 2021 where data are likely to have been impacted and should not be used. As the 2023 data within the AQMA is the lowest recorded to date, and confirms a trend of reduction in concentrations, Defra has recommended revocation. The AQMA Steering Group have agreed that the revocation process should be undertaken, and an assessment report will be produced.

The key priorities for ESC in 2024 with regard to air quality are to; undertake the revocation process for the Suffolk Coastal District Council Air Quality Management Area Order No. 3, located in Stratford St. Andrew, complete the ESC Air Quality Strategy update draft to take to Council Members and continue to work with the SCC Public Health team on their AQ Strategy, Public Engagement work and the Suffolk Air Quality Network.

Additional priorities for 2024 are:

- Monitor the construction, in accordance with the approved plans, for Sizewell C, EA1N, EA2 and EA3 NSIPs as works begin;
- Involvement in the pre-application stages for additional Nationally Significant Infrastructure Projects (NSIPs) within the district - National Grid Ventures Lionlink and Sealink;
- Completion and adoption of the East Suffolk Council Healthy Environments Supplementary Planning Document and the Local Validation List for planning applications.
- Action a further winter solid fuel and wood burning education campaign;
- Continue work to reduce carbon emissions moving towards carbon neutral.
- Continue to work with stakeholders on the Mini Holland Scheme for Woodbridge and Active Travel scheme for Grange Road in Felixstowe.
- Continued assessment of Planning applications for any impact on air quality.

Local Engagement and How to get Involved

It is really important that we hear the views and comments of our residents, as local knowledge is invaluable. We are continuously updating the [air quality pages](#) on our website, which include lots of air quality information.

If you would like to be more directly involved in environmental issues you may wish to join the East Suffolk Greenprint Forum. This is a voluntary network which provides a link between public and voluntary organisations and community groups to share skills and experiences as well as acting to assist local environmental action in communities and organisations. It is facilitated by ESC and its Steering Group includes representatives from local voluntary organisations. The Greenprint Forum Vision for 2030 is to see significant progress in 9 specific areas which include: active travel; eco-friendly development; energy generating homes; environmentally beneficial employment; healthy

humanity; nature first; pollution free environment; quality food and upcycling culture.

Membership is free and open to all. For further details go to the [East Suffolk Greenprint Forum webpage](#).

Following collaboration with the Suffolk Local Authorities and Suffolk County Council's (SCC) Transport and Public Health colleagues, an 'Air Quality Profile' report for Suffolk was published by SCC Public Health in June 2021. 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. 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, and the Suffolk Community Engagement Plan.

[The Suffolk Air Quality Strategy](#) was published in May 2023. It has been developed in partnership between SCC's Public Health and Communities directorate and the Growth, Highways and Infrastructure directorate, with contributions from district and borough councils, NHS and the University of Suffolk. The Strategy sets out actions important to the improvement of air quality in Suffolk, identifying the lead authority for the work, timescales, and what will be achieved. Every quarter a monitoring report is published on the [Healthy Suffolk website](#) setting out progress against each of the actions identified in the Strategy. A strategy review and update is scheduled in May 2024.

The air quality engagement plan sets out the action SCC, working with borough and district partners, aim to take to raise awareness of the health impacts of air quality in Suffolk. This will help enable individuals to make choices that protect both their health and the health of others from the harmful effects of pollution.

As part of this work, during 2023 a Suffolk Air Quality Network made up of appropriate leads and stakeholders from across the county was explored with the University of Suffolk in discussion with stakeholders. The main objective of the Network is to enhance partnership engagement and work happening across the County. A meeting took place in November 2023 bringing together partners and stakeholders from across Suffolk to discuss air quality, projects and initiatives underway and opportunities for future joined up working. The meeting acted as a 'soft launch' and was an opportunity for attendees to shape what the Network would look like going forward. An official launch of the Suffolk Air Quality Network took place in May 2024 led by the University of Suffolk. Membership of

the Network is free and available to all, if you have an interest in improving Suffolk's air quality we would encourage you to join - for further information please contact SCC by email at ph.widerdeterminants@suffolk.gov.uk

We will continue to consult with SCC Public Health colleagues and be advised by them, and national guidance, on any relevant measures that will reduce exposure to air pollutants.

So what can I do?

The main source of air pollution in the district is traffic on our roads, but we also have emissions from domestic burning. We are currently meeting the air quality objectives set by the Government, but it will also require a concerted public effort with each person doing their bit to help further clean the air we breathe. The following are some simple ideas we can all look at taking to help cut down the pollution we emit:

- **Use the car less** - walk, cycle or scoot short trips instead of driving where possible. It's a great way to reconnect with your local community, breathe cleaner air, reduce fuel bills, get some exercise and improve mental health and wellbeing. Even one journey a week could make a big difference if everyone did it – SCC advise that if every car journey in Suffolk of less than a mile was undertaken by foot/wheels it would results in 40,000 fewer car journeys per day;
- **Download the Go Jauntly** mobile app for free, on either the [App Store](#) or the [Play Store](#) and enjoy over 70 miles of walking trails across East Suffolk. Walks are available in Aldeburgh, Beccles, Bungay, Framlingham, Felixstowe, Halesworth, Leiston, Lowestoft, Saxmundham, Southwold, Wickham Market and Woodbridge;
- **Consider cycling some journeys** - you can obtain advice on safe cycling routes, download Suffolk cycle maps and find general supportive information on cycling at [Cycle - Suffolkonboard](#).
- **Work from home more often if your employer allows** – challenge your workplace to make this easier for you;
- **Use public transport** such as the bus and the train where you can. Plan your journey with [The Way To Go Suffolk](#);
- **Investigate car sharing** with colleagues, friends and family to reduce emissions and save money. [Visit Suffolk Lift Share](#) for more information;

- **Consider going electric** - if driving is essential, you could look at going electric – hire an electric car or taxi or test drive an electric vehicle to see what it's like. We are working to improve the electric vehicle charging network within the district together with the wider charging network in Suffolk. Details of local electric charging points can be found by using [zap-map](#) and the site also gives general information about owning electric cars.
- **If you drive - don't idle** – turn off your engine when your vehicle will be stationary for 1 minute or more and it is safe to do so. One minute of car idling from the average car produces enough toxic emissions to fill 60 people's lungs. It also wastes fuel;
- **Practise Smarter Driving** - every driver can do their bit to both help emission reduction and save money - information is available from the [Energy Saving Trust](#).
- **Avoid burning household and garden waste** – [Suffolk Recycling - Suffolk County Council](#). If you do choose to have a fire, only burn dry garden waste and avoid burning on days that already have high pollution levels, and
- **Reduce the amount of coal or wood you burn in your home where possible** – Use alternative sources of heating such as electric or gas heaters and radiators. If you do burn, limit your emissions indoors by only burning dry well-seasoned 'Ready to Burn' wood or smokeless fuel. More information is available on the [ESC 'wood burning in the home' page](#).

If you would like any further information on national air quality, including the latest news, air pollution forecasts, the latest measured levels and a summary, interactive monitoring, and general information about air pollution, consult the [UK Air website](#) provided by the Department for Environment, Food and Rural Affairs (Defra).

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Services Department of East Suffolk Council with the support and agreement of the following officers and departments:

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Teresa Bailey – Senior Licensing Officer

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This ASR has been approved by:

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

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1 Local Air Quality Management

This report provides an overview of air quality in East Suffolk during 2023. 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 East Suffolk Council (ESC) 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 (AQMA) 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 AQMA declared by East Suffolk Council can be found in Table 2.1. The table presents a description of the AQMA that is currently designated within East Suffolk.

Appendix D: Map(s) of Monitoring Locations and AQMA provides a map of the AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objectives pertinent to the current AQMA designation is the NO₂ annual mean.

The Suffolk Coastal District Council Air Quality Management Area Order No. 3 - located at Stratford St. Andrew

The Suffolk Coastal District Council Air Quality Management Area Order No. 3, located at Stratford St Andrew, was declared in June 2014. The Action Plan for the AQMA received Defra approval in March 2018 and consists of two short term, priority action measures and six longer term aspirational measures. The main priority measure, for Suffolk County Council to move the 30/50mph change of speed limit sign further south out of the village was undertaken in December 2017. The second priority measure 'Assessment of planning applications for impact on air quality' has been implemented since 2018 and is on-going.

The AQMA last saw exceedances of the annual mean NO₂ objective in 2016 (42.9µg/m³). NO₂ concentrations fell each year thereafter for 4 years with a large reduction in 2020 and then rose slightly in 2021 and 2022. Measurements in 2023 have fallen to the lowest recorded concentration within this AQMA.

Measurements in 2020 (27.4µg/m³) were expected to be low due to the impacts of the Covid-19 lockdowns reducing traffic flows using this route. The maximum annual mean NO₂ concentration recorded in 2021 measured 28.3µg/m³ and rose slightly again to 29.3µg/m³ in 2022 following the opening up of the country after the Covid-19 lockdowns

and traffic re-entering the road network. The maximum annual mean NO₂ concentration recorded in 2023 measured 26.2µg/m³ - the lowest recorded concentration within this AQMA.

The 2023 data confirms the overall downward trend in concentrations within the AQMA and provides 4 years of data outside of 10% of the objective (<36 µg/m³). Two of these years however were within the Covid-19 lockdown years of 2020 and 2021 and therefore not representative of a typical year.

Defra advice was sought and provided via the LAQM Helpdesk;

'ESC's ASRs show that the AQMA was below the objective in 2019, just surpassing the 10% below threshold, and has been in full compliance since. We're content that this represents a downward trend established prior to Covid-19 ... If the AQMA remains 10% below the objective in 2023, the AQMA should be revoked, and a local air quality strategy should be prepared.'

The Air Quality Action Plan (AQAP) for this AQMA is due to be updated, for which Defra have granted an extension until 31/12/24. Following bias correction of the 2023 results for this AQMA, the intention to proceed with the revocation process was accepted by the Steering Group on 30/04/24 and a revocation assessment report is being prepared. ESC will either revoke this AQMA by 31/12/24 or provide an updated AQAP.

The revocation assessment report will consider information relating to additional traffic movements through the AQMA associated with the Sizewell C Development Consent Order (DCO), consented by the Secretary of State on 20th July 2022. Following dismissal of the Judicial Review (March 2023) and confirmation of the Final Investment Decision from the Government pre-commencement and early years work has now started on this development. The early years works to build the associated developments, including the 2-villages bypass, will add traffic to the road network including through the AQMA. The 2-villages bypass build is estimated to take 18 months to 2 years from start of construction and is due for completion end of 2025. This bypass will remove A12 traffic from the villages of Farnham and Stratford St. Andrew including the AQMA. Traffic from other consented DCO's - EA1N, EA2 and EA3 may also overlap with this period and will be considered.

Table 2.1 – Declared Air Quality Management Area

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
The Suffolk Coastal District Council Air Quality Management Area Order No. 3	18th June 2014	NO ₂ Annual Mean	The four properties situated within 1-5 Long Row, main Road (A12), in Stratford St. Andrew	NO	42 µg/m ³	26.2 µg/m ³	7 years	AQAP for AQMA No. 3, March 2018	AQAP-Stratford-St.-Andrew-Final-November.pdf (eastsuffolk.gov.uk)

☒ East Suffolk Council confirm the information on UK-Air regarding their AQMA(s) is up to date.

☒ East Suffolk Council confirm that all current AQAPs have been submitted to Defra.

2.2 Progress and Impact of Measures to address Air Quality in East Suffolk

Defra's appraisal of last year's ASR concluded That the report was well structured, detailed, and provides the information specified in the Guidance. The conclusions reached were accepted for all sources and pollutants. The following comments are designed to help inform future reports;

1. The Council have used the latest reporting template in production of their 2023 ASR.
The ASR details that a wide range of supporting officers and departments provided input into the ASR. The ASR was approved by the Chief Executive of the Council, Head of Environmental Services and Port Health, Head of Planning and Coastal Management, Director of Public Health and Head of Transport Strategy. This is welcomed.
Noted and repeated in this report.
2. The monitoring strategy and network for Suffolk District Council has been reviewed with seven sites removed and four introduced in 2022. All removed and new sites have a detailed justification for their changes which is welcomed.
Noted and repeated in this report.
3. The Suffolk Coastal District Council Air Quality Management Area No.3, also known as in the report The Stratford St Andrew AQMA has been compliant for six years with the AQO for annual mean NO₂.
4. ESC consulted Defra regarding the AQMA and AQAP. As evidence in the ASRs show the AQMA was below the objective in 2019, just surpassing the 10% below threshold, and has been in full compliance since, Defra is content that this represents a downward trend established prior to Covid-19. An extension has been granted until April 2024 for ESC to update their Action Plan, at which point monitoring data for 2023 can be reviewed. If the AQMA remains 10% below the objective in 2023, the AQMA should be revoked, and a local air quality strategy should be prepared. However, if there is an exceedance in 2023, ESC should proceed and update their Action Plan once a revised deadline for a draft AQAP is agreed with Defra.
These comments have been noted and are being actioned – see section 2.1 above.
5. The ASR details that the Woodbridge AQMA was revoked in 2022 and the revocation order is provided in the appendix of the ASR. This is welcomed.
Noted and this will be repeated in future reports where relevant.
6. Clear discussion and trends are presented for the comparison of NO₂ concentrations with regard to the annual mean NO₂ AQO. Graphs are presented for different areas and the AQMA and revoked Woodbridge AQMA. This is welcomed.

Noted and repeated in this report.

7. Detailed discussion on the QA/QC procedures for both automatic and passive diffusion tube monitoring provided. This includes the justification provided for the local bias adjustment used for the sites in Woodbridge and the National factor elsewhere, removal of erroneous monitoring data and methodology of annualisation. This is welcomed.

Noted and repeated in this report.

8. Appraisal comments from the 2022 ASR have been included and responded to. This is welcomed and should continue in future reports.

Noted and repeated in this report.

9. The report includes detailed discussion of the measures the Council are taking to address PM_{2.5}. Links are provided and discussed in regard to the Public Health Outcomes Framework and fraction of mortality attributable to PM_{2.5} emissions. Comparisons to the regional and national average are included. This is welcomed and is encouraged to be included in all future reports.

Noted and repeated in this report.

10. Detailed maps showing monitoring locations and AQMAs are presented. This is welcomed;

Noted and repeated in this report.

11. The level of public engagement the East Suffolk Council are undertaking, as well as their continual collaborative approach with the Suffolk Air Quality Management Group and other local stakeholders, is commended.

Noted – this approach will be continued by ESC.

12. The Suffolk Coastal District Council Air Quality Management Area No 3 as detailed on the LAQM Portal and UK Air is referred to “The Stratford St Andrew AQMA” throughout the ASR. The reporting of the AQAM should be consistent with that of the LAQM portal and UK-Air.

Noted and corrected within this report.

13. Table A.1 states that the automatic monitoring site WBG is located within the AQMA No.1 Woodbridge. However, this AQMA was revoked in 2022 and should therefore state it's not located in an AQMA or the AQMA has been revoked in the table.

Noted and corrected within this report.

14. It should be noted that some diffusion tube monitoring sites have a distance to kerb of greater than 15m however the site is defined as a roadside site. These sites should be reviewed.

There are 5 diffusion tube sites listed as 'roadside' which are >15m from the kerb. Each of these sites has been reviewed. All sites have been reclassified as Suburban.

15. Overall, the report is detailed, thorough and satisfies the criteria of relevant standards. The Council should continue their good work. Noted with thanks.

East Suffolk Council (ESC) has taken forward a number of direct measures during the current reporting year of 2023 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Forty seven measures are included within Table 2.2, with the type of measure and the progress ESC have made during the reporting year of 2023 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on a number of these measures can be found in the Action Plan for the Suffolk Coastal District Council Air Quality Management Area Order No. 3 located at Stratford St. Andrew and the East Suffolk Air Quality Strategy. Key completed measures are:

- Delivery of 6 new electric capable replacement Ae-Rubber Tyred Gantry cranes at the Port of Felixstowe. These will replace diesel RTGs.
- Purchase of 100 autonomous battery powered trucks by the Port of Felixstowe. These will replace diesel powered trucks.
- Domestic Burning education campaign undertaken during Autumn/Winter 2023 to increase public awareness of the issues surrounding health.
- Theatre company production on air quality completed at 10 further schools in ESC area. This includes provision of resources on air quality to the schools and NO₂ diffusion tube monitoring outside of each school to help inform the children.
- Katch-a-lift scheme completed its trial year for ESC and this has been extended for a further year.
- 2 Electric Vehicle (EV) cars and 4 vans added to the port of Felixstowe small EV fleet.
- Suffolk Air Quality Strategy and Action Plan published May 2023.
- Suffolk Air Quality Network first meeting undertaken November 2023 to explore how it will look going forward.
- Plug-In-Suffolk has installed 100 electric vehicle charge points within Suffolk at 31 sites. 10 of these sites are within ESC.
- Completion of the first year of monitoring using the new SCS OPCube, together with setting up of a second site for this equipment. Purchase and siting of a second SCS OPCube.

East Suffolk Council expects the following measures to be completed over the course of the next reporting year:

- Delivery of 5 new electric capable replacement Ae-Rubber Tyred Gantry cranes at the Port of Felixstowe. These will replace diesel RTGs and associated emissions will be reduced (ESC 1).
- A further domestic burning education campaign undertaken during Autumn/Winter to increase public awareness of the issues surrounding health, and provide advice on how to reduce emissions from any burning that does occur. It is hoped this will lead to emission reductions from this sector (ESC 11).
- Third vehicular crossing of Lake Lothing due to open 2024. Aims to reduce traffic congestion in Lowestoft, and therefore associated vehicle emissions, help regenerate the area and attract new investment for the local economy (ESC 21).
- Undertake NO₂ diffusion tube monitoring at 10 additional primary schools within the district to help inform on air quality (ESC 29)
- Completion of the Port of Felixstowe Air Quality Strategy (ESC 36)
- First full meeting of the Suffolk Air Quality Network (ESC 46)
- Completion and adoption of the East Suffolk Health Environments Supplementary Planning Document (SPD) (ESC 54)
- Completion and adoption of the East Suffolk Council Local Validation List and associated guidance for planning applications (ESC 55)

East Suffolk Council's priorities for the coming year are;

- Undertake the revocation process for the Suffolk Coastal District Council Air Quality Management Area Order No. 3, located in Stratford St. Andrew.
- Completion of the ESC Air Quality Strategy update draft to take to Council Members. The Strategy helps provide important information to help to shape Council policies and provide emission reductions.
- Continue to work with the SCC Public Health team on their AQ Strategy, Public Engagement work and the Suffolk Air Quality Network – input from the Suffolk District and Borough Councils is vital for this work in order to ensure that our residents are represented.

- Involvement in the pre-application stages for additional Nationally Significant Infrastructure Projects (NSIPs) within the district - National Grid Ventures Lionlink and Sealink.
- Monitor the construction, in accordance with the approved plans, for Sizewell C, EA1N, EA2 and EA3 NSIPs as works begin - Outline Construction Traffic Management Plan, Travel Plan, Code of Construction Practice, Air Quality Management Plan, Construction Workforce Travel Plan, Dust Management Plan, Dust Monitoring and Mitigation Plans. This work will help to ensure that impact on air quality is minimised from these developments.
- Completion and adoption of the East Suffolk Council Healthy Environments SPD and the Local Validation List for planning applications.
- Action a further winter solid fuel and wood burning education campaign. Defra advise that domestic solid fuel burning is a major contributor to fine particulate matter emissions both indoors and outdoors. Increasing public awareness of the issue is key to obtaining emission reduction.
- Continue work to reduce carbon emissions moving towards carbon neutral. There are many synergies between carbon reduction and air quality – reduction of one will aid the other in most cases and continued work in this area is important.
- Continue to work with stakeholders on the Active Travel Woodbridge Scheme and Active Travel scheme for Grange Road in Felixstowe. Both schemes will improve active travel in these areas and therefore reduce emissions associated with road transport.
- Continued assessment of Planning applications for any impact on air quality within the district is an on-going and important role of the Environmental Protection team.

East Suffolk Council worked to implement these measures in partnership with the following stakeholders during 2023:

- Suffolk County Council Highways and Transport
- Suffolk County Council Public Health
- Suffolk County Council Trading Standards
- Neighbouring Suffolk Local Authorities - Ipswich Borough Council, West Suffolk Council and Babergh/Mid Suffolk District Council

- Port of Felixstowe
- East Suffolk Greenprint Forum
- Suffolk Climate Change Partnership
- Lowestoft Town Council (Lowestoft Town Centre Masterplan)
- Woodbridge Town Council and Melton Parish Council (active travel Woodbridge)

The principal challenges and barriers to implementation that East Suffolk Council anticipates facing continue to be;

- Resourcing to ensure that non-statutory provisions such as awareness raising and supporting Active Travel measures are given sufficient priority. Recruitment and retention in the field of Environmental Health/Protection is proving challenging.
- Obtaining appropriate funding streams to complete some measures.
- Low public appetite for reductions in domestic solid fuel burning.
- The rural nature of a large proportion of the ESC district brings difficulties in reducing car usage, increasing public transport use and active travel.

Progress on the following measures has been slower than expected due to:

- Update of the ESC Air Quality Strategy – delayed due to staffing resource.
- Local Transport Plan – slower than expected due to delayed provision of guidance from Department for Transport.
- Use of alternative fuels (for example hydrogen) due to emerging information on the technology involved.
- Lake Lothing third Crossing – delayed construction and therefore opening.

East Suffolk Council anticipates that the measures stated above and in Table 2.2 will continue to achieve compliance in the Suffolk Coastal District Council Air Quality Management Area Order No. 3, located in Stratford St. Andrew.

Table 2.2 – 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	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
ESC11	Provision of information to the Public and commerce on reducing emissions from solid fuel and wood burning, including Ready to Burn campaign	Public Information	Via the Internet	2018	Ongoing	ESC	ESC	NO	Funded	< £10k	Implementation	Unknown	Information available on East Suffolk website. Information disseminated to the Public and commercial sectors.	Council website page on biomass and wood burning added and publicised. Article in Greenprint Forum newsletter. Information being sent out to any burning complaints. Information sent to 300 businesses in Suffolk, all Parish Councils, highlighted to all air quality Consultees during ASR 2017 Consultation, leaflets provided at Business drop-in events. Wood burning information promoted during Clean Air day 2019 and 2020 and updated on website. Information campaign undertaken Winter 2018, 2021, 2022 and 2023.	
ESC 53	Plug In Suffolk	Promoting low emission transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2022	2025	SCC	SCC	NO	Funded	Unknown	Implementation	Emission reductions in ESC	Adoption of Suffolk EV Charging Infrastructure Strategy 2023-2028 adopted. 2023 - 100 charge points installed at 31 locations in Suffolk. Within ESC charge points installed at Beccles, Bungay, Carlton Colville, Framlingham, Grundisburgh, Rendlesham, Reydon, Saxmundham, Southwold and Ufford.	Suffolk EV Charging Infrastructure Strategy 2023-2028 adopted. 2023 - 100 charge points installed at 31 locations in Suffolk. Within ESC charge points installed at Beccles, Bungay, Carlton Colville, Framlingham, Grundisburgh, Rendlesham, Reydon, Saxmundham, Southwold and Ufford.	SCC has developed 'Plug In Suffolk' - a project to simplify the procedure of charging an electric car and make Suffolk Zero Emission Vehicle ready. Plug In Suffolk Community Grant available - first Phase heavily over-subscribed. Re-allocated to new Local Electric vehicle Infrastructure (LEVI) pilot funded second phase which has £7.3m funding. Will focus on 'on-street' charge point installation. Aim is to eventually cover almost every possible publicly accessible car park in Suffolk so that everyone who has a contactless payment system on them can use the chargers.
ESC 45	Through the Suffolk Climate Change Partnership - ESC to reduce carbon emissions moving towards carbon neutral by 2030	Other	Other	2019	2030	ESC and Suffolk Climate Change Partnership including Environment Agency, Groundwork Suffolk and University of Suffolk	ESC, Suffolk Climate Change Partnership	NO	Partially Funded	Unknown	Implementation	Emission reductions across ESC	Project involvement 2021 - Small Grants Scheme. Environmental Guidance Note for building industry. Government's Green Homes Grant funding for energy efficiency measures for owner/occupiers. Sustainable Development Supplementary Planning Guidance adopted April 2022 (see ESC 48). Council fleet transfer onto HVO (see ESC 34). March 2023 - East Suffolk Climate Action Framework.	East Suffolk Environment Task Group set up - cross-party group to analyse policies and identify areas for improvement. Task Group meets quarterly and reports to Cabinet. Intention is to thread the environment through all decisions, choices and policy formation. 2021 - Launch of Small Grants Scheme for projects to develop active sustainable travel. March 2023 - Production of East Suffolk Climate Action Framework - summarises our approach to tackling climate emergency and prioritises over 60 climate change related workstreams within East Suffolk Council. The Suffolk Climate Emergency Plan includes an 8-week e-bike trial in Lowestoft for staff working with Leading Lives. They have also commissioned an electric vehicle report to inform development of a Suffolk-wide EV Strategy to progress the EV infrastructure across the county.	-

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
STA 1	Move the location of the southern 30mph speed limit sign southwards	Traffic Management	Reduction of speed limits, 20mph zones	2017 Suffolk County Council (SCC) lead and funded	2017	SCC	SCC	NO	Funded	< £10k	Completed	Reduction in concentration by up to 2 µg/m ³	Reduction in NO ₂ concentrations in AQMA. Reduction in vehicle speed within AQMA.	Speed limit panel agreed experimental TRO. Speed limit moved. Traffic speed survey pre and post move. Survey shows decrease in vehicle speeds Northbound but very slight increase in vehicle speeds Southbound at the site of the AQMA. NO ₂ concentrations show overall reduction - highest concentration in AQMA recorded 2015 = 44.4µg/m ³ reduction to 2019 = 36µg/m ³ , then large drop seen 2020 = 27.1µg/m ³ likely due to Covid-19 lockdowns reducing traffic on this road. Concentrations increased slightly in 2021 and 2022 but have dropped in 2023 to below that seen in 2020 at 26.2µg/m ³ . Overall trend of reduction and well below objective.	Air quality monitoring will now determine the effectiveness of this measure to reduce NO ₂ concentrations. NO ₂ concentrations within AQMA reduced 3-4µg/m ³ in 2017 (prior to speed limit changes), 1µg/m ³ in 2018 after the speed limit move, 2µg/m ³ in 2019 and a further 8µg/m ³ in 2021. Unable to use 2020 data due to reduced traffic flows related to lockdowns associated with Covid-19. Concentrations in 2022 increased slightly from 28µg/m ³ (2021) to 29.3µg/m ³ as traffic on the roads recovers after the pandemic, but 2023 concentrations at 26.2µg/m ³ are now below 2020 pandemic levels.
STA 2	Assessment of planning applications for impact on air quality	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Ongoing	Ongoing	ESC Environmental Health and Planning	ESC	NO	Funded	£10k - 50k	Implementation	No significant increases in concentrations due to new developments	No new housing introduced into area of exceedance (AQMA) unless mitigation measures are in place to offset impacts.	Officers in Environmental Protection work with Planning to ensure that each application is appropriately assessed for air quality. 2021 - 4 new planning applications received for Stratford St Andrew Parish in, commented on by Environmental Protection - not in, near or likely to impact on AQMA. 2022 - 0 applications received. 2023 - 1 new planning application received for Stratford St Andrew Parish, commented on by Environmental Protection - not in, near or likely to impact on AQMA. No new housing introduced to date.	Sizewell C DCO Integrated Transport Strategy includes up to 1,000 HGV on busiest day at peak, 650 HGV average day at peak. Early Years construction traffic will pass through AQMA at Stratford St Andrew until Two Villages Bypass is constructed and ready for use. Estimated construction period for bypass is 2 years. Current estimate is that Early Years construction works will start early 2024. Air Quality Assessments for all scenarios (including with EA1N and EA2 windfarm construction traffic) do not predict exceedance of the annual mean NO ₂ objective during the Early Years phase of the development
STA 3	Measure 1 together with a southbound permanent vehicle activated sign	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£10k - 50k	Pending	Reduction in concentration to below the objective	Reduction in NO ₂ concentrations in AQMA. Reduction in vehicle speed within AQMA.	Follow on from measure 1 if it was not successful. Steering Group discussions in 2020 surrounding use of a temporary VAS installed by SCC/ESC and run by the Parish Council. NO ₂ concentrations 2019 = 36µg/m ³ , 2021 = 28µg/m ³ , 2022 = 29.3µg/m ³ , 2023 = 26.2µg/m ³ - therefore concentrations are continuing to fall overall and this measure not required for implementation to date. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Would need a site assessment and require capital funding (min £8,000) and revenue funding. Not yet approved.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
STA 4	Measure 1 together with a northbound permanent vehicle activated sign	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£10k - 50k	Pending	Reduction in concentration to below the objective	Reduction in NO ₂ concentrations in AQMA. Reduction in vehicle speed within AQMA	Ideally this camera would be installed alongside measure 3 to smooth all traffic flow close to the AQMA if required. NO ₂ concentration 2019 = 36µg/m ³ . 2021 = 28µg/m ³ . 2022 = 29.3, 2023 = 26.2µg/m ³ - therefore concentrations are continuing to fall overall and this measure not required for implementation to date. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Would need a site assessment. Would require capital funding (min £8,000) and revenue funding. Not yet approved.
STA 5	Southbound speed camera just prior to cottages	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£10k - 50k	Pending	Reduction in concentration to below the objective	Reduction in NO ₂ concentrations in AQMA. Reduction in vehicle speed within AQMA.	Follow on from measure 1 if it was not successful and measures 3 and/or 4 were not undertaken. NO ₂ concentration 2019 = 36µg/m ³ . 2021 = 28µg/m ³ . 2022 = 29.3µg/m ³ . 2023 = 26.2µg/m ³ - therefore concentrations are continuing to fall overall and this measure not required for implementation to date. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Would need a site assessment to confirm adequate location and radar sightline. Need support from Suffolk Roadsafe Board and police. Would require capital funding of £40,000.
STA 6	Average speed camera system throughout Stratford St Andrew and Farnham	Traffic Management	Reduction of speed limits, 20mph zones	Unknown - not yet implemented	Unknown - not yet implemented	SCC	unknown	NO	Not Funded	£100k - £500k	Pending	Reduction in concentration to below the objective	Reduction in NO ₂ concentrations in AQMA. Reduction in vehicle speed within AQMA.	Consideration of option only. Aspirational measure due to high costs. Dependent on measure 1, 3, 4 and 5. NO ₂ concentration 2019 = 36µg/m ³ . 2021 = 28µg/m ³ . 2022 = 29.3µg/m ³ . 2023 = 26.2µg/m ³ - therefore concentrations are continuing to fall overall and this measure unlikely to be required. We cannot use 2020 data for comparison due to reduced traffic flows from Covid-19.	Needs a site assessment to confirm adequate location and radar sightline, support from Suffolk Roadsafe Board and police. High capital funding cost of £250,000 and high revenue. Funding unlikely to be affordable.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
STA 7	Possible A12 Stratford St Andrew bypass	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2022 / 2023	2026	EDF Energy if the DCO is successful	EDF Energy if the DCO is successful	NO	Not Funded	£1 million - £10 million	Planning	Reduction in concentration to below the objective	Reduction in NO ₂ concentrations in AQMA. Reduction in traffic flows within AQMA	A bid for Government funding (DfT) by Suffolk County Council for a 4 village bypass (Farnham, Stratford St. Andrew, Little Glemham and Marlesford) was not successful. DCO application for Sizewell C submitted with an integrated transport strategy. Two Village Bypass of Stratford St Andrew and Farnham (covering the AQMA) is included in the proposals and subject to obtaining consent should be available for use by peak construction. Anticipated start of Early Years construction early 2024. Public Examination finished October 2021. Consent granted 20 July 2022 by the Secretary of State for Business, Energy and Industrial Strategy. DCO subject to Judicial Review in the High Court at the end of March 2023 regarding water supply. Outcome received June 2023 and Judicial Review dismissed. Initial enabling works for bypass due to start Summer 2024 with bypass expected to be open end 2026.	Sizewell C DCO Integrated Transport Strategy includes up to 1,000 HGV on busiest day at peak, 650 HGV average day at peak. Early Years construction traffic will pass through AQMA at Stratford St Andrew until Two Villages Bypass is constructed and ready for use. Estimated construction period for bypass is 18 months - 2 years. Initial enabling works for bypass due to start Summer 2024 with bypass expected to be open end 2026. Air Quality Assessments for all scenarios (including with EA1N and EA2 windfarm construction traffic) do not predict exceedance of the annual mean NO ₂ objective during the Early Years phase of the development
STA 8	Mitigation of construction traffic emissions from Sizewell C and other Nationally Significant Infrastructure Projects (NSIPs) through the planning process (relevant to the AQMA at Stratford St Andrew)	Policy Guidance and Development Control	Low Emissions Strategy	2019 and ongoing	2022	ESC, currently working with EDF Energy & Scottish Power Renewables if the DCOs are successful	ESC staffing and EDF Energy / Scottish Power Renewables if the DCOs are successful	NO	Funded	Unknown	Planning	No significant increase in concentrations	Number of low emission vehicles in fleet.	Preliminary discussions on likely impacts at pre-application stage. Development Consent Order (DCO) applications submitted for Sizewell C (SZC), EA1N and EA2 Offshore Windfarms. DCO for SZC includes proposal for construction of 2-village bypass on the A12, bypassing both Stratford St Andrew (including the AQMA) and Farnham. Additional monitoring requirements and mitigation particularly for SZC Early Years construction before the bypass discussed as part of the DCO. Discussions on use of latest EURO classifications for the construction fleet for both applications. 92% EURO VI vehicles agreed for Sizewell C. Secretary of State granted consent for SZC 20 July 2022. Judicial Review in the High Court end March 2023. Judicial Review dismissed. Work now progressing. Secretary of State granted consent for EA1N and EA2 31 March 2022, this DCO was subject to judicial review which was dismissed. EA1N & EA2 applicant has committed to 70% of HGVs complying with Euro VI standards where the construction periods of this project, the other East Anglia	DCO application for Sizewell C submitted with an integrated transport strategy which includes up to 1,000 HGV on busiest day at peak, 650 HGV average day at peak, a Two Village Bypass of Stratford St Andrew and Farnham agreed and should be available for use by peak construction. Current estimate is bypass open end of 2026. Committed to 2 off-site park and rides, freight management facility, increased use of rail and sea, accommodation campus together with Construction Workforce Travel Plan, Construction Traffic Management Plan, Outline Dust Management Plan (DMP), Code of Construction Practice (CoCP). Modelling of the potential impact on the AQMA has been conducted for both SZC and EA1N & EA2 including cumulative impacts and has been scrutinised, discussed and accepted by ESC. EA1N and EA2 consent includes Outline Construction Traffic Management Plan, Outline Travel Plan, Outline Code of Construction Practice, Air Quality Management Plan.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
														project and the Sizewell C project overlap.	
ESC1	Evaluate and implement efficient power technologies (e.g. hybrid-electric) for cargo handling equipment (rubber tyre gantry (RTG) cranes) in the Port of Felixstowe	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2010	Ongoing	Port of Felixstowe	Port of Felixstowe	NO	Funded	> £10 million	Implementation	Unknown	Number of RTG Cranes using improved efficiency power source. Number of blocks converted to electric.	64 of the total 90 RTG's in use on the Port are now electric capable (50 e-RTGs and 14 Ae-RTGs). Ae-RTGs are remote controlled. The Port plan to replace the remaining diesel units over the coming years. 17 electric capable replacement Ae-RTGs are planned to replace diesel RTGs - 6 were delivered in 2023, 5 planned 2024 and 6 in 2025. Additional container zone electrification is now planned to coincide with the introduction of the 17 new Ae-RTGs over the next 3 year period on Landguard Terminal (Berths 8 & 9). 38 blocks already converted to electric. Technical specifications prepared for a further 12 blocks, work commenced 2023 with completion scheduled for 2025. Additional electrical sub-stations installed on Berths 8 & 9 in 2023 to provide additional electrical capacity required for this work. Conversion of the remaining 10 blocks serving Berths 8&9 not yet programmed.	The Port's net-zero plan includes a programme to replace their entire fleet with battery-powered or alternative fuel options by 2033. To mitigate the increase in electricity demand the Port has been progressing energy efficiency projects and renewable energy generation (Solar PV). 2023 - generated 426MWh of energy from solar power. Quay crane lighting upgrade project fitting LED to 12 cranes - will reduce energy usage. The Port successfully commissioned an all-electric RTG - does not require use of a diesel engine to transfer it between blocks, uses lithium ion battery - therefore emissions free. Technical specification was completed for replacing RTGs with these but this is no longer being pursued. Preferred option is electrification of container blocks with conductor rail system.
ESC2	Adopt NOx abatement technologies on Internal Movement Vehicles (IMVs) in the Port	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2010	Ongoing	Port of Felixstowe	Port of Felixstowe	NO	Funded	> £10 million	Implementation	Unknown	Number of IMVs replaced. Reduction in NO ₂ concentrations at the Port.	83 IMVs replaced 2011-2016. 52 IMVs replaced 2017/2018. 17 replaced 2019. Total of 135 of the 260 units replaced 2020. 2 x new internal tractors for roll-on roll-off operations in 2018. IMVs are replaced on a 15 year cycle. Additional electrical sub-stations and charging stations installed 2023, 48 new electric IMVs delivered end 2023 and starting to enter service. Current plan - new IMVs will be electric prior to transferring to alternative fuel useage (Hydrogen). 2 new battery powered autonomous trucks ordered 2022 for internal container movement. Autonomous Truck (AT) project has progressed - 100 ATs ordered, delivery commenced 2023. General reduction in NO ₂ over time - between 2018 and 2023. 2 sites show very slight increase 2022-2023 but still well within the objective. Monitoring results from the PoF for 2019 and 2020 could not be used.	The Port's net-zero plan includes a programme to replace their entire fleet with battery-powered or alternative fuel options by 2033. All new IMVs utilise Adblue as part of exhaust gas recirculation technology and currently comply to Euro VI emissions standards instead of Euro IIIa. The newer IMVs are fitted with start/stop engine technology and the latest emission compliant Volvo engines. Expected to deliver a 10% reduction in emissions compared with a conventional tractor unit. IMVs (post 2020) are electric. SO ₂ monitoring information obtained from PoF 2021 - results routinely below limit of detection across 6 sampling locations - low levels attributed to adoption of low sulphur fuel/ use of scrubber systems by visiting vessels in compliance with the North Sea Emission Control Area requirements. Not related to IMVs so SO ₂ concentration removed from the KPI from end of 2022. In 2021, 2 x air quality sensors purchased (South Coast Science Praxis units). Installed 2022 at Dock Gate 2 and Trinity Quay. Data sets will be shared in the Port's Air Quality Strategy update due 2024.

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ESC3	Increased use of rail transport for movement of goods at the Port of Felixstowe	Freight and Delivery Management	Other	2018	Ongoing	Port of Felixstowe	Port of Felixstowe	NO	Funded	Unknown	Implementation	unknown	Number of daily freight services. Percentage rail modal share.	33 daily freight services from the Port 2019/20 . This fell slightly in 2020 due to impact of Covid-19 pandemic but recovered and increased to 37 in May 2021 and during 2022 . Made possible due to demand for additional services and a significant reduction in the demand for passenger services due to the Covid-19 pandemic which has opened up opportunities. 2023 - 32 daily freight services with the Port continuing to maximise length of each. 28% rail modal share 2018 and 2019. This again fell slightly in 2020 due to Covid-19 pandemic but is recovering again and back to 28% in 2021, 2022 and 2023.	Modal shift to rail is a top priority for the Port and senior managers liaise with Government frequently. The branch line improvement (opening of the Trimley Loop) has increased the theoretical freight capacity of the Branch Line to 45-47 daily paths, however there is a bottleneck at Ely. 2021 - the Port were advised that there were still a few freight service path opportunities available on the Felixstowe-Nuneaton corridor despite the lack of progress at Ely and elsewhere.
ESC7	Assessment of planning applications for impact on air quality	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Ongoing	Ongoing	ESC Environmental Health and Planning	ESC Environmental Health and Planning	NO	Funded	£50k - £100k	Implementation	Unknown	Number of Planning applications considered.	Officers in Environmental Protection work with Planning to ensure that each relevant application is appropriately assessed for air quality impacts and responses sent to Planning where necessary. Planning applications processed by Environmental Protection Team; 2018 =1,282, 2019 =1,075, 2020 =1,026, 2021 =1,024, 2022 =1,010, 2023 =1,119	The assessment process takes account of national guidance (including EPUK / IAQM) and local procedures. The Environmental Protection Team also deal with many requests for pre-application advice from applicants. Figures for planning applications processed do not include pre-application advice from 2019 onwards.
ESC8	Air quality included in the East Suffolk Council - Suffolk Coastal Local Plan (Core Strategy & Development Management Policies, Site Allocations and Area Specific Policies and Felixstowe Peninsula Area Action Plan)	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2013	2020	ESC Planning Department and Environmental Protection Team	ESC	NO	Funded	Unknown	Completed	Unknown	Adoption of Local Plan documents. Air quality considered in relevant planning applications.	The East Suffolk Council - Suffolk Coastal Local Plan to cover 2018-2036 was adopted September 2020. Officers in Environmental Protection work with Planning to ensure that each relevant application is appropriately assessed for air quality impacts and responses sent to Planning where necessary. Planning applications processed by Environmental Protection Team; 2018 =1,282, 2019 =1,075, 2020 =1,026, 2021 =1,024, 2022 =1,010, 2023 =1,119	This measure is to ensure that developments are appropriate and the air quality impacts are adequately assessed. 9,756 homes expected to be delivered between 2018-2036. Annual monitoring information available on website www.eastsuffolk.gov.uk/planning/planning-policy-and-local-plans/suffolk-coastal-local-plan/monitoring-information/ Air quality - key objective within the Sustainability appraisal framework against which all policies and site allocations have been assessed. Policy SCLP7.1: Sustainable Transport, SCLP7.2: Parking Proposals and Standards includes electric charge points and encourages park & ride sites, SCLP9.1: Low Carbon and Renewable Energy and SCLP9.2: Sustainable Construction, and Policy SCLP10.3: Environmental Quality.
ESC9	Promotion of travel alternatives in the Local Plan	Promoting Travel Alternatives	Promotion of walking	2013	2020	ESC Planning Department and Environmental Protection Team	ESC	NO	Funded	Unknown	Completed	Unknown	Sustainable travel included in the adopted Local Plan documents	Existing documents adopted and published in 2013 and 2017. The East Suffolk Council - Suffolk Coastal Local Plan to cover 2018-2036 was adopted September 2020.	Policy SCLP7.1: Sustainable Transport encourages people to use non-car modes of transport. Supports developments that integrate into pedestrian, cycle and public transport networks

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ESC11	Provision of information to the Public and commerce on reducing emissions from solid fuel and wood burning, including Ready to Burn campaign	Public Information	Via the Internet	2018	Ongoing	ESC	ESC	NO	Funded	< £10k	Implementation	Unknown	Information available on East Suffolk website. Information disseminated to the Public and commercial sectors.	Council website page on biomass and wood burning added and publicised. Article in Greenprint Forum newsletter. Information being sent out to any burning complaints. Information sent to 300 businesses in Suffolk, all Parish Councils, highlighted to all air quality Consultees during ASR 2017 Consultation, leaflets provided at Business drop-in events. Wood burning information promoted during Clean Air day 2019 and 2020 and updated on website. Information campaign undertaken Winter 2018, 2021, 2022 and 2023.	
ESC12	Greener travel information available on the SCC website	Promoting Travel Alternatives	Personalised Travel Planning	2017	2018	SCC	SCC	NO	Funded	Unknown	Completed	Unknown	Number of visitors to the website.	<p>SCC website updated for greener travel and travel planning.</p> <p>2018 - 5134 visitors to Local Links developer travel plans and 1056 to SCC travel plans websites.</p> <p>April 2019 'Local Links' pages moved to 'Suffolk on Board' pages. Apr-Dec - 877,825 visits. 1,175 visits to SCC Travel Plan pages.</p> <p>2020 - 100,000 users and 470,000 page views of Suffolk on Board. 3,059 SCC Travel Plan page views.</p> <p>2021 - 'Local Links' now merged with Suffolk Spokes and moved onto www.thewaytogosuffolk.org.uk. Supports businesses with travel plans and signposts to other webpages.</p> <p>Unable to obtain 2021 data.</p> <p>2022 = 250-500 monthly users and 600-900 page views per month of 'The Way To Go Suffolk' website.</p> <p>2023 - 90,887 visitors to 'The Way To Go Suffolk' website 28/6/23-31/12/23</p>	<p>http://www.suffolkonboard.com - information on greener travel including journey planning, business support and car sharing. Interesting trend seen from Mar to Sept 2020 (from start of lockdown to the present) showing consistently higher visits to cycling pages of Suffolk on Board. No data could be obtained in 2021 and in 2022 could only get data for 'The Way To Go Suffolk' website. In 2023 a change in system at SCC meant that data was only available for 28/6/23-31/12/23</p>
ESC13	Promotion of travel alternatives for staff at ESC	Promoting Travel Alternatives	Promotion of cycling	2013	Ongoing	ESC	ESC	NO	Funded	Unknown	Implementation	Unknown	Number of tax free bike 'Cycle 2 Work scheme' bike purchases. Miles undertaken by ESC staff and Members for work journeys	<p>Council promotes cycling and walking as a positive alternative form of travel for its staff. Tax free bike 'Cycle 2 Work scheme' started 2013.</p> <p>Oct 16 - Apr 18 - 19 bikes purchased. 2018/19 - 14 bikes, 2019/20 - 4 bikes, 2020/21 - 0 bikes, 2021/22 - 8 bikes, 2022/23 - 5 bikes, 2023 - 11 bikes</p> <p>Business mileage rate for cycling.</p> <p>Originally 4 pool bikes at East Suffolk House, reduced to 2 bikes in 2023 Staff and elected members recorded miles by bike: 2022/23 - 343.9 miles, 2023 - 495.7 miles</p>	<p>Riduna Park building has: covered and secure cycle parking/racks for 40 bikes, shower/changing/ drying facilities and lockers. Travel Survey 2017 indicated increased number of staff who cycle to work. Pool bikes not used during 2020 (Covid), back in use Summer 2021. From end 2021 Cycle 2 Work Scheme allows applications all year round - previously quarterly windows. Emergency Ride Home scheme in place.</p>

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ESC15	Installation of 11 Rapid Electric Vehicle Charging Units for Public use in Suffolk, Norfolk and Essex – planned site within Felixstowe	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2018	2019	Highways England. Babergh and Mid Suffolk DC lead for all points on behalf of all relevant local authorities. ESC involvement with the tender	Highways England	NO	Funded	Unknown	Completed	Unknown	For the Felixstowe charger within ESC; kWh of charge used and estimate of EV miles driven using this charge (2.93 miles per kWh per mile on average)	Rapid chargers installed by Highways England in Ipswich, UES Norwich, Bury St Edmunds, Felixstowe and Great Yarmouth. Rapid charger within Felixstowe in ESC installed and live from April 2019. 1/5/19-18/4/20 = 1,662.82 kWh used = 4,872 EV miles. 2022/23 = 1,878 sessions = 51,165 kWh used = 149,913 EV miles 2023/24 = 2,159 sessions = 50,388 kWh used = 147,637 EV miles	Babergh and Mid Suffolk District Councils are leading a Highways England funded project of seven local authorities, in Suffolk, Norfolk and Essex, working together to install 11 rapid charging points along strategic roads in East Anglia. The project supports the Government initiatives to increase the number of electric vehicles and end the sale of conventional petrol and diesel cars in the UK by 2040.
ESC19	SCC adoption of national award scheme for School Travel Plans	Promoting Travel Alternatives	School Travel Plans	2017	2019	SCC	SCC	NO	Funded	Unknown	Completed	Unknown	Adoption of scheme - completed. Number of schools signed up to scheme in ESC	Modeshift STARS scheme adopted by SCC. 12 schools formally signed up within ESC in June 2019 , increased to 14 in September 2020 and 16 in June 2021 . 2 schools in ESC have gained Bronze accreditation and 4 primary schools have been working on their travel plans in 2019/20 - these 4 schools are located in Oulton Broad, Carlton Colville, Lowestoft and Martlesham. 2022 - new process to obtain information on the Modeshift Stars schools - there are now 11 schools on the list within ESC. 2023 = 10 schools signed up, 5 of which are approved.	Free to use national award scheme for schools who have demonstrated excellence in supporting cycling, walking, and other forms of sustainable travel. Helps schools to write and monitor their travel plans https://www.suffolk.gov.uk/planning-waste-and-environment/planning-and-development-advice/travel-plans/school-travel-plans/ 2022 - new way to obtain information re Modeshift Stars through SCC list only 11 schools now signed up in ESC - no way to find out what happened regarding the other 5 that were signed up previously. No longer able to obtain information through Modeshift Stars regarding accreditation status.
ESC20	20 mph speed limit in Woodbridge	Traffic Management	Reduction of speed limits, 20mph zones	2016	2024	Woodbridge Town Council and Suffolk County Council (SCC)	Woodbridge Town Council and SCC with possible funding bid for CIL monies	NO	Not Funded	Unknown	Aborted	Marginal benefit in terms of emission reductions due to potential through traffic reduction	Reduction in measured average speed along routes	Proposal taken by Woodbridge Town Council to SCC Speed Limit Panel. Panel agreed the proposal for 20mph zones/limits on the central B1438 and historic core roads in Woodbridge. This will include the AQMA. Proposal confirming physical measures required as it must be self-enforcing. Funding being sought to take this forward. Once a scheme is in known with costings can look for funding avenues - one possibility is CIL. This measure is superceded by the Mini Holland Scheme for Woodbridge - see ESC 49 for further information. As such, this measure will be removed from the table next year.	Costings of physical works unknown. Potential success of any funding bid unknown. Need to ensure that proposals do not create any air quality concerns at locations along the route.

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ESC21	Third vehicular crossing of Lake Lothing - Gull Wing Lowestoft	Transport Planning and Infrastructure	Other	2010	2023	SCC	SCC	NO	Funded	> £10 million	Implementation	Unknown	Lake Lothing Third Crossing open. Reduction in NO ₂ concentrations in Lowestoft Town Centre (Bascule Bridge) and Oulton Broad	2020, the Secretary of State for Transport granted development consent for the Lake Lothing Third Crossing in Lowestoft and the Order came in to force. Construction delayed slightly and began April 2021. Gull Wing crossing opening due Autumn 2023. Opening delayed, now due 2024. Aims to reduce traffic congestion in Lowestoft, help regenerate the area and attract new investment for the local economy.	Lengthy timescale. Approximate costs in excess of £80million. Possible construction delays due to Covid-19. New crossing could result in a large reduction of traffic congestion in Oulton Broad and the Lowestoft Town Centre.
ESC25	East Suffolk Council - Waveney Local Plan (March 2019) covering the former Waveney Local Planning Authority area, excluding the Broads Authority area.	Policy Guidance and Development Control	Other policy	2019	2019	ESC	ESC	NO	Funded	Unknown	Completed	Unknown	Adoption of Local Plan documents. Air quality considered in relevant planning applications. Policies to promote alternative forms of travel. Planning applications processed by Environmental Protection Team	East Suffolk Council - Waveney Local Plan adopted March 2019. Covers period 2014-2036. Policy WLP8.21: Sustainable Transport also supports facilities for charging plug-in and ultra-low emission vehicles, WLP8.27: Renewable and low carbon energy and WLP8.28: Sustainable Construction. Planning applications processed by Environmental Protection Team are assessed for air quality impacts. No. processed; 2018 =1,282 2019 =1,075 2020 =1,026 2021 =1,024 2022 =1,010 2023 =1,119	Large and ambitious development plans in the former Waveney area require careful management. 9,235 homes expected to be delivered 2014-2036. Annual monitoring information available on website www.eastsuffolk.gov.uk/planning/planning-policy-and-local-plans/suffolk-coastal-local-plan/monitoring-information/ . Planning applications processed - 2019 onwards the figures do not include pre-application advice.
ESC27	East Suffolk Council Walking and Cycling Strategy	Promoting Travel Alternatives	Promotion of cycling	2016	2022	ESC	ESC	NO	Funded	Unknown	Completed	Unknown	Strategy adopted - Waveney Strategy completed. ESC Walking and Cycling Strategy adopted October 2022	Waveney DC Cycling Strategy formally adopted 2016, final draft published 2018. ESC extending this document across the whole of the Council to also include walking infrastructure and this will then supersede the Waveney Cycling Strategy. Initial public consultation October 2020 to look at where the gaps are. Draft Strategy produced Autumn 2021. Walking and Cycling Strategy approved 4th October 2022.	This measure originally related only to the Waveney DC Cycling Strategy which was adopted in 2016, measure now altered to ESC Cycling and Walking Strategy. Infrastructure gaps to be identified but funding opportunities may be problematic. We have created a cycle / foot route behind Morrisons in Felixstowe, from Grange Farm Rd to Grange Rd, this was completed December 2019. SCC will be undertaking further work to improve active travel on Grange Road - see ESC 51. Active Travel funding also obtained by SCC for Woodbridge - see ESC 50

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ESC 29	Air quality information/ education activities for primary schools within ESC including anti-idling events	Public Information	Via other mechanisms	2019	ongoing	ESC, SCC	ESC, SCC	NO	Funded	< £10k	Implementation	Unknown	Number of events	A temporary officer was employed and undertook 7 anti-idling events and 2 Air Quality Ambassador events at the Council Offices involving 8 schools in the lead up to Clean Air Day 2019. Graduate intern employed 2019/20, undertook an assembly on air pollution alongside an anti-idling event at an additional 8 schools in ESC. Could not physically go into schools during and just after the Covid-19 restrictions in 2020/21. Nov 2021 - theatre production company (funded by SCC) undertook online (due to covid) air quality performances at 9 schools in ESC and provided school resource packs - 'Abbie Ayre and the Shed of Science'. Clean Air Day schools resources promoted to all Suffolk schools by County Council June 2022. 10 more theatre productions in ESC schools undertaken 2023. Nitrogen dioxide monitoring undertaken outside those schools during 2023.	Graduate intern employed for 8 months to undertake this project. Graduate has now finished - unsure how this will be resourced going forward.
ESC 30	Promotion of cycling	Promoting Travel Alternatives	Promotion of cycling	Historic	2021	ESC and SCC	ESC and SCC	NO	Funded	Unknown	Implementation	Reduced vehicle emissions	Production of Cycling and Walking Strategy for ESC. Adopted Autumn 2022 - (see ESC27). Number of bikeability lessons delivered in schools within ESC.	ESC webpage on cycling. SCC webpages on cycling; SCC delivered 106 Bikeability courses within ESC September 2018 - July 19 (1,272 children). 2021 - 98 Bikeability courses within ESC (1,176 children). 2022 - 101 courses (1,212 children). 2023 - 3,769 year 5 and 6 students from schools across Suffolk have been trained to Bikeability Level 2. Unable to obtain breakdown for ESC in 2023. Park & Cycle from Martlesham Park & Ride to Ipswich Town Centre introduced - commuters can park for free and cycle into Ipswich.	ESC website https://www.eastsuffolk.gov.uk/leisure/cycling/ includes information on cycling in the district including information on the current Waveney Cycling Strategy and production of the new Cycling and Walking Strategy for ESC. SCC webpage https://www.suffolkonboard.com/cycle/ provides free cycle maps for Suffolk including within ESC - Beccles, Felixstowe, Halesworth, Lowestoft and Woodbridge together with information on cycling including the SCC Cycling Strategy. https://www.suffolk.gov.uk/children-families-and-learning/schools/walking-and-cycling-to-school/ provides information on cycling to school including bikeability
ESC 31	Electric Vehicles and EV charging points in Norse depots	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2020	ESC and Norse	ESC and Norse	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Provision of charge points. Provision of electric vehicles. Annual mileage driven by electric vehicles.	12 EV charge points installed at Suffolk Coastal Norse Depot Ufford and 8 EV charge point electric charge points installed at ESC and Waveney Norse depot Lowestoft. 7 electric vehicles based at Ufford and 1 at Lowestoft. Mileage undertaken by EVs; 2020/21 = 58,238 miles, 2021/22 = 76,369 miles, 2022/23 = 65,079 miles, July '23-April '24 = 67,108 miles	During 2023 all cars were changed in July for EV new hire cars. Difficulties obtaining EV mileage for the vehicles that were sent back (April-July 2023) so we only have July 2023 - April 2024 data

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ESC 32	Norse consultant assessed alternative fuels	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	2022	Norse	ESC and Norse	NO	Funded	Unknown	Planning	Reduced vehicle emissions	Number of vehicles using HVO	Ambition to migrate all of the existing Council fleet (including those used by our partners) to a low carbon alternative. Hydrogen technology will be investigated in the medium term (5+ years) with an interim solution to be chosen to take forward in 2021/22. Interim solution Hydrotreated Vegetable Oil (HVO); 2022 - 50 out of 51 Refuse Collection Vehicles using it and 8 Housing Fleet vehicles (see ESC 34). 2023 - 57 heavy Vehicles and 91 light vehicles using HVO	Hydrogen technology is not at the stage where it would be a feasible alternative at the current time for the Council's fleet so an interim solution is being looked at. Hydrogen technology will continue to be looked at in the medium term (5+ years).
ESC 33	The Lowestoft Town Centre Masterplan - improvements to cycling, walking and public transport	Transport Planning and Infrastructure	Other	2020	Unknown	ESC, Lowestoft Town Council, Lowestoft Vision, Suffolk County Council and Suffolk Chamber of Commerce	ESC	NO	Funded	Unknown	Planning	Unknown	n/a	Masterplan has moved into the Feasibility Stage and a bid for the Town Funds Money is being developed. Lowestoft Town Investment Plan 2021-31 developed with more detail on work planned and funding including that secured, requested from the Towns Fund and unfunded as yet. Gateway Improvements to Lowestoft Port and the Station Quarter and Cultural Quarter improvements are all planned to improve accessibility and connectivity for walking and cycling across the Town. Masterplan is also looking at a new public transport link connecting central Lowestoft along the north-south access - one idea is an electric tram system. Awaiting opening of Gull Wing bridge before any further work undertaken (see ESC 21)	The aim of this masterplan is to decrease traffic and emissions which hopes to encourage more cycling and pedestrian opportunities. This ideally will balance the different modes of travel through Station Square. All work in the Masterplan will need reviewing after the opening of the Gull Wing bridge as this should help ease congestion within the Town. The Masterplan links with the Lowestoft transport and infrastructure projects which aim to deliver improvements around Lowestoft including a key theme of sustainable travel and investment in pedestrian, cycle and bus infrastructure.
ESC 34	Fleet Migration for council and associated partners	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2020	On-going	ESC and Norse	ESC and Norse	NO	Funded	Unknown	Planning	Reduced vehicle emissions	Number of vehicles using Hydrotreated Vegetable Oil (HVO)	Ambition to migrate all of the existing Council fleet (including those used by our partners) to a low carbon alternative. Fleet Migration Plan developed 2021/22 for use of HVO Diesel. July 2022 – Hired 14 replacement Refuse Collection Vehicles (RCV) to give - 50 out of 51 using HVO. Housing fleet - 8 out of 78 vehicles using HVO. 2023 - 57 Heavy vehicles and 91 light vehicles using HVO plus 11 out of 78 Housing Fleet vehicles. This measure is incorporated into measure ESC 32. As such, this measure will be removed from the table next year and reported under ESC 32.	-

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ESC 35	ESC Air Quality Strategy Update	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2023	2025	ESC	ESC	NO	Funded	< £10k	Implementation	n/a	Adoption of Strategy. Strategy updates.	Strategy drafted and approved by ESC Cabinet June 2021. 1 year post created and filled for graduate to work on update information due 2023. Updated Strategy will include complete rewrite, draft due to be completed end of 2024 to take to ESC Members for approval.	
ESC 36	Port of Felixstowe Air Quality Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	2020	Port of Felixstowe	Port of Felixstowe	NO	Funded	Unknown	Implementation	n/a	Adoption of Strategy. Update provided every 3 years.	In December 2019 a Statement of Intent was produced followed by the Port Air Quality Strategy in 2020. Scheduled review of Strategy commenced 2023 to accommodate inclusion of the Port's decarbonisation plan. Update due 2024.	Strategy includes a number of measures to reduce emissions from the Port. The most relevant are included in measures above - ESC 1, 2 and 3. 2023 update will reflect air quality synergies from Hutchinson Ports decarbonisation strategy.
ESC 37	Quiet Lanes within ESC	Promoting Travel Alternatives	Other	2021	2023	Quiet Lanes Suffolk, East Suffolk Greenprint Forum, ESC, SCC, Babergh District Council, Mid Suffolk District Council, Mid Suffolk Council, Town & Parish Councils and Village Groups	ESC, East Suffolk Greenprint Forum, SCC 2020 Fund, Babergh District Council, Mid Suffolk District Council, Voluntary contributions from some participating parish councils	NO	Funded	£100k - £500k	Completed	Reduced vehicle emissions	Number of quiet lanes designated in ESC. Number of parishes with designations. March 2022 - 129 Quiet Lanes covering 36 parishes. March 2023 - 199 Quiet Lanes covering 61 parishes in ESC	13 Quiet Lanes were designated in 2013/14 spanning 7 parishes. March 2021 - 7 more Quiet Lanes designated in 2 more parishes. Up to 140 new designations applied for in ESC for 'Phase 2' later in 2021. March 2022 – 36 parishes within ESC with designated Quiet Lanes, comprising 129 Lanes. March 2023 project now complete and all funding spent. Total of 199 Quiet Lanes covering 61 Parishes and 229.4km of road in ESC.	Aim is to encourage more people to feel safe using their local rural roads by non-motorised means instead of their cars. A Quiet Lane is a nationally recognised designation of single track road (i.e. no line markings), typically with less than 1,000 vehicle use per day. Project also entails a high-profile awareness and behaviour change communications campaign aimed at drivers on the message of "Expect and Respect".
ESC 38	Katch a Lift - 1 year trial demand responsive bus service between Framlingham, Wickham Market, Campsea Ashe train station and Snape. Buzz About - trial 2 day a week demand responsive bus service covering Lowestoft, Gunton, Lound, St Olaves, Blundeston and Oulton	Alternatives to private vehicle use	Other	2020	2025	SCC (suffolkonboard), CarsSmart ESC, Framlingham Town Council, The East Suffolk Lines, Community Rail Partnership	SCC, ESC Community Partnership & the Community Rail Partnership	NO	Funded	£50k - £100k	Implementation	Reduced vehicle emissions	Viability of the service	'Katch a Lift' started as a 1 year trial subsidised demand responsive taxi service using an electric vehicle covering Framlingham, Wickham Market and Campsea Ashe train station. Started May 2021 but extended to Dec 2022 due to Covid-19 impacts. Scheme completed and taken over by ESC for a further 1 year trial using a diesel bus and adding Snape, Parham, Hacheston, Tunstall. Trial extended by ESC for a further 12 months to March 2025 to see whether passenger numbers can be boosted. Buzz About is a demand responsive bus service covering Lowestoft, Gunton, Lound, St Olaves, Blundeston and Oulton. It has been running for 2 years and has funding to continue for a further 2 years.	Private electric charge points installed at Campsea Ashe Station for the taxi. Taxi must be booked in advance using phone or app. Initial uptake may be slow due to public's response to Covid-19 pandemic. Katch-a-lift has been taken over by ESC to run for a further year between Framlingham and Snape via Wickham Market railway station, also including other towns but using a diesel bus not electric. The 2 electric buses used needed to be on charge 50% of the time as the coverage was insufficient which caused problems. Cost to hire the buses was very large. not viable. Buzz About runs on a Tuesday and Thursday and uses Government Funding to run - some areas covered do not have any other bus service to them.

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ESC 39	Installation of public electric vehicle charge points by ESC	Promoting Low Emission Transport	Other	2019	2021	ESC	ESC	NO	Funded	£50k - £100k	Completed	Reduced vehicle emissions	Number of sessions used, KWh of charge & number of EV miles driven	1 electric charge point installed at Woodbridge leisure centre - Sept 2019. 2 charge points at Bungay leisure centre- June 2021. Woodbridge 2020 - 173 sessions using 1,304 kWh = 3,820 EV miles. 2021 - 499 sessions using 5,325 kWh = 15,602 EV miles. 2022/23 - 557 sessions using 7,002 kWh = 20,515 EV miles. 2023/24 - 442 sessions using 6,608 kWh = 19,361 EV miles Bungay 2021 for 2 charge points - 169 sessions using 2,190 kWh = 6,416 EV miles. 2022/23 - 447 sessions using 6,008 kWh = 17,603 EV miles. 2023/24 - 497 sessions using 8,507 kWh = 24,926 EV miles	Mileage conversion factor: 1 kWh = 2.93 EV miles
ESC 41	SCC temporary trial cycling improvements in ESC	Transport Planning and Infrastructure	Cycle network	2020	2020	SCC	SCC via Central Government Transport Recovery Grant	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Number of trial schemes implemented. Number of schemes made permanent. 4 trial schemes implemented (2 in Beccles and 2 in Felixstowe) 3 made permanent and 1 removed in Beccles	4 temporary trial cycling schemes: Lowestoft Rd in Beccles between East of Beccles and Ellough Rd; Market Row to New Market in Beccles; Hamilton Rd in Felixstowe and High Road East & West in Felixstowe. Plans designed for Hamilton Rd Felixstowe trial to be made permanent. All schemes consulted on and waiting for summary of results. 3 schemes made permanent (both Felixstowe schemes and East of Beccles and Ellough Road). Market Row to New Market in Beccles removed at request of local councillors.	£1.685 million funding from central Government following Covid-19 pandemic has produced the Transport recovery Plan 2020 for Suffolk to be used for improving walking, cycling and public transport. All schemes were temporary trials only.
ESC 42	Small electric vehicle fleet at the Port of Felixstowe	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2021	2022	Port of Felixstowe	Port of Felixstowe	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Number of small fleet electric capable vehicles 2023 - 17 EV passenger cars and 6 EV small vans	The Port has added to its fleet of EV small vehicles to replace diesel vehicles and now operates 15 EV passenger cars and 2 EV small vans. All replacement vehicles will be zero emission from 2023 onwards. 2 EV cars and 4 EV vans were added in 2023 so fleet now comprises 17 EV passenger cars and 6 EV small vans.	-
ESC 43	Installation of electric charge points and electric pool vehicles at ESC Port Health Office, Felixstowe	Promoting Low Emission Transport	Other	2020	2021	ESC	ESC	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Charge point installed. Mileage undertaken	2021 - Charge point installed at 70 shed. 4 pool vehicles including 1 pure electric (purchased 2020) and 3 hybrids (purchased 2022) for staff work use. Mileage undertaken: 2021=807, 2022=14,002, 2023/24 = 25,696	With hybrid vehicles unsure if mileage undertaken is all via electric, but Journeys undertaken are short so likely to be via electric.

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ESC 44	'Go Jauntly' walking app covering areas in East Suffolk district	Promoting Travel Alternatives	Promotion of walking	2021	2022	ESC	ERDF Welcome Back Fund	NO	Funded	Unknown	Completed	Reduced vehicle emissions	Walking app available to public. Number of miles of trails on app in ESC. 70 miles of trails covering 12 towns in ESC	Spring 2022 Go Jauntly app made available to the public with ESC routes. 70 miles of walking trails covering Aldeburgh, Beccles, Bungay, Framlingham, Felixstowe, Halesworth, Leiston, Lowestoft, Saxmundham, Southwold, Wickham Market and Woodbridge.	-
ESC 45	Through the Suffolk Climate Change Partnership - ESC to reduce carbon emissions moving towards carbon neutral by 2030	Other	Other	2019	2030	ESC and Suffolk Climate Change Partnership including Environment Agency, Groundwork Suffolk and University of Suffolk	ESC, Suffolk Climate Change Partnership	NO	Partially Funded	Unknown	Implementation	Emission reductions across ESC	Project involvement 2021 - Small Grants Scheme. Environmental Guidance Note for building industry. Government's Green Homes Grant funding for energy efficiency measures for owner/occupiers. Sustainable Development Supplementary Planning Guidance adopted April 2022 (see ESC 48). Council fleet transfer onto HVO (see ESC 34). March 2023 - East Suffolk Climate Action Framework. East Suffolk Environment Task Group set up - cross-party group to analyse policies and identify areas for improvement. Task Group meets quarterly and reports to Cabinet. Intention is to thread the environment through all decisions, choices and policy formation. 2021 - Launch of Small Grants Scheme for projects to develop active sustainable travel. March 2023 - Production of East Suffolk Climate Action Framework - summarises our approach to tackling climate emergency and prioritises over 60 climate change related workstreams within East Suffolk Council. The Suffolk Climate Emergency Plan includes an 8-week e-bike trial in Lowestoft for staff working with Leading Lives. They have also commissioned an electric vehicle report to inform development of a Suffolk-wide EV Strategy to progress the EV infrastructure across the county.	-	

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ESC 46	Suffolk Air Quality Profile and production of Suffolk Air Quality Strategy	Other	Other	2020	2023	SCC Public Health & Communities, all Suffolk local authorities including ESC	SCC Public Health	NO	Funded	Unknown	Implementation	Emission reductions in Suffolk	Production of Air Quality Profile. Undertake Air Quality Summit. Develop SCC Air Quality Strategy and Action Plan. Develop Suffolk Community Engagement Plan. Develop Suffolk Air Quality Network	Suffolk Air Quality Profile published June 2021 aim is to increase understanding of public health impact of poor air quality on health in Suffolk and act as a catalyst for further action. As a results of the report air quality was made a priority by the Suffolk Health and Wellbeing Board. Air Quality Summit January 2022 for all County, District and Borough Councillors to increase air quality knowledge. Work on Suffolk-wide Air Quality Strategy and Action Plan progressed during 2022 with the draft completed and document published May 2023. Undertaken in conjunction with all Suffolk district and borough councils. 2023 - work started on Suffolk Community Engagement Plan. Through 2023 a Suffolk Air Quality Network made up of appropriate leads and stakeholders from across the county was explored with the University of Suffolk in discussion with stakeholders. First meeting November 2023 to shape it going forward	AQ Profile describes; the impact of poor air quality on the public's health; identifies areas of concern within Suffolk; what can be done to mitigate the harmful impact of poor air quality. The Suffolk Air Quality Summit covered an introduction to Air Quality, the effects of Air Pollution on Health and the current Air Quality situation across Suffolk. Suffolk Air Quality Strategy and Action Plan developed in partnership between Suffolk County Council's Public Health and Communities directorate and the Growth, Highways and Infrastructure directorate, with contributions from district and borough councils, NHS and the University of Suffolk. It can be seen at http://www.suffolk.gov.uk/airquality
ESC 47	Electric pool vehicle for ESC staff use at East Suffolk House	Promoting Low Emission Transport	Other	2015	2016	ESC	ESC	NO	Funded	£10k - 50k	Completed	Emission reductions across ESC	EV mileage undertaken (miles) 2016/17 = 1,378 2017/18 = 7,320 2018/19 = 7,444 2019/20 = 8,691 2020/21 = 3,944 2021/22 = 6,030 2022/23 = 4,749 2023/24 = 8,295	2016 - 2 EV charge points installed and electric pool vehicle available for staff use on ESC business	
ESC 48	East Suffolk Council Sustainable Construction Supplementary Planning Document (SPD)	Policy Guidance and Development Control	Other policy	2021	2022	ESC	ESC	NO	Funded	< £10k	Completed	Emission reductions in ESC	Production of Sustainable Construction SPD SPD adopted April 2022	Sustainable Construction SPD adopted April 2022. Includes information about how sustainable construction methods and materials used in new development can reduce the construction and operational impact on our environment, wildlife, climate change and health and wellbeing. Provides guidance on how the operating efficiency of existing buildings can be improved through retrofitting. Guidance includes; increasing energy efficiency, renewable and low carbon energy generation, reducing waste and carbon emissions. These will in turn also reduce emission to air associated with construction.	Supplementary Planning Documents expand upon policy and provide further detail to support the implementation of policies in Local Plans. Whilst not a part of the development plan, they are a material consideration in the determination of planning applications. The Local Plan policies, which this SPD provides guidance on, can be viewed on the Council's website: www.eastsuffolk.gov.uk/localplan

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ESC 49	Active Travel Woodbridge project	Other	Other	2021	2025	SCC, ESC, Woodbridge TC, Melton PC	Department for Transport funding for the feasibility study	NO	Partially Funded	Unknown	Planning	Emission reductions in Woodbridge and Melton	Submission of feasibility study. Funding obtained from DfT	In March 2022, SCC was one of 19 local authorities to be awarded funding by the Department for Transport (DfT) to develop a feasibility study for setting out how a Mini-Holland scheme could be implemented in Woodbridge and Melton. During 2022 data collection and engagement with the local community was undertaken in order to submit a feasibility study in 2023 to DfT (Active Travel) for funding. Bid successful and £4million funding from Active Travel England secured to deliver extensive walking, cycling and public realm improvements in Woodbridge Town Centre and £1million for the South of Woodbridge. Additional funding bid submitted. First phase of consultation on the project was undertaken early 2024, with feedback received on proposals in the southern section of the project area. A second round of consultation is planned in autumn 2024 related to town centre improvements and delivery is expected in 2025.	<p>This was originally proposed as a Mini-Holland scheme - these prioritise cyclists and pedestrians over motorised vehicles. Dft submission was March 2023 for Woodbridge and funding announced Summer 2023 - Woodbridge was successful. Scheme may be expanded and include Melton. 2024 - measure title altered from 'Mini-Holland scheme' to 'Active Travel Woodbridge project' on request of SCC.</p> <p>The project aims to significantly upgrade walking, wheeling and cycling routes to enable more people to undertake more trips by active modes, increasing sustainable travel choices for shorter trips and improving air quality.</p>
ESC 50	Active Travel Scheme - Grange Road, Felixstowe	Transport Planning and Infrastructure	Other	2021	2024	SCC	Active Travel England	NO	Funded	£1 million - £10 million	Planning	Emission reductions in Felixstowe	Active Travel Scheme completed	£1.3 million has been secured for an active travel scheme to encouraging cycling and walking through measures such as cycle lanes, shared-use paths and improved crossing points on roads on Grange Road to link between Ferry Lane and High Street in Felixstowe. Public Consultation on the scheme undertaken October/November 2023.	2023 SCC will consult with the public with a view to starting work in 2024
ESC 51	ESC Clean Hydrogen Strategy	Policy Guidance and Development Control	Other policy	2021	2022	ESC	ESC	NO	Funded	< £10k	Completed	Emission reductions in ESC	Strategy adopted Adopted early 2023	Adoption of a Clean Hydrogen Strategy - sets out how ESC can enable the emergence of the local hydrogen economy between 2023 and 2028.	Vision to establish East Suffolk as a nationally significant hub for the generation, distribution, innovation, and adoption of clean hydrogen as part of the collective ambition of the private and public sector to achieve net zero by 2030.
ESC 52	SCC Development of the Local Transport Plan - LTP4	Policy Guidance and Development Control	Other policy	2023	2024	SCC	SCC	NO	Funded	< £10k	Planning	Emission reductions in ESC	LTP4 adopted	The new Local Transport Plan (LTP4) is currently under development. The LTP will be focused on decarbonising transport in Suffolk, and this will have associated benefits for Air Quality, as the two issues are closely related. The LTP will contain a dedicated section on Air Quality. Initial Public Consultation on the key themes March 2024 - air quality included within the Health, Wellbeing and Inclusion theme.	LTP4 will cover 2024-2040. Includes following: 'improve air quality in Suffolk, focusing on areas where transport related air quality is shortening the lives of Suffolk residents the most.'

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ESC 53	Plug In Suffolk	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2022	2025	SCC	SCC	NO	Funded	Unknown	Implementation	Emission reductions in ESC	Adoption of Suffolk EV Charging Infrastructure Strategy. Number of EV charge points installed across Suffolk and in ESC district via Plug-In Suffolk	Suffolk EV Charging Infrastructure Strategy 2023-2028 adopted. 2023 - 100 charge points installed at 31 locations in Suffolk. Within ESC charge points installed at Beccles, Bungay, Carlton Colville, Framlingham, Grundisburgh, Rendlesham, Reydon, Saxmundham, Southwold and Ufford.	SCC has developed 'Plug In Suffolk' - a project to simplify the procedure of charging an electric car and make Suffolk Zero Emission Vehicle ready. Plug In Suffolk Community Grant available - first Phase heavily over-subscribed. Re-allocated to new Local Electric vehicle Infrastructure (LEVI) pilot funded second phase which has £7.3m funding. Will focus on 'on-street' charge point installation. Aim is to eventually cover almost every possible publicly accessible car park in Suffolk so that everyone who has a contactless payment system on them can use the chargers.
ESC 54	East Suffolk Council Healthy Environments Supplementary Planning Document (SPD)	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2023	2024	ESC	ESC	NO	Funded	< £10k	Implementation	Emission reductions in ESC	Production and adoption of Healthy Environments SPD	Initial consultation on scope and content produced responses used to produce the first draft. Draft Healthy Environments SPD consulted upon Nov 2023-Jan 2024. Document adoption planned mid-2024.	The Healthy Environments SPD provides guidance for the planning and design of new residential development (including mixed-use developments with an element of residential), streets, green infrastructure, schools, workplaces, community facilities, and/or new retail centres. Its focus is on Green Infrastructure, Active Travel, Healthy Homes, Schools & Workplaces, Healthy Centres & Community Facilities. It's aim is to provide Lifetime Neighbourhoods by bringing all of the essential elements together at development site level to provide high quality, healthy and inclusive neighbourhoods. The guidance will be used in the consideration of applications when assessing the design quality of proposed developments and their consistency with policies.
ESC 55	East Suffolk Council Local Validation List and guidance for planning applications	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2023	2024	ESC	ESC	NO	Funded	< £10k	Implementation	Emission reductions in ESC	Production and adoption of Local Validation List and guidance	Consultation held December 2023 to February 2024. List and guidance to be adopted 2024.	East Suffolk Council wish to adopt a 'Local Validation List' to sit alongside the 'National Validation List' in accordance with the National Planning Policy Framework (NPPF). All planning and planning related applications submitted to East Suffolk Council would need to comply with the requirements of the Local Validation List. Any applications that are submitted without all the necessary information for the application type/proposal will not be validated. The List will include information on the need for Air Quality Assessments for planning applications.

2.3 PM_{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy⁶, local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter (PM_{2.5}). There is clear evidence that PM_{2.5} (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

The Public Health Outcomes Framework (PHOF) indicator DO1 – Fraction of mortality attributable to particulate (PM_{2.5}) air pollution for 2022 gives a value of 5.6% for Suffolk which is slightly lower than that for whole of England at 5.8%.

In July 2022 ESC purchased a South Coast Science OPCube air quality monitor for gas and particulates which measures NO₂, PM₁₀ and PM_{2.5}. The Cube was deployed at a site in Little Bealings following public concern regarding dust from a waste processing site, resulting in lots of complaints regarding nuisance. The monitoring ran for 14 months and the annual mean PM_{2.5} concentration recorded at this location during that period was 10µg/m³ – further details are included in Section 3.2.2 and Appendix F.

The Cube was moved to another site within Worlingham in January 2024 which will be reported in our next ASR. ESC purchased a second Cube during 2023 which was also deployed on the district in Lowestoft in January 2024, results will be reported in our next ASR.

As ESC do not have results from reference method or equivalent monitoring for PM_{2.5} or PM₁₀ in 2023, the current [Defra background mapping resource](#) has been used to provide maximum background annual mean PM_{2.5} concentrations on a 1km grid square basis within ESC for 2023. Concentrations range from 7.4 µg/m³ to 11.5 µg/m³ across the district with the majority of sites showing concentrations between 7.8 µg/m³ and 8.8 µg/m³.

There are 4 grid squares with concentrations between 10.0 µg/m³ and 10.9 µg/m³, 3 of which are located along the A14 trunk road at Nacton, Bucklesham and Trimley St. Mary, and the fourth in the Love Road/Yeovil Road area of Lowestoft close to the football club.

⁶ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

The Council's SCS OPCube has been sited in Love Road, Lowestoft from January 2024. to provide us with additional information for this area.

There are 2 grid squares showing $11.0 \mu\text{g}/\text{m}^3$ and $11.5 \mu\text{g}/\text{m}^3$ which are located on the Ellough industrial estate and the Ellough side of Beccles respectively. The Council's SCS OP-Cube has been sited at the closest residential receptor locations downwind of the Ellough Industrial Estate in Worlingham from January 2024. This will provide us with additional information for the area.

East Suffolk Council is taking the following measures to address PM_{2.5}:

- The Suffolk Air Quality Group, of which ESC is a member, has engaged with Suffolk County Council (SCC) Public Health in order to move forward together with regard to tackling PM_{2.5}. SCC has produced the Healthy Suffolk Joint Strategic Needs Assessment (JSNA) which aims to accurately assess the health needs of the local population and underpins the Health and Wellbeing Strategy.

During the latter part of 2019 and in 2020, the Council, together with all the other Local Authorities across Suffolk worked with SCC Transport and Public Health colleagues to prepare an 'Air Quality Profile' report for Suffolk (measure ESC 46 in table 2.2). 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 and now forms part of the JSNA documents. 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 published in May 2023 and the start of the Suffolk Community Engagement Plan with members of the public across Suffolk.

The Suffolk Air Quality Strategy sets out the range of actions identified as being important to the improvement of air quality, along with who is the lead authority for the work, timescales for implementation, and what measurements or outcomes will be achieved. The Strategy can be viewed at [air-quality-strategy-and-action-plan \(suffolk.gov.uk\)](#)

The air quality engagement plan sets out the action SCC, working with borough and district partners, will take to raise awareness of the health impacts of air quality in

Suffolk. The aim is to increase awareness to enable individuals to make choices that protect both their health and the health of others from the harmful effects of pollution.

During 2023 SCC Public Health, in conjunction with the University of Suffolk and other stakeholders including ESC, explored creating a Suffolk Air Quality Network (SAQN) made up of appropriate leads and stakeholders from across the county. The first meeting was held in November 2023 to shape the SAQN.

We will continue to consult with SCC Public Health colleagues and be advised by them, and national guidance, on any relevant measures that will reduce exposure to PM_{2.5}.

- ESC, working in partnership with SCC and other potential partners, is committed to promoting alternative forms of transport and modes of travel such as cycling, walking, and use of public transport with the aim of reducing the reliance on private cars. SCC also has a number of its own measures. The promotion of active travel in the form of cycling and walking within the District has wider benefits and has strong links to the Public Health Outcomes Framework (PHOF) in terms of improving the health and wellbeing of the population, as well as improving the local air quality through reduced congestion and vehicle emissions;
 - ❖ The ESC Walking and Cycling Strategy approved in October 2022 (ESC 27) recognises the need for continued promotion of walking and cycling and for greater improvements to the infrastructure;
 - ❖ The ESC Lowestoft Town Centre Masterplan (ESC 33) aims to improve cycling and walking across the Town;
 - ❖ Travel alternatives included in the ESC Local Plan (ESC 9) and promotion of travel alternatives for ESC staff (ESC 13) will also impact positively in reducing emissions by promoting a change in travel culture and providing advice, support and infrastructure to encourage the use of other means of transport rather than the car;
 - ❖ SCC together with ESC and Woodbridge Town Council has recently been successful in a bid to Active Travel England for £5million to deliver extensive walking, cycling and public realm improvements in Woodbridge Town Centre and the South of Woodbridge (ESC 49). An additional Department for Transport funding bid has been submitted to expand the scheme in Woodbridge and include Melton (Melton Parish Council are also involved in this bid);

- ❖ SCC has recently been successful in a bid to Active Travel England for £1.3million to encourage cycling and walking through measures such as cycle lanes, shared-use paths and improved crossing points on roads on Grange Road to link between Ferry Lane and High Street in Felixstowe (ESC 50);
 - ❖ In 2022 three temporary trial cycling schemes have been made permanent by SCC: East of Beccles to Ellough Road in Beccles; Hamilton Road in Felixstowe and High Road East and West in Felixstowe (ESC 41);
 - ❖ Provision of Greener Travel Information by SCC (ESC 12);
 - ❖ Adoption of a national award scheme (Modeshift Stars) by SCC to assist schools with Travel Plans (ESC 19);
 - ❖ Promotion of cycling within Suffolk via enhanced webpages and bike-ability courses in schools (ESC 30);
 - ❖ Establishing Quiet Lanes across the County in partnership with local authorities and other bodies (ESC 37);
 - ❖ SCC Travel Demand promotion following the COVID-19 lockdowns to maintain and promote the positive travel habits that were used more widely during this time (ESC 40);
 - ❖ Launch of the 'Go Jauntly' app in Spring 2022 with 70 miles of walking trails within ESC (ESC 44); and
 - ❖ Martlesham Park and Cycle - a new scheme introduced by SCC for commuters into Ipswich – they can park for free and cycle into Ipswich. Includes use of a free bike locker or Sheffield bike stands and has downloadable cycle routes for all abilities. This scheme will reduce traffic in Ipswich but also that using the A1214 through Kesgrave and Rushmere St. Andrew within ESC. This is an additional scheme to those included within table 2.2.
- There are a number of measures related to increasing the use of electric vehicles (EVs) across both ESC district and Suffolk as a whole. Increased use of EVs will lead to exhaust emission reductions across the district;
 - ❖ Installation of EV charging units both on Council owned land and in the public domain (ESC 15, ESC 31, ESC 39, ESC 43 and ESC 53);
 - ❖ Increased EV use in the Council fleet and that of its partners (ESC 31, ESC 43 and ESC 47);
 - ❖ Increased EV use within private industry - the Port of Felixstowe (ESC 42);

- Reductions in PM_{2.5} emissions are targeted by the following ESC measures related to Planning:
 - ❖ Assessments of planning applications to consider their impact on air quality (STA 2 and ESC7);
 - ❖ Air quality is included in the new ESC Local Plan documents (ESC8);
 - ❖ Production and adoption of a new Healthy Environments SPD (ESC 54) and;
 - ❖ Production and adoption of a Local Validation List and associated guidance for planning applications (ESC 55).
- Emission reduction measures being undertaken by the Port of Felixstowe will aid to reduce emissions of PM_{2.5} both close to the Port boundary in Felixstowe and along the transport routes. Efficient power technologies fitted to Rubber-Tyred Gantry cranes (RTGs) – ECO-RTGs and electric RTGs replacement program in place (ESC 1); abatement technologies fitted to Internal Movement Vehicles and replacement program in place (ESC 2); increased use of rail to move freight (ESC 3); and production of the Port of Felixstowe Air Quality Strategy (ESC 36).
- Provision of information to the public and commerce on reducing emissions from solid fuel and wood burning (ESC11);
- Third vehicular crossing of Lake Lothing in Lowestoft. This will significantly reduce congestion and therefore PM emissions within Lowestoft (ESC 21);
- School Travel - delivering air quality information/education and anti-idling events at primary schools (ESC 29);
- The Traffic Regulation Order for the Thoroughfare, close to the Woodbridge AQMA, will reduce congestion at this junction by freeing up the left filter lane at the lights thereby smoothing the traffic flow (WBG3); and
- Possible A12 Stratford St. Andrew bypass would smooth the traffic flow thereby reducing PM_{2.5} emissions (measure STA 7).

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

This section sets out the monitoring undertaken within 2023 by East Suffolk Council (ESC) and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2019 and 2023 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

ESC undertook automatic (continuous) monitoring at one site in Woodbridge (within the revoked AQMA) during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The [East Suffolk District Council - Air Quality monitoring service \(airqualityengland.co.uk\)](https://airqualityengland.co.uk) page presents automatic monitoring results for ESC, with automatic monitoring results also available through the [UK-Air website](https://www.uk-air.org/).

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

ESC undertook non-automatic (i.e. passive) monitoring of NO₂ at 90 sites during 2023. Table A.2 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.

The diffusion tube network is updated as required in response to new potential sources of pollution, new receptors being introduced, proposed land development, or concerns raised by local residents. These are located with reference to the LAQM technical guidance. ESC added 15 new sites to the NO₂ monitoring network in 2023 across the district as follows:

- 11 new sites added outside primary schools across the district as part of the Theatre in Schools programme (see measure ESC 29 in Table 2.2 for further details) – St. Margarets, Roman Hill, Woods Loke and Gunton primary within Lowestoft, Oulton Broad Primary, Beccles Primary, Langer Primary in Felixstowe, Trimley St. Martin Primary, Martlesham Academy, Leiston Primary and Wickham Market Primary;
- Lowestoft – 2 sites added in Yarmouth Road and Colville Road following resident concerns surrounding traffic volumes;
- Halesworth – 1 site added at Market Place following resident concerns surrounding idling traffic;
- Bungay – 1 site replaced in Lower Olland Street due to resident information on the location of queuing and idling traffic in this locality.

The following 5 monitoring sites were removed at the end of 2022, to ensure that resources were allocated appropriately with reference to LAQM guidelines:

- LOW 15, BEC 6, WBG 26 and LTB 1 – these sites were all in place following concerns raised by the public. However, the 12-month monitoring survey confirmed annual mean concentrations at these sites were all low (maximum of $18.7\mu\text{g}/\text{m}^3$);
- BUN 2 – local resident information on the location of queuing and idling traffic and the presence of a street canyon in this locality (Lower Olland Street) led to removal of this site and replacement with a new site (BUN 3).

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 (NO₂)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of $40\mu\text{g}/\text{m}^3$. 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 (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2023 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.

Table A.5 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past five years with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year.

During 2023 the continuous analyser, located at a relevant receptor within the revoked AQMA at Woodbridge, recorded a good data capture rate of 99.41%. The monitor measured an annual mean NO₂ concentration of 21µg/m³. This is within the annual mean air quality objective of 40µg/m³ for the tenth year running with a trend of continued reduction over this time period. The 1-hour objective is set at 200µg/m³ not to be exceeded more than 18 times per year. The automatic analyser in Woodbridge did not record any 1-hour mean concentrations in excess of at 200µg/m³, thus achieving compliance with the 1-hour mean NO₂ air quality objective.

The results from diffusion tube monitoring show that there are no sites across the Council with annual mean concentrations at or above the objective level of 40µg/m³ in 2023. There are therefore also no instances of the annual mean exceeding 60µg/m³ in 2023 and therefore the risk of exceeding the 1-hour objective at any locations is very low.

Additionally, there were no diffusion tube locations which recorded a concentration outside of 10% of the air quality objective (i.e. any site above 36 µg/m³ and therefore close to, but not above, the objective level of 40µg/m³). The maximum annual mean concentration recorded was 28µg/m³, at triplicate site LOW 6, located next to the Bascule Bridge crossing of Lake Lothing in Lowestoft Harbour.

Trend graphs showing annual mean NO₂ concentrations at the automatic analyser and all diffusion tube sites within the district with 5 years or more of data are presented in Appendix A: Monitoring Results, Figure A.1.

Monitoring locations across the Council have seen overall decreasing annual mean NO₂ concentrations during the last 5 years. Concentrations in 2020 reduced at all monitoring locations, which is likely due to the impact of Covid-19 and associated travel restrictions in 2020. During 2021 Covid-19 traffic restrictions were fewer, and in 2022 restrictions had ceased. NO₂ concentrations at the majority of sites responded to the lessening of the restrictions on traffic flows by showing a slight increase in 2021 and at some sites also in 2022. The overall trend at all sites in East Suffolk, with the exception of BEC 3 and BEC

5a,b,c discussed below, is one of reduction in annual mean NO₂ concentrations between 2019 and 2023.

NO₂ concentrations at BEC 3 and BEC 5a,b,c have shown a decrease between 2022 and 2023, but not to below those figures recorded in 2019 (pre-Covid-19). 2023 concentrations are 26.5µg/m³ and 23.2µg/m³ respectively - well within the objective level of 40µg/m³. Both locations are at Ingate, close to the railway crossing in Beccles. We will continue to monitor at these locations for the foreseeable future to check concentrations.

In July 2022 ESC purchased a South Coast Science OPCube air quality monitor for gas and particulates which measures NO₂, PM₁₀ and PM_{2.5}. The Cube was deployed at a site in Little Bealings following public concern regarding emissions from a waste processing site, resulting in complaints regarding nuisance. The monitoring ran from 22nd July 2022 until 8th October 2023.

The SCS OPCube is not currently MCERTS certified for indicative monitoring of particulates, although it is currently in the process of being assessed. Advice was sought from the LAQM Helpdesk who advised that at present, low cost sensors are not suitable for measuring annual mean or exceedances as they are still not reference method equivalent instruments. Indicative monitoring data should therefore not be included in any annual reporting tables. Siting information and a data summary is instead presented in Appendix E. Data collection and management was undertaken by Ricardo which included co-location with a reference analyser at the start of the monitoring and after a 6-month period to increase accuracy of data collected.

The results of the NO₂ monitoring gave a period mean of 20 µg/m³ with no hourly means above 200 µg/m³ over the 14-month period.

3.2.2 Particulate Matter (PM₁₀)

In July 2022 ESC purchased a South Coast Science OPCube air quality monitor for gas and particulates which measures NO₂, PM₁₀ and PM_{2.5}. The Cube was deployed at a site in Little Bealings following public concern with dust from a waste processing site, resulting in complaints regarding nuisance. The monitoring ran from 22nd July 2022 until 8th October 2023.

The SCS OPCube is not currently MCERTS certified for indicative monitoring of particulates, although it is currently in the process of being assessed. Advice was sought from the LAQM Helpdesk who advised that at present, low cost sensors are not suitable

for measuring annual mean or exceedances as they are still not reference method equivalent instruments. Indicative monitoring data should therefore not be included in any annual reporting tables. Siting information and a data summary is instead presented in Appendix E. Data collection and management was undertaken by Ricardo which included co-location with a reference analyser at the start of the monitoring and after a 6-month period to increase accuracy of data collected.

The results of the PM₁₀ monitoring gave a period mean of 17 µg/m³ and showed 2 days where the mean was >50 µg/m³ over the 14-month period. The monitoring period covered two sets of summer months where the weather was dryer and we may expect to see any impacts related to fugitive dust emissions from the site of concern. The highest levels of PM₁₀ were recorded in February 2023 and generally on a Sunday - not a working day for the site of concern.

A second Cube was purchased during 2023 and deployed at a domestic property within Worlingham at the start of 2024. Details regarding this monitoring together with the results will be presented in ESC's next ASR.

3.2.3 Particulate Matter (PM_{2.5})

In July 2022 ESC purchased a South Coast Science OPCube air quality monitor for gas and particulates which measures NO₂, PM₁₀ and PM_{2.5}. The Cube was deployed at a site in Little Bealings following public concern with dust from a waste processing site, resulting in complaints regarding nuisance. The monitoring ran from 22nd July 2022 until 8th October 2023.

The SCS OPCube is not currently MCERTS certified for indicative monitoring of particulates, although it is currently in the process of being assessed. Advice was sought from the LAQM Helpdesk who advised that at present, low cost sensors are not suitable for measuring annual mean or exceedances as they are still not reference method equivalent instruments. Indicative monitoring data should therefore not be included in any annual reporting tables. Siting information and a data summary is instead presented in Appendix E. Data collection and management was undertaken by Ricardo which included co-location with a reference analyser at the start of the monitoring and after a 6-month period to increase accuracy of data collected.

The results of the PM_{2.5} monitoring gave a period mean of 10 µg/m³ over the 14-month period. The monitoring period covered two sets of Summer months where the weather was dryer and we may expect to see any impacts related to fugitive dust emissions from

the site of concern. Fine particles also peaked in February 2023 (as for PM₁₀) and April 2023. They were generally found to be higher on a Sunday and overnight - not working hours for the site of concern.

A second Cube was purchased during 2023 and deployed at a domestic property within Worlingham at the start of 2024. Details regarding this monitoring together with the results will be presented in ESC's next ASR.

3.2.4 Sulphur Dioxide (SO₂)

ESC does not undertake monitoring for SO₂.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
WBG	Woodbridge Junction	Roadside	627596	249261	NO2	No	ozone chemi-luminescence	0	1.2	2.6

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 – 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) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
LOW 1	Belvedere Road (LP F2850)	Roadside	654606	292625	NO2	No		2.5	No	1.9
LOW 2	Lamppost at 1 Fir Lane (LP 1742)	Kerbside	653209	293785	NO2	No	6.0	0.5	No	1.8
LOW 3	Lamppost at 8 Mill Road (LP F185)	Kerbside	654477	292395	NO2	No	6.8	1.2	No	1.9
LOW 5	St Margarets Church	Urban Background	654065	294200	NO2	No			No	1.7
LOW 6a,b,c	9 Pier Terrace	Roadside	654690	292625	NO2	No	0.0	2.5	No	1.8
LOW 7	Belvedere Rd / London Rd South	Roadside	654671	292601	NO2	No	7.0	2.5	No	1.7
LOW 8	Levington Court, London Rd South	Roadside	654660	292571	NO2	No	0.0	5.7	No	1.7
LOW 9	Lampost at 24/26 Denmark Road	Roadside	654723	292914	NO2	No	9.4	2.3	No	1.8
LOW 11	Stradbroke Road / Bloodmoor Road	Roadside	652552	290427	NO2	No	0.0	8.3	No	1.8
LOW 12	21 Rotterdam Road	Suburban	654200	294039	NO2	No	0.0	16.8	No	1.9
LOW 13	Lampost at 252/254 Denmark Rd	Kerbside	654049	292963	NO2	No	0.5	0.9	No	1.7
LOW 14	1 Fir Lane (house)	Roadside	653228	293811	NO2	No	0.0	9.1	No	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) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
LOW 16	Lampost opp. Church of Jesus Christ and Latter Day Saints, Yarmouth Road	Roadside	654050	295124	NO2	No	10.0	3.0	No	1.5
LOW 17	St Margaret's CPS, Church Road	Other	654529	294055	NO2	No	11.2	4.8	No	1.8
LOW 18	Roman Hill CPS, Avondale Road	Other	654239	293329	NO2	No	4.2	1.6	No	2.1
LOW 19	Woods Loke CPS, Butley Drive	Other	652941	294371	NO2	No	88.2	1.0	No	1.8
LOW 20	Gunton CPS, Gainsborough Drive	Other	654033	295688	NO2	No	48.9	3.7	No	1.9
LOW 21	Downpipe on 165 Colville Road	Roadside	652156	291773	NO2	No	0.0	9.6	No	1.5
OBR 1	Saltwater Way/ 164 Bridge Road (LP F2263)	Roadside	652046	292503	NO2	No	6.0	3.2	No	1.9
OBR 2	Drainpipe on 31 Bridge Road opp. Golden Court	Roadside	652304	293021	NO2	No	0.0	4.3	No	2.0
OBR 4	12 Beccles Road (the low house)	Roadside	651869	292127	NO2	No	0.0	5.2	No	0.9
OBR 5	181 Normanston Drive	Roadside	652554	293282	NO2	No	0.0	6.4	No	1.7
OBR 6	Oulton Broad CPS, Christmas Lane	Other	651389	293664	NO2	No	22.5	2.6	No	2.1

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) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BEC 1	10 Ingate (by crossing)	Roadside	642615	289909	NO2	No	0.0	1.3	No	1.8
BEC 3	Fredricks Road cycle sign	Roadside	642553	289922	NO2	No	0.0	1.5	No	1.8
BEC 4	1 Ingate	Roadside	642564	289922	NO2	No	0.0	1.3	No	1.7
BEC 5a,b,c	11 Ingate	Kerbside	642592	289916	NO2	No	0.0	0.9	No	1.8
BEC 7	20A London Road, Beccles (A145)	Roadside	644220	290213	NO2	No	0.0	1.5	No	1.8
BEC 8	Beccles CPS, Ellough Road	Other	643278	289636	NO2	No	78.8	2.3	No	1.9
HLW 2	Downpipe on 3a Market Place	Roadside	638599	277407	NO2	No	0.0	2.1	No	2.0
BUN 1	1 Trinity Street	Roadside	633670	289817	NO2	No	0.0	1.6	No	2.0
BUN 3	51 Lower olland Street	Roadside	633815	289511	NO2	No	0.0	1.4	No	1.9
BLY 1	Menagwins, Chapel Road	Roadside	645183	275218	NO2	No	0.0	1.3	No	1.8
FLX 12	119 Hamilton Road	Roadside	630363	234890	NO2	No	0.0	5.0	No	1.8
FLX 14	1 Adastral Close	Industrial	628604	232847	NO2	No	0.0	5.8	No	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) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
FLX 17	38 Spriteshall Lane, Trimley St Mary	Suburban	628817	236323	NO2	No	0.0	31.0	No	2.0
FLX 20	73 Glemsford Close	Suburban	628669	233979	NO2	No	10.0	54.0	No	2.0
FLX 21	4 Kings Fleet Road	Suburban	629253	234431	NO2	No		1.5	No	2..3
FLX 22	13 Levington Road	Industrial	629172	233446	NO2	No	0.0	9.0	No	1.8
FLX 23	23 Heathgate Piece, Trimley St Mary	Suburban	628542	236592	NO2	No	0.0	25.0	No	2.0
FLX 24	22 Brandon Road	Suburban	628358	234634	NO2	No	0.0	32.0	No	2.5
FLX 26a,b,c	Dooley Inn, Ferry Lane front	Roadside	627959	234246	NO2	No	0.0	13.0	No	3.4
FLX 39	424 High Rd, Trimley St Mary	Roadside	628760	236071	NO2	No	0.0	11.0	No	1.6
FLX 44	Langer CPS, Langer Road	Other	629397	233642	NO2	No	0.0	12.0	No	1.5
TRM 3	216 High Road, Trimley St Martin	Roadside	627618	237092	NO2	No	0.0	1.8	No	1.9
TRM 4	Lampost 421, 205 High Road, Trimley St Martin	Roadside	627613	237080	NO2	No	0.0	1.6	No	1.9
TRM 5	McColls, High Rd, Trimley St Martin	Roadside	627629	237078	NO2	No	0.0	4.2	No	1.7

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TRM 8	Lampost 299 O/S 69 High Road, Trimley St Mary	Roadside	628270	236266	NO2	No	1.8	1.4	No	1.9
TRM 10	293 High Street, Walton	Roadside	629340	235737	NO2	No	0.0	2.9	No	2.0
TRM 12	193 Pink House, Walton	Roadside	629641	235529	NO2	No	0.0	2.3	No	2.0
TRM 13	Trimley St Martin CPS, Kirton Road	Other	627555	238614	NO2	No	3.0	1.9	No	1.9
KSG 9	118 Main Road	Roadside	621680	245796	NO2	No		2.6	No	1.8
KSG 10a,b,c	The Bell Inn, Main Road (front window)	Roadside	621815	245785	NO2	No	0.0	2.7	No	1.6
MEL 5	6 The Street	Roadside	628145	250417	NO2	No	0.5	3.6	No	1.9
MEL 7	28 The Street	Kerbside	628177	250478	NO2	No	0.0	0.3	No	1.7
MRT 1a,b,c	Horseman Court	Suburban	624633	245447	NO2	No	0.0	21.0	No	1.7
MRT 9	Martlesham Primary Academy, Black Tiles Lane	Other	624338	246573	NO2	No	12.0	1.2	No	1.7
LGM 2	Carlton Lodge, Main Road	Roadside	634051	258315	NO2	No	0.0	6.3	No	1.7
FAR 1	Turret House, The Street	Roadside	636273	260134	NO2	No	0.0	1.9	No	1.8

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) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
FAR 2a,b,c	Post Office Stores, The Street	Roadside	636274	260120	NO2	No	0.0	1.4	No	1.9
STA 1a,b,c	1 Long Row, Main Road	Roadside	635753	260002	NO2	Yes, AQMA No. 3 - Stratford St. Andrew	0.0	2.0	No	1.6
STA 2	Road sign opposite Long Row	Roadside	635732	259995	NO2	No		1.7	No	1.8
STA 6	Jacobs Cottage, Main Road	Roadside	635794	260042	NO2	No	0.0	7.0	No	2.0
STA 7	30mph sign, Long Row	Roadside	635736	259984	NO2	No		1.9	No	1.7
STA 8a,b,c	5 Long Row, Main Road	Roadside	635743	259992	NO2	Yes, AQMA No. 3 - Stratford St. Andrew	0.0	2.0	No	1.6
THEB 1	BT Telegraph Pole, Leiston Road (opp. Lion Inn PH)	Kerbside	643797	265815	NO2	No	1.0	0.9	No	2.0
MID 1	Downpipe on 2 The Moor	Roadside	641611	267791	NO2	No	0.0	2.5	No	2.0
YOX 1	Brook Street (outside Kings Head PH)	Roadside	639647	268740	NO2	No	0.0	1.4	No	2.0
YOX 2	Cavan Cottage, High Street	Roadside	639693	268778	NO2	No	0.0	3.4	No	1.8

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) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SAX 1	30 Church Street	Roadside	638683	263014	NO2	No	0.0	1.0	No	1.8
LEI 2	Lamppost 4 Sizewell Road	Roadside	644557	262464	NO2	No	0.5	1.4	No	2.2
LEI 3	White Horse Hotel, Station Rd	Roadside	644325	262634	NO2	No	0.0	2.3	No	1.9
LEI 4	SCC Lamp-post 738, Sylvester Road	Roadside	644843	262483	NO2	No	8.4	1.6	No	2.1
LEI 5	Leiston CPS, King George Avenue	Other	645055	262522	NO2	No	15.8	3.3	No	1.8
TUN 1	Downpipe, The Old Bakery, Snape Rd	Kerbside	636110	255114	NO2	No	0.0	0.5	No	1.9
MLS 1	Outside Ernest Doe, Main Road A12	Roadside	632734	257733	NO2	No	5.0	1.8	No	1.6
WKM 1	Lampost at 32 High Street	Roadside	630180	255718	NO2	No	0.0	1.5	No	1.9
WKM 2	Drainpipe on 70a High Street	Kerbside	630164	255904	NO2	No	0.0	0.6	No	2.0
WKM 3	Wickham Market CPS, Dallinghoo Rd	Other	629860	255783	NO2	No	22.0	2.7	No	1.7
WBG 1a,b,c	93 Thoroughfare	Roadside	627596	249261	NO2	No	0.0	1.3	Yes	2.4
WBG 3	8 Kingston Farm Road	Suburban	626997	248488	NO2	No		1.0	No	1.9

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) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
WBG 5	Suffolk Place corner	Roadside	627604	249243	NO2	No	0.0	2.5	No	2.3
WBG 8	95 Thoroughfare	Roadside	627601	249283	NO2	No	1.0	1.6	No	2.4
WBG 10	St John's Street signpost	Roadside	627570	249240	NO2	No	0.5	1.2	No	2.1
WBG 12	8 Lime Kiln Quay Road	Roadside	627664	249203	NO2	No	0.5	5.0	No	1.8
WBG 13	Traffic lights at 85 Thoroughfare	Roadside	627585	249239	NO2	No	2.5	1.8	No	1.9
WBG 18	106/108 Thoroughfare	Roadside	627627	249339	NO2	No	0.0	1.1	No	2.2
WBG 20	97 Thoroughfare	Roadside	627604	249295	NO2	No	0.0	2.6	No	1.9
WBG 24	Downpipe, 29 Grove Road (Southbound)	Roadside	626026	249631	NO2	No	0.0	9.7	No	1.7
WBG 25	Downpipe, 6 Grove Road (Northbound)	Roadside	626038	249389	NO2	No	0.0	7.8	No	2.0

Notes:

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
WBG	627596	249261	Roadside	99.41	99.41	31	25	25	23	21

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

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

☒ Where exceedances of the NO₂ annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2023

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

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%).

Table A.4 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
LOW 1	654606	292625	Roadside	92.3	92.3	28.0	22.4	23.8	24.6	21.5
LOW 2	653209	293785	Kerbside	100	100.0	29.5	24.2	23.4	25.4	23.6
LOW 3	654477	292395	Roadside	100	100.0	20.3	16.0	19.3	18.6	15.1
LOW 5	654065	294200	Urban Background	100	100.0	13.7	10.7	11.0	11.1	9.3
LOW 6ab,c	654690	292625	Roadside	100	100.0	33.2	29.3	33.2	32.6	28.0
LOW 7	654671	292601	Roadside	100	100.0	30.3	24.8	27.8	29.2	25.3
LOW 8	654660	292571	Roadside	82.7	82.7	20.7	17.6	18.8	19.9	17.3
LOW 9	654723	292914	Roadside	100	100.0	27.9	24.6	24.1	26.5	23.6
LOW 11	652552	290427	Roadside	92.3	92.3	25.7	20.9	22.8	21.9	21.0
LOW 12	654200	294039	Suburban	100	100.0		12.2	13.4	14.9	12.4
LOW 13	654049	292963	Kerbside	100	100.0		16.7	17.9	19.9	14.0
LOW 14	653228	293811	Roadside	100	100.0		15.9	15.4	16.2	14.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
LOW 16	654050	295124	Roadside	100	100.0					20.0
LOW 17	654529	294055	Other	100	92.3					11.1
LOW 18	654239	293329	Other	90.9	84.6					12.3
LOW 19	652941	294371	Other	100	92.3					9.6
LOW 20	654033	295688	Other	90.9	82.7					9.1
LOW 21	652156	291773	Roadside	100	84.6					10.3
OBR 1	652046	292503	Roadside	100	100.0	27.5	21.0	23.0	23.6	21.6
OBR 2	652304	293021	Roadside	92.3	92.3	22.1	18.4	20.1	19.7	18.5
OBR 4	651869	292127	Roadside	100	100.0	21.8	18.3	18.8	19.6	17.2
OBR 5	652554	293282	Roadside	100	100.0	19.4	15.6	16.1	16.6	15.5
OBR 6	651389	293664	Other	100	92.3					9.6
BEC 1	642615	289909	Roadside	82.7	82.7	23.3	18.0	19.1	19.1	17.1
BEC 3	642553	289922	Roadside	100	100.0	33.6	25.3	25.7	27.7	26.5
BEC 4	642564	289922	Roadside	100	100.0	20.8	16.9	18.7	19.2	16.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
BEC 5a,b,c	642592	289916	Kerbside	100	100.0	29.3	22.7	26.1	25.5	23.2
BEC 7	644220	290213	Roadside	90.4	90.4			14.8	14.7	12.8
BEC 8	643278	289636	Other	81.8	75.0					9.8
HLW 2	638599	277407	Roadside	100	100.0					8.3
BUN 1	633670	289817	Roadside	100	100.0	26.1	21.2	22.2	22.2	19.6
BUN 3	633815	289511	Roadside	100	84.6					19.1
BLY 1	645183	275218	Roadside	100	100.0	28.2	21.1	23.3	23.5	20.4
FLX 12	630363	234890	Roadside	100	100.0	23.3	19.8	20.1	19.2	18.2
FLX 14	628604	232847	Industrial	90.4	90.4	24.1	21.9	22.0	20.5	20.5
FLX 17	628817	236323	Suburban	100	100.0	20.4	17.3	17.8	17.8	15.2
FLX 20	628669	233979	Suburban	92.3	92.3	27.5	25.1	22.1	20.8	19.7
FLX 21	629253	234431	Suburban	100	100.0	20.0	17.7	17.3	16.5	15.8
FLX 22	629172	233446	Industrial	100	100.0	20.1	18.2	17.3	15.9	17.8
FLX 23	628542	236592	Suburban	90.4	90.4	24.7	20.3	21.9	21.8	19.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
FLX 24	628358	234634	Suburban	100	100.0	22.6	21.0	20.7	19.5	18.1
FLX 26a,b,c	627959	234246	Roadside	100	100.0	32.3	28.9	30.1	28.3	26.6
FLX 39	628760	236071	Roadside	100	100.0	22.6	18.7	18.8	19.4	16.8
FLX 44	629397	233642	Other	100	92.3					13.7
TRM 3	627618	237092	Roadside	100	100.0	23.0	19.1	19.8	18.8	16.8
TRM 4	627613	237080	Roadside	100	100.0	25.1	21.4	20.9	20.6	17.2
TRM 5	627629	237078	Roadside	100	100.0	21.9	18.5	19.6	18.8	16.6
TRM 8	628270	236266	Roadside	100	100.0	27.0	23.2	23.6	23.1	19.3
TRM 10	629340	235737	Roadside	100	100.0	26.6	22.2	22.2	21.6	20.5
TRM 12	629641	235529	Roadside	76.9	76.9	23.7	20.5	20.9	20.4	18.8
TRM 13	627555	238614	Other	100	92.3					14.1
KSG 9	621680	245796	Roadside	100	100.0	29.1	22.7	22.2	24.0	22.8
KSG 10a,b,c	621815	245785	Roadside	100	100.0	32.3	24.9	26.5	26.2	23.4
MEL 5	628145	250417	Roadside	100	100.0	24.2	20.4	19.9	20.2	19.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
MEL 7	628177	250478	Kerbside	100	100.0	23.7	17.2	19.2	19.2	17.6
MRT 1a,b,c	624633	245447	Suburban	100	100.0	22.3	18.5	19.5	19.5	17.4
MRT 9	624338	246573	Other	100	92.3					10.9
LGM 2	634051	258315	Roadside	100	100.0	17.1	14.7	14.0	14.2	13.5
FAR 1	636273	260134	Roadside	100	100.0	21.2	17.0	17.8	17.4	16.1
FAR 2a,b,c	636274	260120	Roadside	100	100.0	24.4	19.0	20.3	19.7	17.9
STA 1a,b,c	635753	260002	Roadside	100	100.0	32.3	23.8	26.0	25.9	22.6
STA 2	635732	259995	Roadside	100	100.0	24.6	14.9	15.8	16.0	13.0
STA 6	635794	260042	Roadside	100	100.0	20.2	15.8	16.8	18.1	15.0
STA 7	635736	259984	Roadside	100	100.0	28.0	20.4	22.6	21.2	18.7
STA 8a,b,c	635743	259992	Roadside	100	100.0	36.2	27.4	28.3	29.3	26.2
THEB 1	643797	265815	Kerbside	100	100.0		14.8	16.1	15.2	14.4
MID 1	641611	267791	Roadside	100	100.0		8.7	8.4	7.8	7.4
YOX 1	639647	268740	Roadside	100	100.0		13.8	13.6	14.3	13.0

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
YOX 2	639693	268778	Roadside	100	100.0				9.6	9.3
SAX 1	638683	263014	Roadside	100	100.0	27.8	20.7	25.1	22.5	21.8
LEI 2	644557	262464	Roadside	100	100.0	22.7	18.6	20.1	19.3	17.9
LEI 3	644325	262634	Roadside	92.3	92.3	21.8	17.8	19.3	18.4	18.1
LEI 4	644843	262483	Roadside	100	100.0				10.0	9.6
LEI 5	645055	262522	Other	100	92.3					9.8
TUN 1	636110	255114	Kerbside	100	100.0		13.1	13.5	12.8	11.1
MLS 1	632734	257733	Roadside	92.3	92.3			19.6	19.1	18.6
WKM 1	630180	255718	Roadside	100	100.0			13.7	13.2	12.0
WKM 2	630164	255904	Kerbside	100	100.0			18.6	17.5	16.7
WKM 3	629860	255783	Other	100	92.3					7.3
WBG 1a,b,c	627596	249261	Roadside	100	100.0	33.7	25.2	24.3	22.9	20.9
WBG 3	626997	248488	Suburban	100	100.0	13.1	10.3	9.6	8.9	8.3
WBG 5	627604	249243	Roadside	100	100.0	20.9	16.0	15.9	14.8	13.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
WBG 8	627601	249283	Roadside	92.3	92.3	32.5	24.5	23.8	22.2	20.4
WBG 10	627570	249240	Roadside	100	100.0	24.3	16.9	16.7	16.4	14.6
WBG 12	627664	249203	Roadside	100	100.0	21.5	16.3	14.8	14.4	13.2
WBG 13	627585	249239	Roadside	100	100.0	27.1	20.5	20.6	19.3	16.9
WBG 18	627627	249339	Roadside	92.3	92.3	29.9	22.5	21.0	20.9	19.3
WBG 20	627604	249295	Roadside	100	100.0	30.3	23.5	22.2	20.9	19.8
WBG 24	626026	249631	Roadside	100	100.0		23.1	21.0	20.2	16.3
WBG 25	626038	249389	Roadside	100	100.0		18.7	18.2	15.9	14.4

☒ 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 NO₂ annual mean objective of 40 $\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO₂ annual means exceeding 60 $\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO₂ 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.

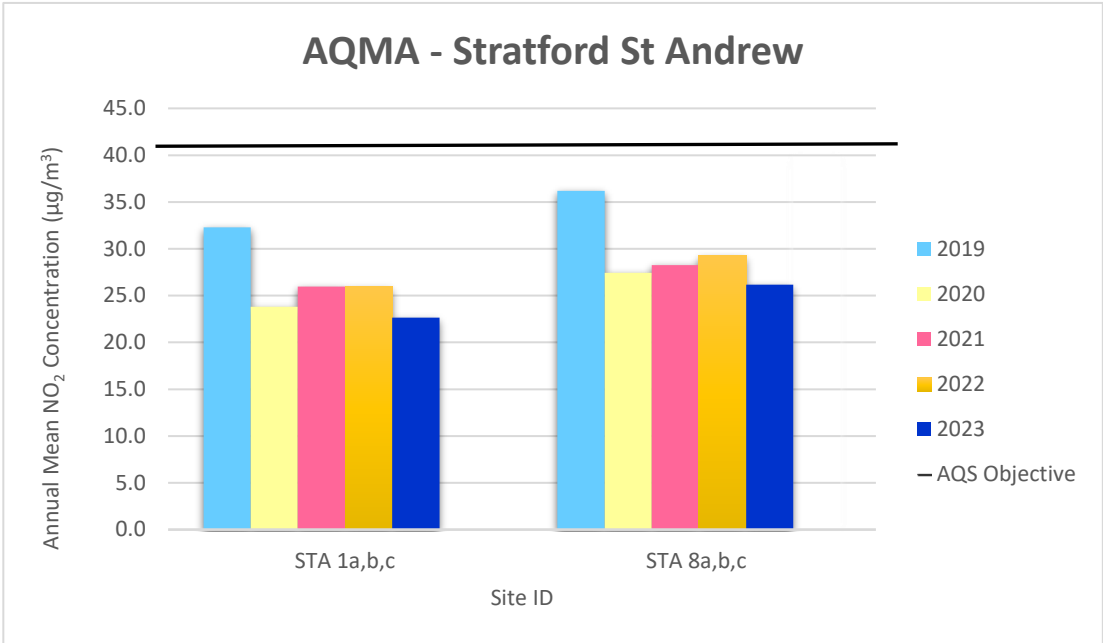
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

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

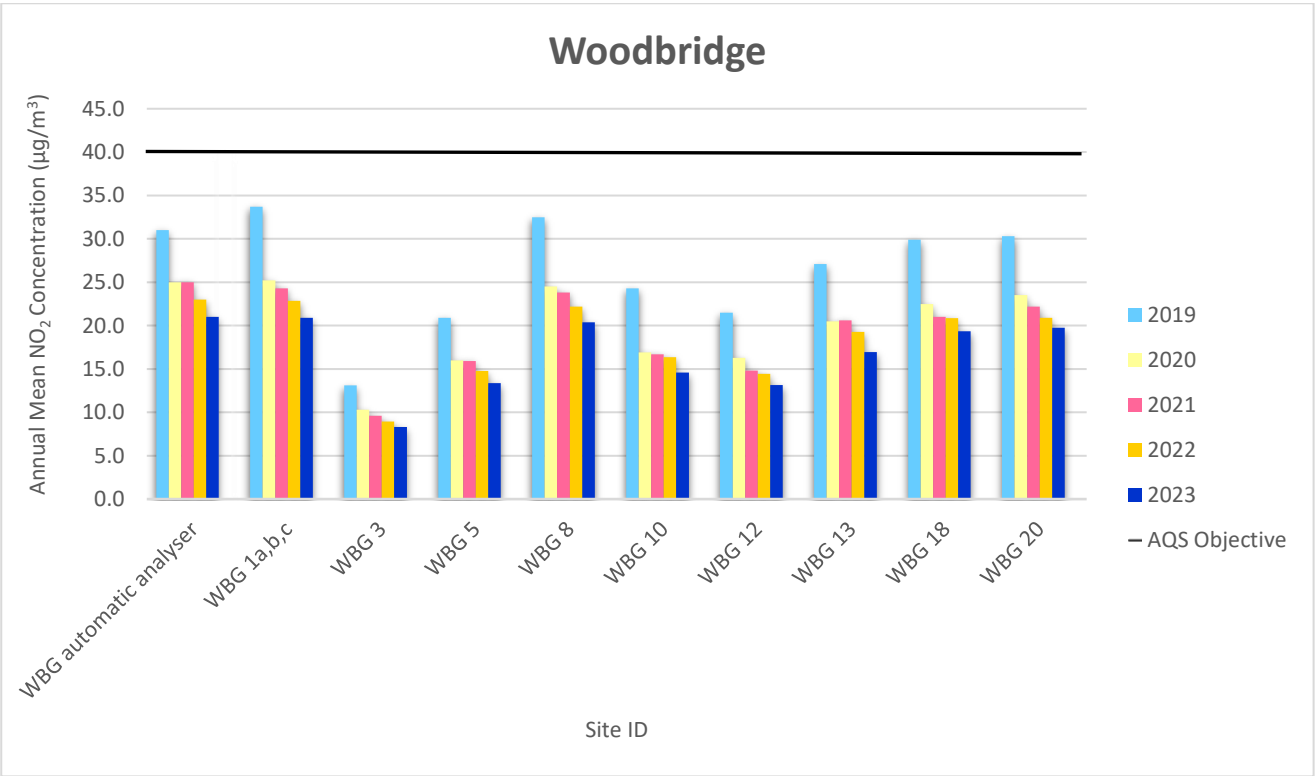
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.1 – Trends in Annual Mean NO₂ Concentrations

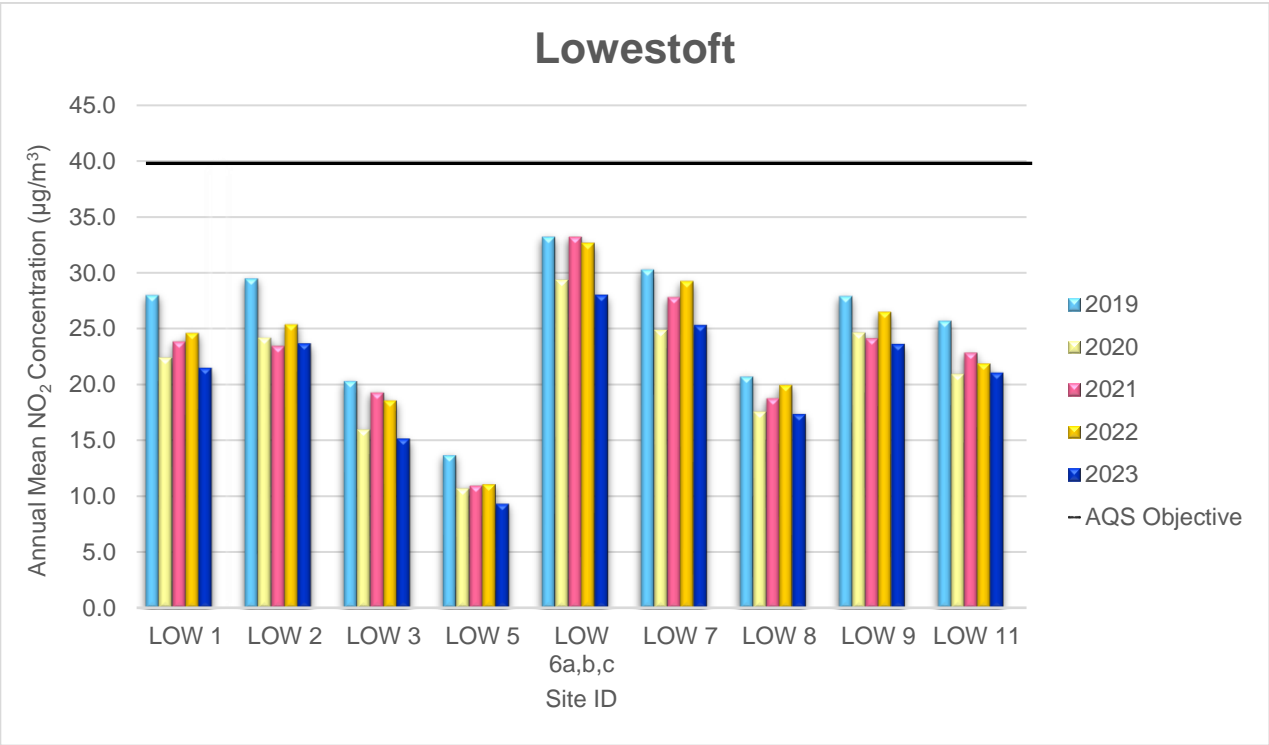
Trends in Annual Mean NO₂ Concentrations at monitoring sites within the Stratford
St Andrew AQMA



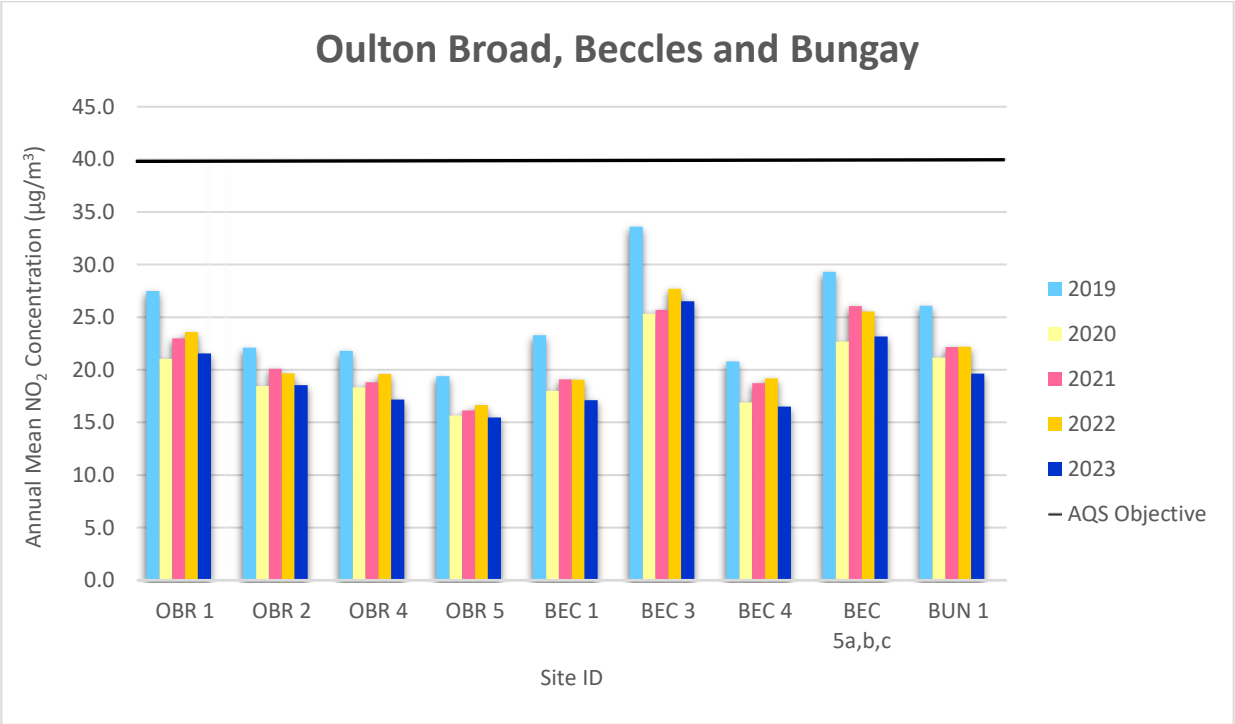
Trends in Annual Mean NO₂ Concentrations at monitoring sites Woodbridge
including the continuous automatic analyser



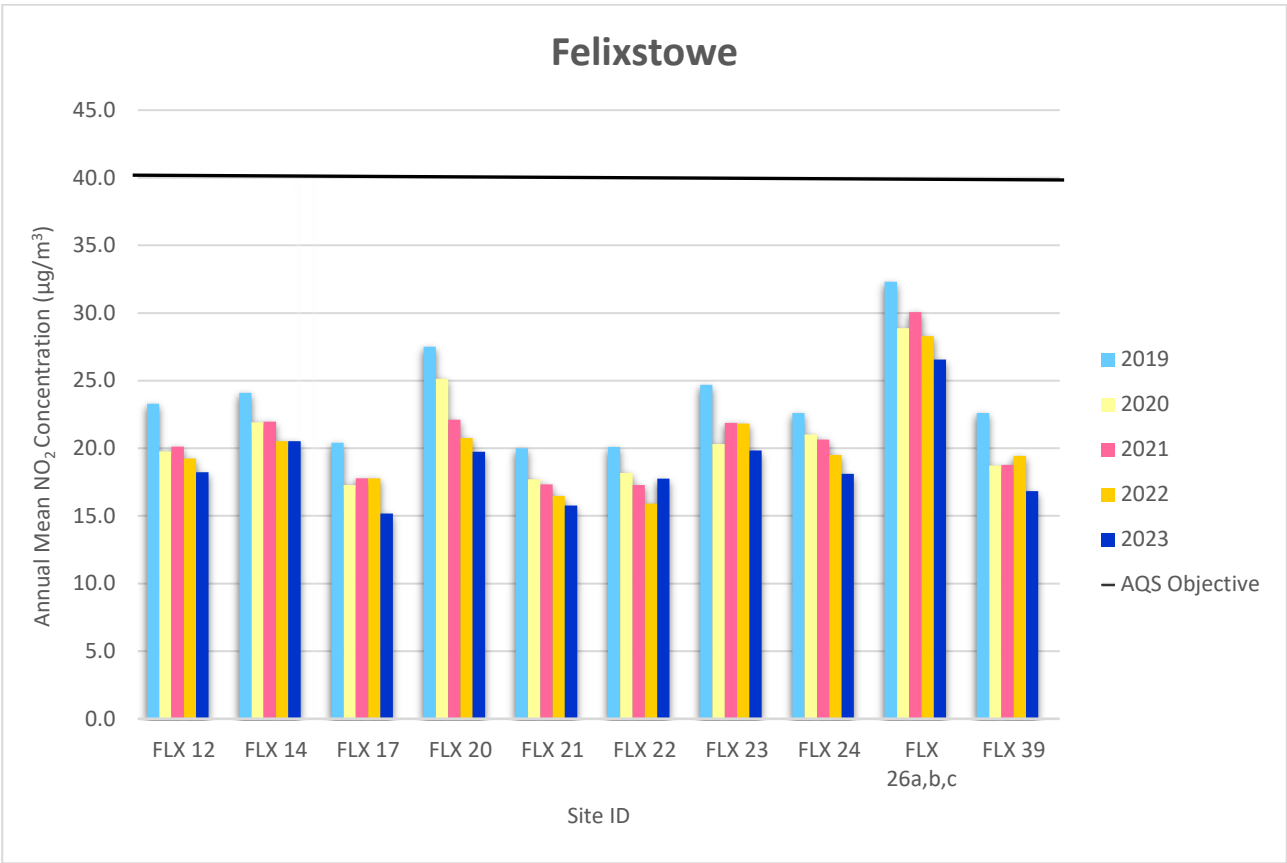
Trends in Annual Mean NO₂ Concentrations at monitoring sites within Lowestoft



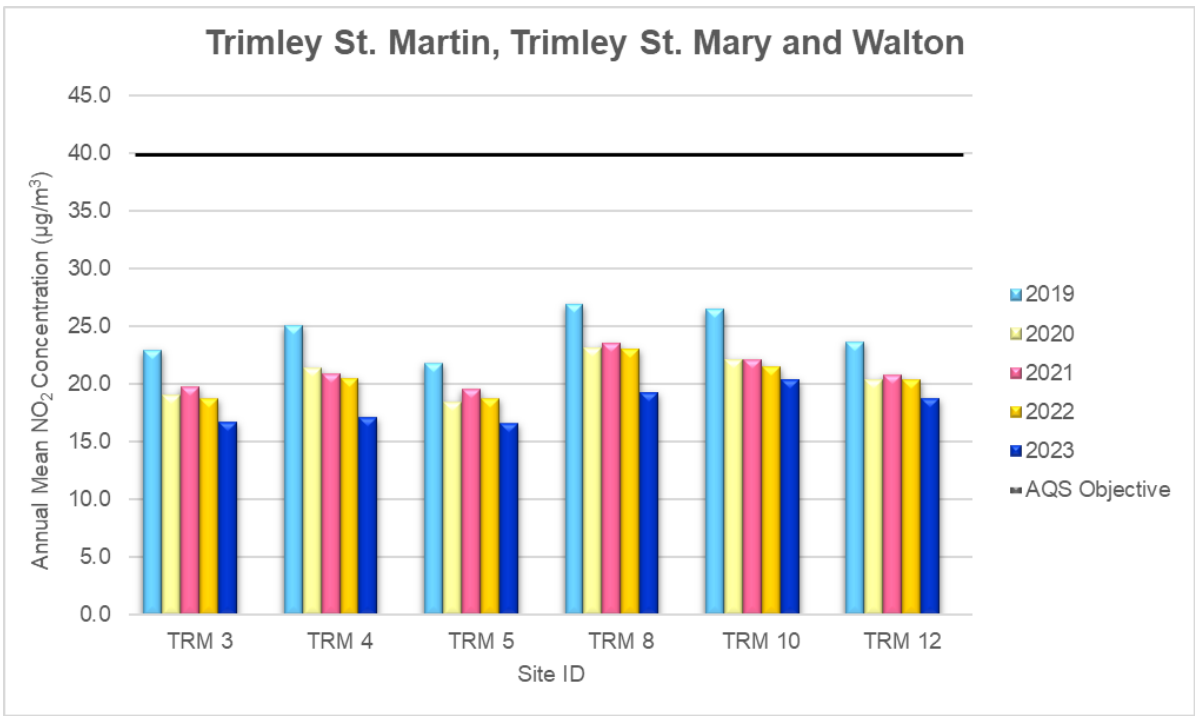
Trends in Annual Mean NO₂ Concentrations at monitoring sites within Oulton Broad, Beccles and Bungay



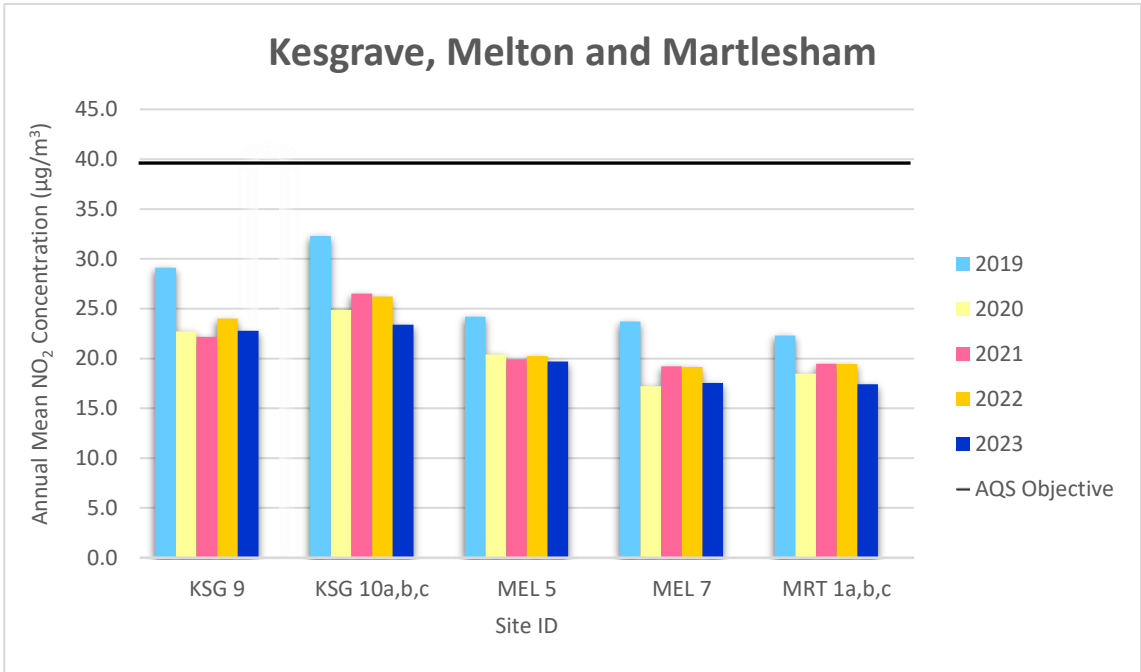
Trends in Annual Mean NO₂ Concentrations at monitoring sites within Felixstowe



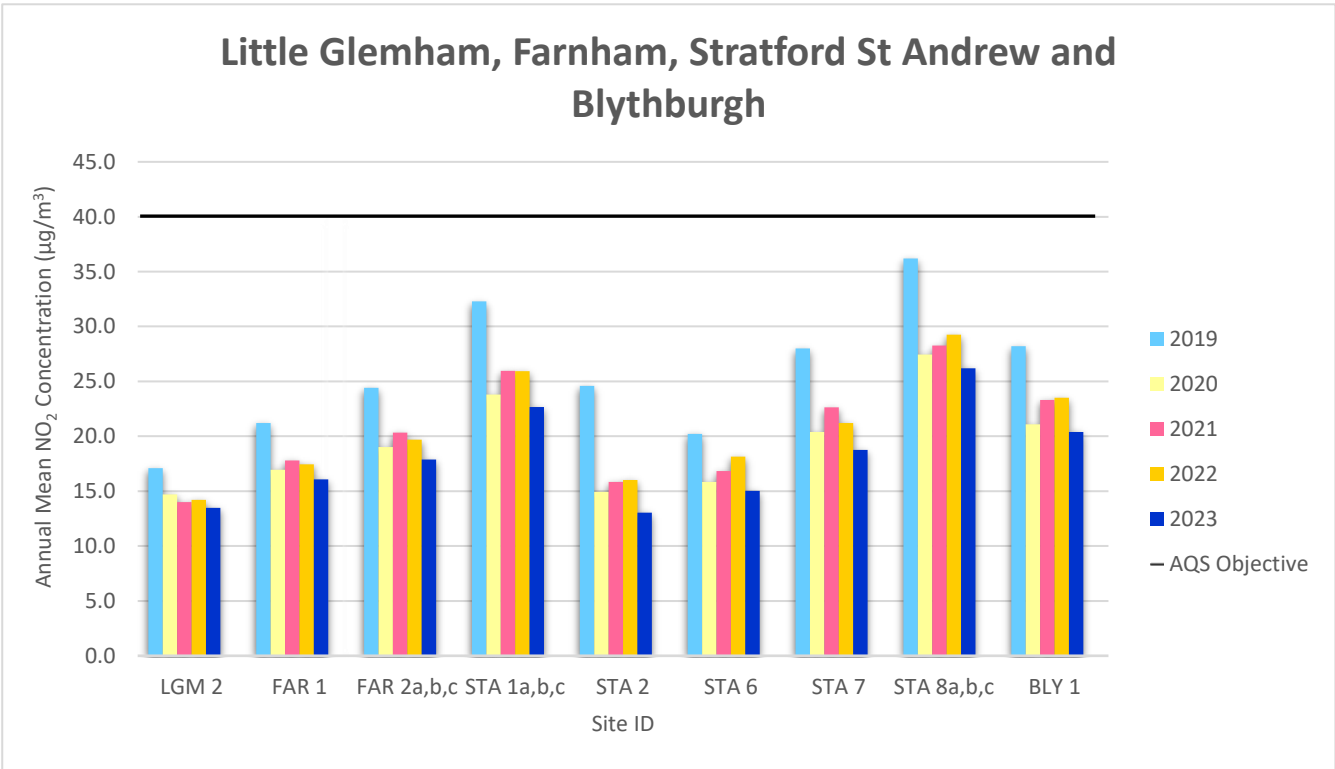
Trends in Annual Mean NO₂ Concentrations at monitoring sites within Trimley St. Martin, Trimley St. Mary and Walton



Trends in Annual Mean NO₂ Concentrations at monitoring sites within Kesgrave, Melton and Martlesham



Trends in Annual Mean NO₂ Concentrations at monitoring sites within Little Glemham, Farnham and Stratford St Andrew



Trends in Annual Mean NO₂ Concentrations at monitoring sites within Saxmundham and Leiston

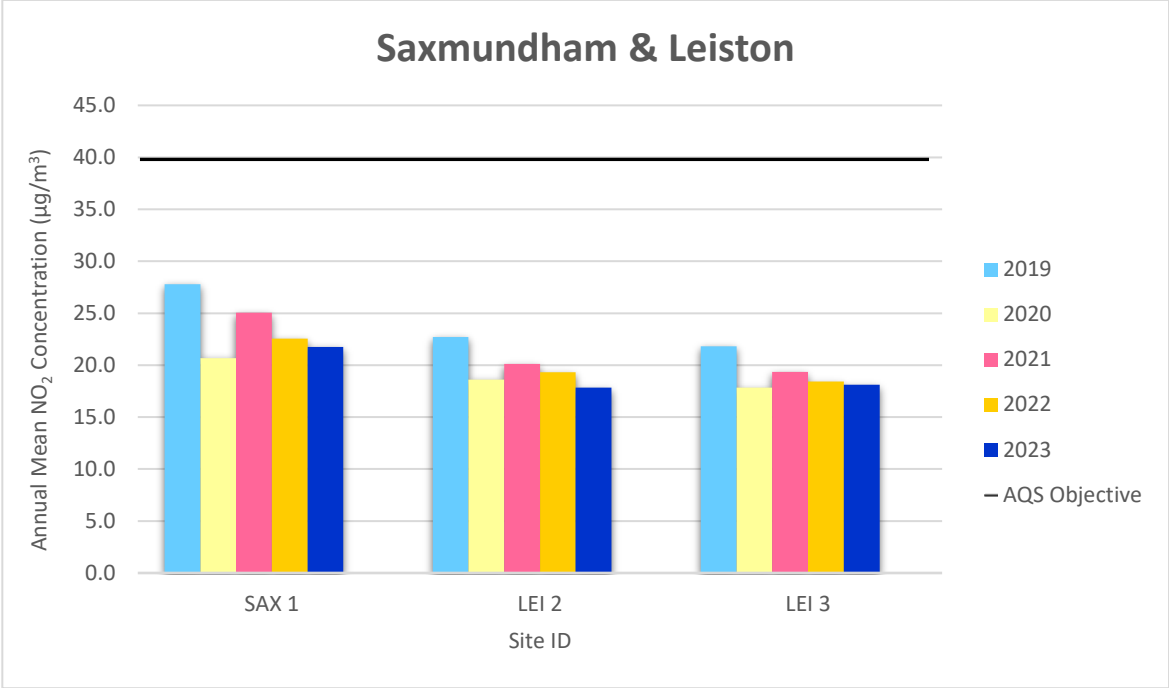


Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2023 (%) ⁽²⁾	2019	2020	2021	2022	2023
WBG	627596	249261	Roadside	99.41	99.41	0	0 (122)	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m³ have been recorded.

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(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)

Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO₂ 2023 Diffusion Tube Results (µg/m³)

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
LOW 1	654606	292625	32.8	31.8	24.2	29.7	22.6	25.8	23.0	27.7		33.0	29.6	26.3	27.9	21.5	-	
LOW 2	653209	293785	38.9	37.8	26.9	26.4	20.2	23.8	33.7	28.1	35.7	36.0	25.7	35.2	30.7	23.6	-	
LOW 3	654477	292395	22.5	13.6	17.9	24.2	24.0	17.9	16.0	19.6	20.2	19.7	21.7	18.7	19.7	15.1	-	
LOW 5	654065	294200	15.3	11.8	12.2	12.1	9.3	10.5	10.1	10.4	12.4	14.9	12.9	13.4	12.1	9.3	-	
LOW 6a	654690	292625	38.5	41.4	31.4	43.2	47.0	45.8	21.2	28.7	29.2	32.5	31.9	25.6	-	-	-	Triplicate Site with LOW 6a, LOW 6b and LOW 6c - Annual data provided for LOW 6c only
LOW 6b	654690	292625	44.3	29.1	37.2	41.0	48.4	44.0	28.9	37.1	34.1	32.6	32.7	30.0	-	-	-	Triplicate Site with LOW 6a, LOW 6b and LOW 6c - Annual data provided for LOW 6c only
LOW 6c	654690	292625	42.6	44.5	34.1	44.6	46.3	46.3	25.7	36.6	36.7	33.3		29.0	36.3	28.0	-	Triplicate Site with LOW 6a, LOW 6b and LOW 6c - Annual data provided for LOW 6c only
LOW 7	654671	292601	42.5	35.7	30.3	39.5	32.5	29.9	27.3	30.3	31.4	32.9	34.9	26.8	32.8	25.3	-	
LOW 8	654660	292571	26.0	25.2	18.8	25.9	22.3	25.5	17.8			23.1	20.8	19.5	22.5	17.3	-	
LOW 9	654723	292914	41.8	31.9	28.5	30.6	26.8	27.4	24.9	26.1	30.5	39.2	32.5	27.3	30.6	23.6	-	
LOW 11	652552	290427	25.0	#	26.8	32.2	28.2	31.0	22.9	25.3	28.8	31.5	25.0	23.5	27.3	21.0	-	
LOW 12	654200	294039	20.6	18.8	14.8	14.7	11.5	13.6	23.8	12.8	17.9	17.1	15.4	12.4	16.1	12.4	-	
LOW 13	654049	292963	31.4	19.8	17.3	15.2	14.0	15.7	13.3	12.9	17.6	21.8	23.5	16.1	18.2	14.0	-	
LOW 14	653228	293811	20.9	22.5	19.6	18.5	14.1	15.2	18.3	15.7	20.7	21.6	18.2	19.6	18.7	14.4	-	
LOW 16	654050	295124	20.6	15.1	29.9	31.6	31.2	26.0	24.6	23.2	30.3	26.9	28.7	23.1	25.9	20.0	-	
LOW 17	654529	294055		21.2	13.8	13.8	11.9	14.1	12.4	10.2	14.9	16.2	14.1	15.7	14.4	11.1	-	
LOW 18	654239	293329		23.7	14.9	13.6	14.7	14.6		12.9	16.6	16.9	15.8	15.7	15.9	12.3	-	

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
LOW 19	652941	294371		17.4	12.2	13.0	13.4	12.1	8.8	9.6	11.5	13.0	11.2	14.3	12.4	9.6	-	
LOW 20	654033	295688		19.2	12.5	11.8	9.9	10.4	8.5	9.3	11.3	12.4		13.3	11.9	9.1	-	
LOW 21	652156	291773			13.7	12.7	10.9	11.9	13.1	12.4	13.5	16.8	15.0	14.4	13.4	10.3	-	
OBR 1	652046	292503	30.3	34.6	29.5	27.5	28.1	27.1	27.2	26.1	30.8	27.3	24.8	22.7	28.0	21.6	-	
OBR 2	652304	293021	23.6	28.3	24.4	27.2	29.1	28.3		22.2	23.7	24.2	15.7	18.0	24.1	18.5	-	
OBR 4	651869	292127	20.5	23.7	24.6	28.4	23.0	23.6	21.5	21.4	24.1	22.2	17.6	16.9	22.3	17.2	-	
OBR 5	652554	293282	24.3	26.5	19.5	19.4	16.0	19.7	19.1	18.9	19.2	24.2	19.3	15.1	20.1	15.5	-	
OBR 6	651389	293664		19.3	11.3	12.5	10.7	12.1	9.9	11.0	14.4	13.8	8.7	13.0	12.4	9.6	-	
BEC 1	642615	289909	25.4	#	23.4	25.2	21.1	19.6	17.9	23.9	19.3	25.2	#	21.2	22.2	17.1	-	
BEC 3	642553	289922	39.8	42.7	27.9	30.6	27.9	33.3	32.2	34.9	34.4	41.2	40.1	28.4	34.5	26.5	-	
BEC 4	642564	289922	22.1	24.1	21.2	25.1	25.7	19.6	15.7	21.3	22.3	25.2	20.2	14.9	21.5	16.5	-	
BEC 5a	642592	289916	31.9	28.8	28.6	34.2	35.9	36.9	22.1	31.7	31.9	26.1	28.8	20.8	-	-	-	Triplicate Site with BEC 5a, BEC 5b and BEC 5c - Annual data provided for BEC 5c only
BEC 5b	642592	289916	32.2	39.6	29.7	28.1	41.2	34.7	21.3	30.0	31.1	33.5	25.3	17.7	-	-	-	Triplicate Site with BEC 5a, BEC 5b and BEC 5c - Annual data provided for BEC 5c only
BEC 5c	642592	289916	32.2	37.4	29.6	37.4	37.0	33.4	21.5	28.8	28.2	31.9	#	16.5	30.1	23.2	-	Triplicate Site with BEC 5a, BEC 5b and BEC 5c - Annual data provided for BEC 5c only
BEC 7	644220	290213	19.0	24.7	20.5	13.6	15.8	13.0	14.1	13.5	15.6	18.3	#	14.9	16.6	12.8	-	
BEC 8	643278	289636		22.3	11.7	9.9	8.8	9.6			11.2	15.5	13.7	12.0	12.7	9.8	-	
HLW 2	638599	277407	12.0	14.2	9.3	13.6	8.4	8.9	8.4	8.9	10.7	12.6	12.6	10.2	10.8	8.3	-	
BUN 1	633670	289817	29.4	35.3	26.5	17.2	28.0	26.2	19.6	25.0	25.7	29.4	27.0	16.7	25.5	19.6	-	
BUN 3	633815	289511			25.6	30.8	31.9	27.4	17.1	25.7	23.5	24.8	26.1	15.3	24.8	19.1	-	
BLY 1	645183	275218	24.4	26.9	23.9	30.5	31.2	29.2	24.4	29.0	30.1	28.3	24.5	15.3	26.5	20.4	-	
FLX 12	630363	234890	32.7	17.8	23.4	19.1	16.6	19.5	21.9	21.8	23.3	30.7	30.6	26.6	23.7	18.2	-	

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
FLX 14	628604	232847	38.9	36.4	26.8	17.1	18.3		17.5	22.6	24.3	29.5	31.9	29.8	26.6	20.5	-	
FLX 17	628817	236323	18.7	15.1	25.6	21.2	18.2	19.1	16.7	18.7	21.2	25.0	16.3	20.8	19.7	15.2	-	
FLX 20	628669	233979	38.2	#	31.4	17.9	14.7	15.8	26.9	14.8	30.5	32.0	28.2	31.7	25.6	19.7	-	
FLX 21	629253	234431	28.8	27.0	16.3	12.6	11.1	14.3	17.7	17.8	22.4	25.9	24.9	27.0	20.5	15.8	-	
FLX 22	629172	233446	31.0	30.4	22.1	17.4	12.5	19.9	21.0	20.5	20.6	27.7	25.9	27.8	23.1	17.8	-	
FLX 23	628542	236592	24.4	28.5	26.6	32.1	29.1	27.2	18.7	26.2	28.2	28.5	#	13.9	25.8	19.8	-	
FLX 24	628358	234634	34.6	24.5	28.2	18.8	15.9	17.0	20.7	21.9	24.7	26.2	24.2	25.7	23.5	18.1	-	
FLX 26a	627959	234246	47.3	32.7	35.7	29.6	23.2	36.8	29.2	29.6	35.5	41.4	34.2	33.3	-	-	-	Triplicate Site with FLX 26a, FLX 26b and FLX 26c - Annual data provided for FLX 26c only
FLX 26b	627959	234246	48.8	44.4	37.6	28.8	28.1	28.1	29.5	31.3	39.8	42.1	39.8	36.3	-	-	-	Triplicate Site with FLX 26a, FLX 26b and FLX 26c - Annual data provided for FLX 26c only
FLX 26c	627959	234246	40.5	36.6	37.9	31.3	24.9	29.3	25.7	28.5	36.7	44.3	36.4	26.9	34.5	26.6	-	Triplicate Site with FLX 26a, FLX 26b and FLX 26c - Annual data provided for FLX 26c only
FLX 39	628760	236071	23.7	27.6	26.1	23.0	17.4	17.6	16.8	18.9	26.5	25.7	18.9	20.0	21.9	16.8	-	
FLX 44	629397	233642		26.0	18.2	14.3	12.1	16.2	16.0	17.2	18.8	19.7	15.7	21.8	17.8	13.7	-	
TRM 3	627618	237092	25.7	23.0	26.2	18.5	19.3	20.0	17.5	20.5	25.8	23.5	23.9	18.0	21.8	16.8	-	
TRM 4	627613	237080	25.3	18.2	29.0	22.6	17.5	19.6	21.1	17.2	27.0	27.0	22.2	21.4	22.3	17.2	-	
TRM 5	627629	237078	23.9	25.8	25.4	23.8	22.8	20.1	15.2	19.3	23.5	23.4	19.3	16.5	21.6	16.6	-	
TRM 8	628270	236266	32.4	24.0	30.6	23.4	16.3	16.9	22.8	21.0	29.9	26.9	30.4	26.2	25.1	19.3	-	
TRM 10	629340	235737	33.0	27.6	30.0	20.0	16.1	19.8	23.4	24.0	30.1	32.9	31.1	30.9	26.6	20.5	-	
TRM 12	629641	235529	#	#	28.5	21.4	28.4	15.2	20.9	21.0	27.2	31.1	26.3		24.4	18.8	-	
TRM 13	627555	238614		25.5	24.7	17.0	14.0	14.7	14.7	16.9	19.5	21.7	16.9	15.4	18.3	14.1	-	
KSG 9	621680	245796	35.3	36.6	29.0	21.6	16.9	19.9	28.4	30.5	34.4	39.0	34.5	29.1	29.6	22.8	-	
KSG 10a	621815	245785	32.1	37.7	32.8	30.2	25.1	26.2	21.6	29.7	39.4	37.1	32.9	25.5	-	-	-	Triplicate Site with KSG 10a, KSG 10b and KSG 10c - Annual data provided for KSG 10c only

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
KSG 10b	621815	245785	33.7	36.2	30.0	24.3	25.1	28.9	23.9	27.7	36.7	36.0	23.4	27.8	-	-	-	Triplicate Site with KSG 10a, KSG 10b and KSG 10c - Annual data provided for KSG 10c only
KSG 10c	621815	245785	29.9	#	34.1	32.5	23.8	27.2	21.9	31.5	37.4	36.5	30.4	27.0	30.4	23.4	-	Triplicate Site with KSG 10a, KSG 10b and KSG 10c - Annual data provided for KSG 10c only
MEL 5	628145	250417	33.9	21.7	28.5	24.6	16.6	20.7	22.4	22.7	26.8	29.7	30.7	28.6	25.6	19.7	-	
MEL 7	628177	250478	27.7	27.8	29.8	23.2	12.9	14.8	18.3	20.6	24.2	26.8	25.8	21.7	22.8	17.6	-	
MRT 1a	624633	245447	30.5	29.5	21.0	25.8	20.8	22.1	18.8	21.1	24.3	21.9	18.3	20.0	-	-	-	Triplicate Site with MRT 1a, MRT 1b and MRT 1c - Annual data provided for MRT 1c only
MRT 1b	624633	245447	28.5	27.2	19.0	24.7	21.7	23.9	18.2	21.4	23.8	22.5	22.6	20.3	-	-	-	Triplicate Site with MRT 1a, MRT 1b and MRT 1c - Annual data provided for MRT 1c only
MRT 1c	624633	245447	30.1	18.6	23.3	25.3	20.0	22.0	19.7	19.9	25.7	23.4	24.8	13.3	22.6	17.4	-	Triplicate Site with MRT 1a, MRT 1b and MRT 1c - Annual data provided for MRT 1c only
MRT 9	624338	246573		19.3	17.2	14.6	8.4	9.3	10.0	12.3	17.2	16.8	16.3	14.3	14.2	10.9	-	
LGM 2	634051	258315	21.9	23.9	20.4	16.9	13.3	12.9	14.1	17.4	17.9	20.0	17.9	13.4	17.5	13.5	-	
FAR 1	636273	260134	24.9	25.6	21.2	23.9	20.4	21.9	15.6	19.8	20.8	19.8	20.9	15.8	20.9	16.1	-	
FAR 2a	636274	260120	25.8	#	23.6	23.8	19.5	16.6	20.0	25.3	25.9	26.2	24.6	17.9	-	-	-	Triplicate Site with FAR 2a, FAR 2b and FAR 2c - Annual data provided for FAR 2c only
FAR 2b	636274	260120	27.0	#	22.8	23.3	20.7	20.6	19.3	24.9	28.3	24.1	23.2	16.1	-	-	-	Triplicate Site with FAR 2a, FAR 2b and FAR 2c - Annual data provided for FAR 2c only
FAR 2c	636274	260120	29.4	27.6	22.6	23.6	22.7	22.0	16.8	24.3	25.7	22.7	26.8	16.9	23.2	17.9	-	Triplicate Site with FAR 2a, FAR 2b and FAR 2c - Annual data provided for FAR 2c only
STA 1a	635753	260002	27.9	19.2	28.8	29.1	24.7	28.5	28.4	30.7	35.0	33.9	26.8	22.6	-	-	-	Triplicate Site with STA 1a, STA 1b and STA 1c - Annual data provided for STA 1c only
STA 1b	635753	260002	31.6	32.8	32.7	29.0	27.0	25.9	27.6	32.2	35.5	34.7	25.7	24.4	-	-	-	Triplicate Site with STA 1a, STA 1b and STA 1c - Annual data provided for STA 1c only
STA 1c	635753	260002	34.6	31.4	33.4	33.3	28.0	28.7	29.9	27.6	35.5	35.0	23.6	23.2	29.4	22.6	-	Triplicate Site with STA 1a, STA 1b and STA 1c - Annual data provided for STA 1c only
STA 2	635732	259995	18.9	22.1	20.2	18.2	12.3	9.9	15.2	19.0	20.6	19.0	18.2	9.4	16.9	13.0	-	
STA 6	635794	260042	21.3	23.1	21.0	23.6	18.7	21.0	17.5	19.5	22.6	20.7	10.7	14.2	19.5	15.0	-	
STA 7	635736	259984	28.8	26.5	23.0	25.0	27.6	29.6	22.1	28.4	28.7	25.1	11.3	16.0	24.3	18.7	-	
STA 8a	635743	259992	29.2	#	35.2	35.7	23.5	32.7	26.8	33.6	37.3	37.5	25.6	24.7	-	-	-	Triplicate Site with STA 8a , STA 8b and STA 8c - Annual data provided for STA 8c only
STA 8b	635743	259992	36.0	37.7	38.3	35.8	29.0	29.7	28.9	35.4	47.3	40.0	28.4	#	-	-	-	Triplicate Site with STA 8a , STA 8b and STA 8c - Annual data provided for STA 8c only

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
STA 8c	635743	259992	35.4	42.9	38.7	35.0	32.7	36.7	32.9	39.8	40.6	36.7	33.3	25.5	34.0	26.2	-	Triplicate Site with STA 8a , STA 8b and STA 8c - Annual data provided for STA 8c only
THEB 1	643797	265815	22.3	26.7	21.1	19.6	17.1	14.8	14.8	15.0	21.9	17.8	20.7	12.2	18.7	14.4	-	
MID 1	641611	267791	11.4	12.1	11.0	10.0	7.3	7.5	6.3	9.3	10.8	10.7	11.0	7.4	9.6	7.4	-	
YOX 1	639647	268740	21.5	21.2	19.4	16.3	12.8	9.8	14.4	17.5	20.0	20.9	14.2	14.6	16.9	13.0	-	
YOX 2	639693	268778	13.8	14.1	13.6	11.6	7.6	9.6	9.1	11.9	13.1	13.8	10.0	17.0	12.1	9.3	-	
SAX 1	638683	263014	27.8	33.5	29.4	25.3	29.0	32.4	20.2	28.6	32.7	30.6	30.7	19.0	28.3	21.8	-	
LEI 2	644557	262464	28.6	21.9	18.3	25.1	20.3	18.5	21.0	22.0	27.2	30.9	24.3	20.1	23.2	17.9	-	
LEI 3	644325	262634	24.4	#	25.0	25.5	24.2	21.6	18.9	23.7	30.8	26.9	22.0	15.8	23.5	18.1	-	
LEI 4	644843	262483	18.0	18.3	15.0	8.7	8.8	11.7	9.1	10.9	14.2	13.5	9.8	11.6	12.5	9.6	-	
LEI 5	645055	262522		17.4	15.8	9.8	9.7	9.9	10.3	11.3	13.9	14.5	14.0	12.8	12.7	9.8	-	
TUN 1	636110	255114	18.3	10.6	12.8	14.9	12.9	13.7	11.5	14.9	17.1	18.3	16.8	11.0	14.4	11.1	-	
MLS 1	632734	257733	27.2	27.8	22.3	23.9	21.9	20.9	19.7	23.7	27.0	24.9	25.8	#	24.1	18.6	-	
WKM 1	630180	255718	19.0	20.9	16.8	16.1	12.4	13.5	11.7	14.6	12.7	18.8	16.6	13.3	15.5	12.0	-	
WKM 2	630164	255904	27.1	22.4	22.6	20.7	17.2	16.3	19.7	19.1	24.4	26.2	25.9	19.3	21.7	16.7	-	
WKM 3	629860	255783		12.6	11.3	8.7	5.6	7.6	6.3	8.6	10.5	12.3	11.4	9.2	9.5	7.3	-	
WBG 1a	627596	249261	38.3	27.4	31.0	25.7	21.8	21.4	22.6	29.4	27.9	27.6	34.4	19.3	-	-	-	Triplicate Site with WBG 1a, WBG 1b and WBG 1c - Annual data provided for WBG 1c only
WBG 1b	627596	249261	41.3	30.4	31.2	27.9	18.8	24.8	26.0	29.0	31.4	32.7	33.4	28.7	-	-	-	Triplicate Site with WBG 1a, WBG 1b and WBG 1c - Annual data provided for WBG 1c only
WBG 1c	627596	249261	39.8	34.7	31.0	26.2	#	23.4	27.9	28.1	29.6	35.3	37.4	28.2	29.0	20.9	-	Triplicate Site with WBG 1a, WBG 1b and WBG 1c - Annual data provided for WBG 1c only
WBG 3	626997	248488	16.3	12.4	13.8	11.3	6.3	8.3	9.2	9.8	10.8	14.2	13.8	12.5	11.6	8.3	-	
WBG 5	627604	249243	23.4	19.8	20.5	20.6	16.6	18.4	12.9	17.2	19.6	23.6	16.3	13.7	18.6	13.4	-	
WBG 8	627601	249283	37.8	#	27.5	27.1	21.7	23.2	23.7	26.4	30.1	31.9	34.9	27.2	28.3	20.4	-	

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 <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
WBG 10	627570	249240	25.3	22.0	21.6	22.6	19.2	19.5	13.9	19.2	21.4	22.0	20.1	16.2	20.3	14.6	-	
WBG 12	627664	249203	27.0	15.3	21.5	14.9	10.4	12.0	16.1	18.4	19.5	18.5	23.0	22.7	18.3	13.2	-	
WBG 13	627585	249239	30.5	26.9	26.9	25.1	19.7	20.4	15.9	23.0	24.7	26.6	21.7	20.9	23.5	16.9	-	
WBG 18	627627	249339	29.9	34.0	28.4	29.7		24.8	18.8	24.5	30.0	26.5	26.3	22.7	26.9	19.3	-	
WBG 20	627604	249295	36.1	31.5	30.0	23.4	18.4	19.7	25.0	27.2	27.8	31.2	33.2	26.0	27.5	19.8	-	
WBG 24	626026	249631	20.5	26.8	28.2	29.6	21.9	20.1	16.0	19.1	26.9	28.4	17.5	16.2	22.6	16.3	-	
WBG 25	626038	249389	27.5	17.9	22.6	16.9	14.7	14.8	18.0	19.8	20.7	23.0	23.8	20.1	20.0	14.4	-	

- ☒ All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1 and is marked with #.
- ☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.
- ☒ Local bias adjustment factor used for Woodbridge (WBG) sites.
- ☒ National bias adjustment factor used for all other sites.
- ☒ Where applicable, data has been distance corrected for relevant exposure in the final column.
- ☒ East Suffolk Council confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 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 East Suffolk Council During 2023

East Suffolk Council identified 1 new source and 0 changed sources relating to air quality during the reporting year of 2023. Details of each source and the assessment undertaken are provided below.

County Council planning application for V.C Cooke Ltd. Materials Recycling Facility, Beccles Recycling Centre, Benacre Road, Ellough (planning application ref SCC/0063/22W)

This application is for construction and operation of an Energy Recovery Facility within existing building along with associated infrastructure and solar photovoltaics and includes installation of a Small Waste Incineration Plant (SWIP). The produced heat and power will be utilised by units within the adjacent industrial estate. The application was granted consent in April 2023.

A detailed Air Quality Assessment was undertaken looking at pollutant emissions from the SWIP. The dispersion modelling results indicated that impacts at human health and ecological sensitive receptors were predicted to be not significant for all pollutants and criteria. The Air Quality assessment can be viewed at [Planning Register | Suffolk County Council \(planning-register.co.uk\)](https://planning-register.co.uk)

Additional Air Quality Works Undertaken by East Suffolk Council During 2023

East Suffolk Council has not completed any additional works within the reporting year of 2023.

QA/QC of Diffusion Tube Monitoring

Diffusion tubes are used widely by ESC. Diffusion tubes were deployed, and analysed, as set out in the Technical Guidance LAQM.TG22 paragraphs 7.197-7.234, and in accordance with the “NO₂ Diffusion Tubes for LAQM: Guidance Note for Local Authorities”.

Monitoring in 2023 was completed in adherence with the 2023 Diffusion Tube Monitoring Calendar, whereby all changeovers were completed within ± 2 days of the specified date.

The analytical laboratory used for supply and analysis of NO₂ diffusion tubes for ESC is SOCOTEC based in Didcot. The monitoring is undertaken using Palmes passive diffusion tubes exposed on a monthly basis. The tubes are prepared by spiking acetone:triethanolamine (TEA) (50:50) onto the grids prior to the tubes being assembled. The tubes are then desorbed with distilled water and the extract analysed using a segmented flow auto-analyser with ultraviolet detection.

The samples were analysed in accordance with SOCOTEC standard operating procedure ANU/SOP/1015, which meets the guidelines set out in Defra’s ‘Diffusion Tubes For Ambient NO₂ Monitoring practical Guidance’. The results were initially calculated assuming an ambient temperature of 11°C, and the reported values adjusted to 20°C to allow for direct comparison with EU limits.

The laboratory is formally accredited under UKAS and participates in the Defra run independent AIR-PT Scheme for NO₂ tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance.

AIR-PT combines two long running proficiency testing (PT) schemes: LGC Standards STACKS PT scheme and HSL Workplace Analysis Scheme for Proficiency (WASP) PT scheme. For NO₂ diffusion tubes, the test sample types used are called AIR NO₂ and these are distributed to participating laboratories on a quarterly basis. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC held the highest rank of a **Satisfactory** laboratory in 2023.

In the field inter-comparison exercise, diffusion tubes are co-located with an automatic analyser. Defra hosts a summary of the total number of recorded good/bad precision results for the last 3 years for all laboratories that currently provide diffusion tube analysis. This precision reflects the laboratory’s performance and consistency in preparing and

analysing the tubes. Precision summary results for SOCOTEC (using the 50% TEA in Acetone method) show 29 'Good' results and 0 'Bad' results for 2022 and 21 'Good' and 0 'Bad' results for 2023.

At the end of the monitoring period, any erroneous diffusion tube data was deleted (marked with # in Table B.1) and is summarised below;

- Data for January and February at site TRM 12 was classed as erroneous as this diffusion tube had been exposed for 2 months due to a site operator error.
- A large amount of site data in February, together with some in November and December has been removed from the dataset due to very low results at some sites and lower than expected at others. Low results throughout the year were also noticed by other Suffolk local authorities in 2023, and similar problems were encountered in November 2022 and reported in our 2023 ASR. Discussions with, and investigations by, the laboratory did not determine any error with the tube analysis and site operator error has also been ruled out. Following a post on the Air Quality Hub, which highlighted the number of local authorities potentially impacted, the Defra helpdesk is investigating.
- Data for May at WBG1c was very low when compared with the triplicate set of tubes at this site. Accuracy was therefore in question and this data was removed from the dataset.

The annual average was then calculated for each site. For any sites with data capture less than 75% (9 months) the results were annualised. As diffusion tubes tend to under or over read this can result in low accuracy and it is necessary to bias correct the results based upon local or national collocation studies with chemiluminescent analysers. Bias correction was undertaken after annualisation of the data. Distance correction was not required with all concentrations below $36\mu\text{g}/\text{m}^3$ at all relevant receptors. Further details of all stages are outlined in the following text.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within East Suffolk 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_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Historically, East Suffolk Council have used the local bias adjustment factor obtained from the Woodbridge co-location study (using the triplicate diffusion tube site WBG 1a,b,c) to adjust annual mean NO₂ concentrations from diffusion tube sites within the Woodbridge area only. This location is unusual, being a street canyon: it is considered representative of the other diffusion tube monitoring sites within Woodbridge, but not necessarily of diffusion tube locations elsewhere within the district. The national bias adjustment factor has then been used for all other locations in the district. In 2023 the application of both a local and national bias adjustment factor has also been applied to the diffusion tube data as per previous years.

ESC have applied a local bias adjustment factor of 0.72 to the 2023 monitoring data for sites in Woodbridge only, and a national bias adjustment factor of 0.77 to the 2023 monitoring data for all other sites within the district. Version 03/24 of the national diffusion tube bias adjustment factor spreadsheet was used. A copy of the output from the spreadsheet can be seen in Figure C.1. A summary of bias adjustment factors used by ESC over the past five years is presented in Table C.2.

Table C.3 presents the calculation of the Woodbridge diffusion tube sites local bias adjustment factor.

Figure C. 1 – National Bias Adjustment Factor Calculation (Version 03/24) for SOCOTEC Didcot in 2023

National Diffusion Tube Bias Adjustment Factor Spreadsheet					Spreadsheet Version Number: 03/24					
Follow the steps below in the correct order to show the results of relevant co-location studies								This spreadsheet will be updated at the end of June 2024 LAQM Helpdesk Website		
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods										
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet										
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.										
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.					Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.					
Step 1:		Step 2:	Step 3:	Step 4:						
Select the Laboratory that Analyzes Your Tubes from the Drop-Down List		Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ² shown in blue at the foot of the final column.						
If a laboratory is not shown, or has no data for this laboratory:		If a preparation method is not shown, or has no data for this method at this laboratory:	If a year is not shown, or has no data:	If you have your own co-location study then see footnote ¹ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953						
Analysed By ¹	Method ² To make your selection, please scroll from the pop-up list	Year ³ To make your selection, please scroll from the pop-up list	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ⁴	Bias Adjustment Factor (A) (Cm/Dm)
SOCOTEC Didcot	50% TEA in acetone	2023	UB	City Of York Council	11	15	12	27.9%	G	0.75
SOCOTEC Didcot	50% TEA in acetone	2023	R	City Of York Council	11	22	17	26.8%	G	0.79
SOCOTEC Didcot	50% TEA in acetone	2023	R	City Of York Council	9	22	17	33.7%	G	0.75
SOCOTEC Didcot	50% TEA in acetone	2023	R	City Of York Council	10	31	25	26.1%	G	0.79
SOCOTEC Didcot	50% TEA in acetone	2023	UB	Gravesham Borough Council	12	19	15	25.6%	G	0.80
SOCOTEC Didcot	50% TEA in acetone	2023	UB	Gravesham Borough Council	12	23	19	16.4%	G	0.84
SOCOTEC Didcot	50% TEA in acetone	2023	R	Ipswich Borough Council	9	26	20	33.0%	G	0.75
SOCOTEC Didcot	50% TEA in acetone	2023	R	Ipswich Borough Council	12	36	27	34.3%	G	0.74
SOCOTEC Didcot	50% TEA in acetone	2023	R	North East Lincolnshire Council	12	43	26	61.9%	G	0.62
SOCOTEC Didcot	50% TEA in acetone	2023	UB	North East Lincolnshire Council	10	13	10	29.1%	G	0.77
SOCOTEC Didcot	50% TEA in acetone	2023	R	North East Lincolnshire Council	11	24	21	18.0%	G	0.85
SOCOTEC Didcot	50% TEA in acetone	2023	R	Cardiff Council / Shared Regulatory Services	11	41	34	22.2%	G	0.82
SOCOTEC Didcot	50% TEA in acetone	2023	UB	Tarfaen County Borough Council	11	12	9	43.9%	G	0.70
SOCOTEC Didcot	50% TEA in Acetone	2023	R	East Suffolk Council	12	29	21	38.9%	G	0.72
SOCOTEC Didcot	50% TEA in Acetone	2023	R	Wrexham County Borough Council	11	17	14	25.2%	G	0.80
SOCOTEC Didcot	50% TEA in Acetone	2023	R	Harzham District Council	12	21	17	23.5%	G	0.81
SOCOTEC Didcot	50% TEA in Acetone	2023	R	Harzham District Council	10	25	17	43.5%	G	0.70
SOCOTEC Didcot	50% TEA in Acetone	2023	R	Harzham District Council	10	23	24	-5.4%	G	1.06
SOCOTEC Didcot	50% TEA in Acetone	2023	UI	North Lincolnshire Council	10	14	11	26.2%	G	0.79
SOCOTEC Didcot	50% TEA in acetone	2023	R	Bridgend Council	11	32	27	20.8%	G	0.83
SOCOTEC Didcot	50% TEA in acetone	2023	R	Cambridge City Council	12	22	18	24.8%	G	0.80
SOCOTEC Didcot	50% TEA in acetone	2023	R	Leeds City Council	10	39	29	32.3%	G	0.76
SOCOTEC Didcot	50% TEA in acetone	2023	KS	Leeds City Council	10	30	20	48.9%	G	0.67
SOCOTEC Didcot	50% TEA in acetone	2023	R	Leeds City Council	12	25	19	30.0%	G	0.77
SOCOTEC Didcot	50% TEA in acetone	2023	UC	Leeds City Council	11	26	19	40.0%	G	0.71
SOCOTEC Didcot	50% TEA in acetone	2023	KS	Marylebone Road Inter-comparison	11	53	38	41.4%	G	0.71
SOCOTEC Didcot	50% TEA in acetone	2023	R	Valle Of White Horse District Council	10	22	18	21.2%	G	0.83
SOCOTEC Didcot	50% TEA in acetone	2023	UB	Wirral Council	11	15	13	16.7%	G	0.86
SOCOTEC Didcot	50% TEA in acetone	2023	Overall Factor ² (28 studies)						Use	0.77

Table C.1 – Bias Adjustment Factor

Monitoring Year	Woodbridge Sies		All Other Sites		
	Local or National	Adjustment Factor	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	Local	0.72	National	03/24	0.77
2022	Local	0.72	National	03/23	0.76
2021	Local	0.80	National	06/22	0.78
2020	Local	0.84	National	06/21	0.76
2019	Local	0.84	National	03/20	0.75

Table C.2 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	11				
Bias Factor A	0.72 (0.67 – 0.77)				
Bias Factor B	40% (30% - 50%)				
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	29.3				
Mean CV (Precision)	6.8%				
Automatic Mean ($\mu\text{g}/\text{m}^3$)	21.0				
Data Capture	99%				
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	21 (20 – 23)				

Notes:

A single local bias adjustment factor has been used to bias adjust the 2023 diffusion tube results for all diffusion tube sites in Woodbridge only.

NO₂ 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/NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

No diffusion tube NO₂ monitoring locations within East Suffolk Council required distance correction during 2023.

QA/QC of Automatic Monitoring

NO₂ concentrations were monitored by a chemiluminescence analyser in Woodbridge in ESC during 2023. Quality assurance of the data from the continuous monitoring station was carried out by Ricardo-AEA following the same procedures used for sites within the Government's Automatic Urban and Rural Network (AURN). Calibrations were undertaken every 3-4 weeks by a Council Officer (Local Site Operator). The procedures adopted for

the calibrations were modelled on those developed by AEA Energy & Environment for use in the national monitoring networks.

The calibrations were undertaken using certified calibration gas provided by BOC with traceability to National Metrology Standards obtained via regular the United Kingdom Accreditation Scheme (UKAS) Quality Control Audits carried out by Ricardo Energy & Environment. The audits provide a range of information that is utilised within the data management process for the data sets.

Audit tests are undertaken once a year by Ricardo Energy & Environment. They include accredited audit zero and span calibrations, linearity, NOx converter efficiency, flow and leak checks as well as checks of the instruments sampling system. Data presented in this report have been fully ratified by Ricardo Energy & Environment.

The analyser is routinely serviced biannually (July and December 2023) by Matts Monitors Ltd.

The data set was screened, scaled and validated using all available routine site calibrations, audit results and service engineer records. A final process of data ratification ensures that the data provide the most accurate record of the pollution concentrations across the measurement period. The data management process adopted is that evolved and implemented by Ricardo Energy & Environment within the data management programme of the AURN UK national monitoring network. This process is expected to deliver data sets that meet the EU Data Quality Objective of a measurement uncertainty of better than 15%.

Live and historic monitoring data can be found on the Air Quality England Website [Air Quality England Website - ESC](#)

Automatic Monitoring Annualisation

All automatic monitoring locations within ESC recorded data capture of greater than 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.

NO₂ 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 NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, automatic annual mean NO₂ concentrations corrected for distance are presented in Table A.3.

No automatic NO₂ monitoring locations within ESC required distance correction during 2023.

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

Figure D.1: Map of diffusion tubes: Lowestoft and Oulton Broad – LOW 1, LOW 2, LOW 3, LOW 5, LOW 6ABC, LOW 7, LOW 8, LOW 9, LOW 11, LOW 12, LOW 13, LOW 14, LOW 17, LOW 18, LOW 19, LOW 21, OBR 1, OBR 2, OBR 4, OBR 5 AND OBR 6.

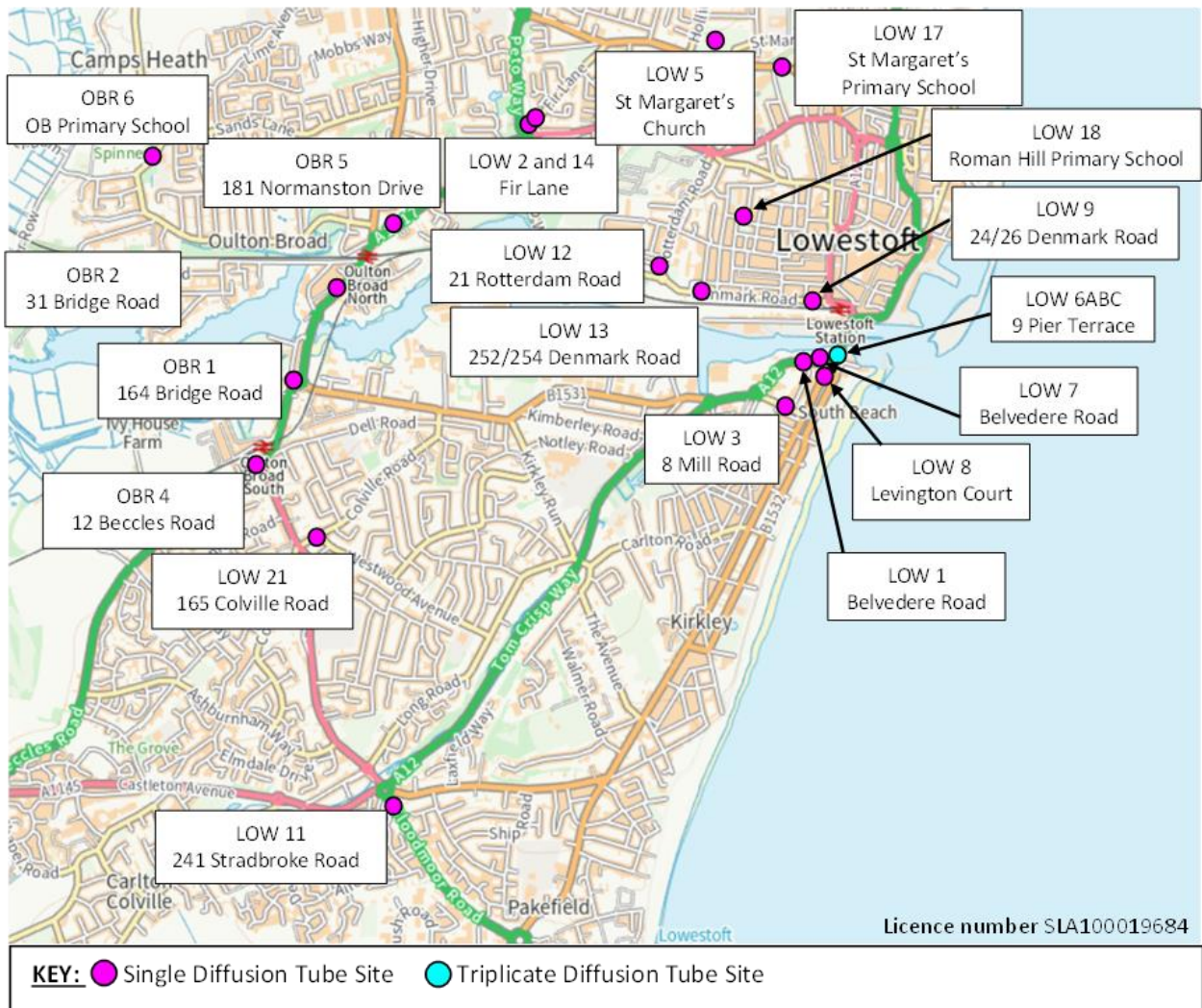


Figure D.2: Map of diffusion tubes: Lowestoft – LOW 1, LOW 2, LOW 3, LOW 5, LOW 6ABC, LOW 7, LOW 8, LOW 9, LOW 12, LOW 13, LOW 14 And LOW 17

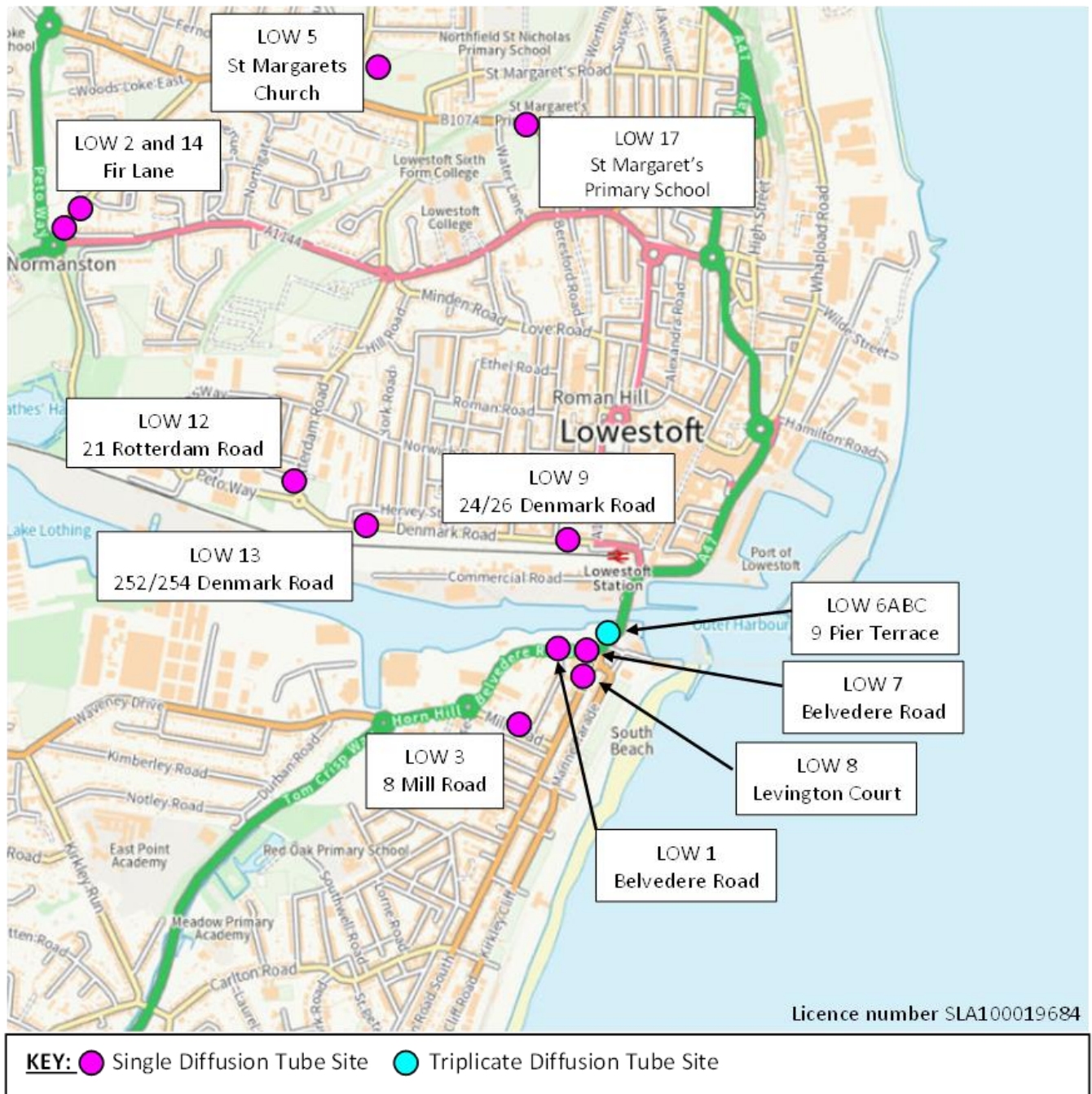


Figure D.3: Map of diffusion tubes: Lowestoft – LOW 16 And LOW 20



Figure D.4: Map of diffusion tubes: Oulton Broad – OBR 1, OBR 2, OBR4, OBR 5 and OBR 6

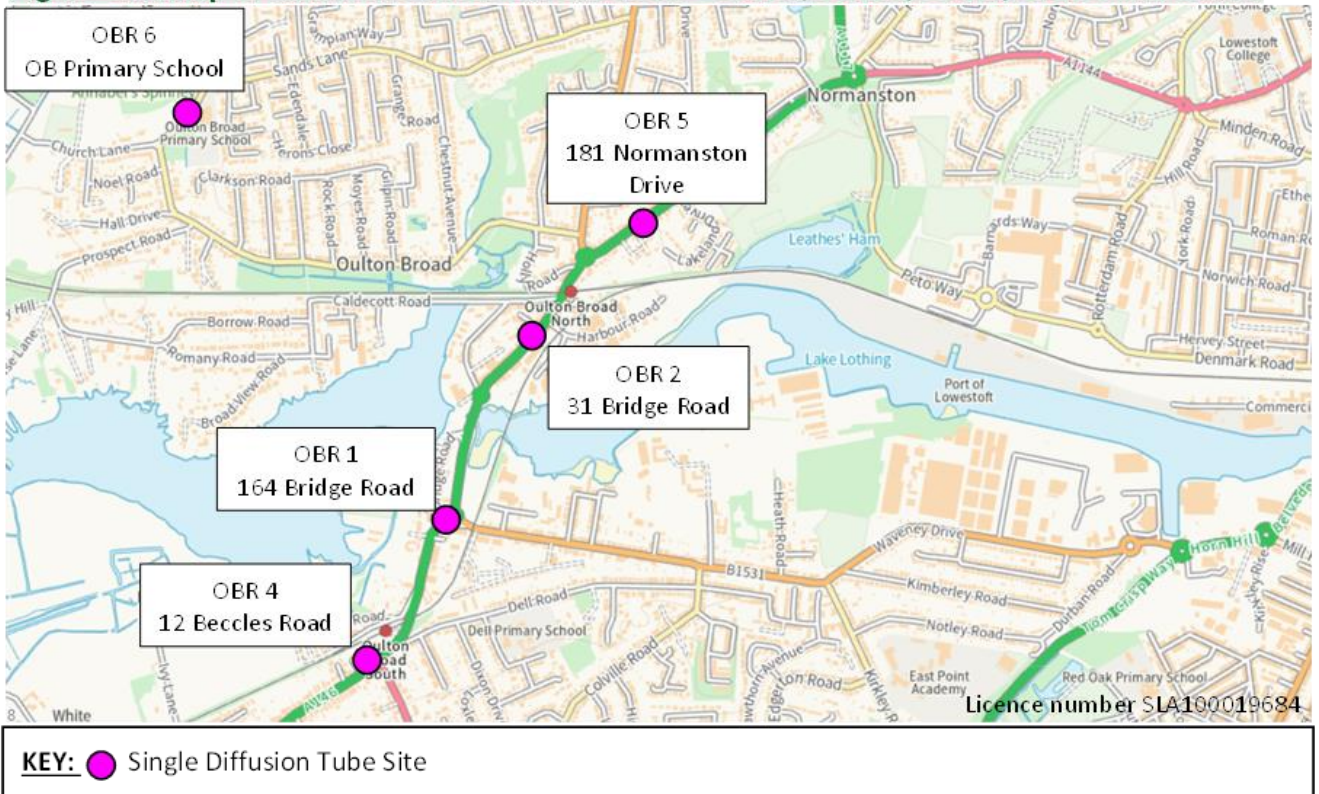


Figure D.5: Map of diffusion tubes: Beccles – BEC 1, BEC 3, BEC 4, BEC5ABC, BEC 7 and BEC 8



Figure D.6: Map of diffusion tubes: Beccles – BEC 1, BEC 3, BEC 4 AND BEC 5ABC

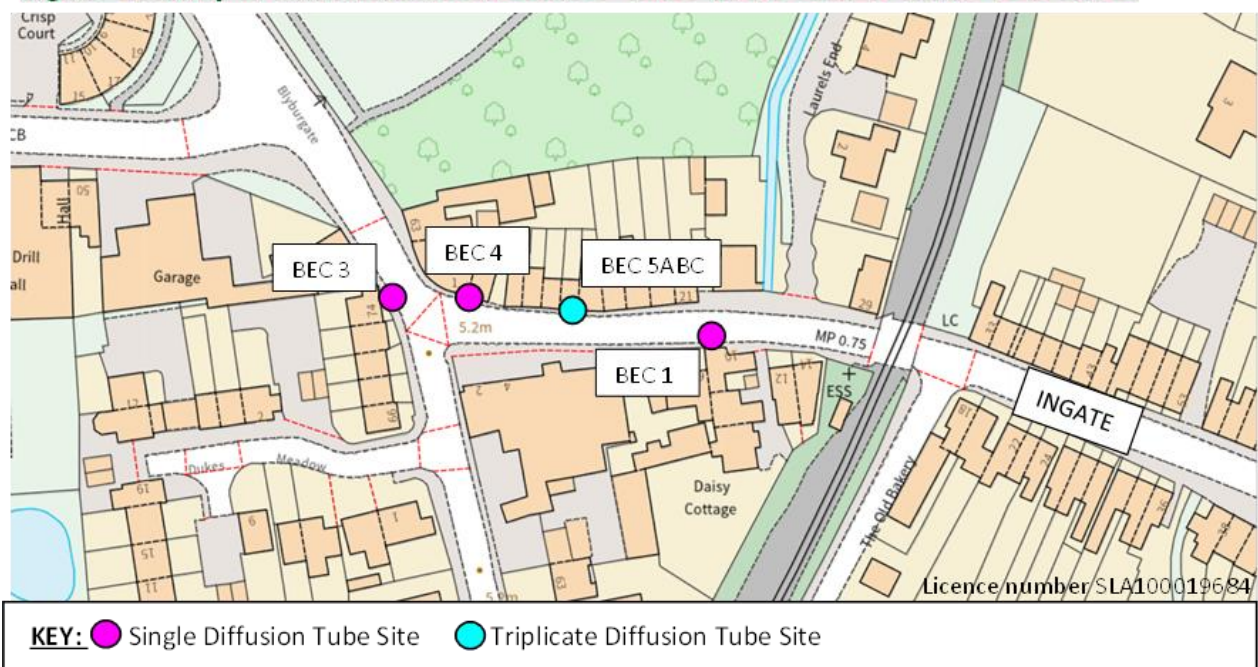


Figure D.7: Map of diffusion tubes: Bungay – BUN 1 and BUN 3

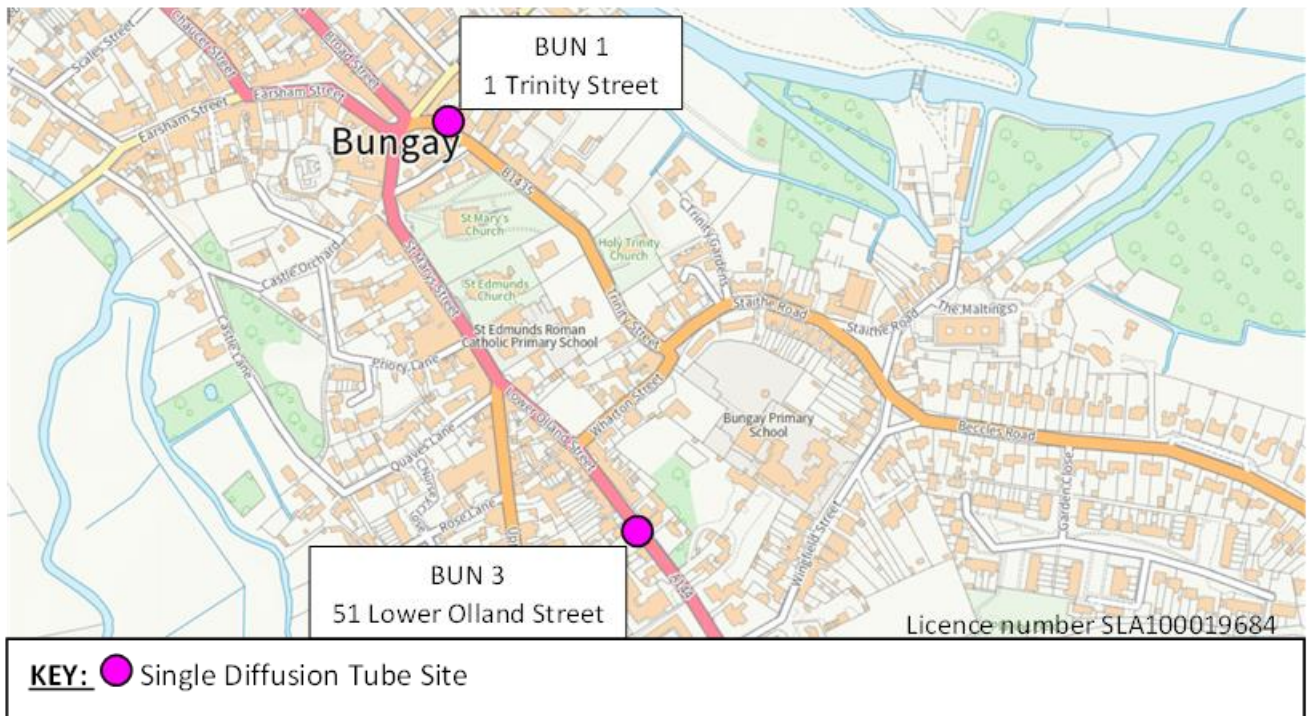


Figure D.8: Map of diffusion tubes: Halesworth– HLW 2



Figure D.9: Map of diffusion tubes: Blythburgh - BLY 1



Figure D.10: Map of diffusion tubes: Felixstowe – FLX 12, FLX 14, FLX 20, FLX 21, FLX 22, FLX 24, FLX 26ABC and FLX 44

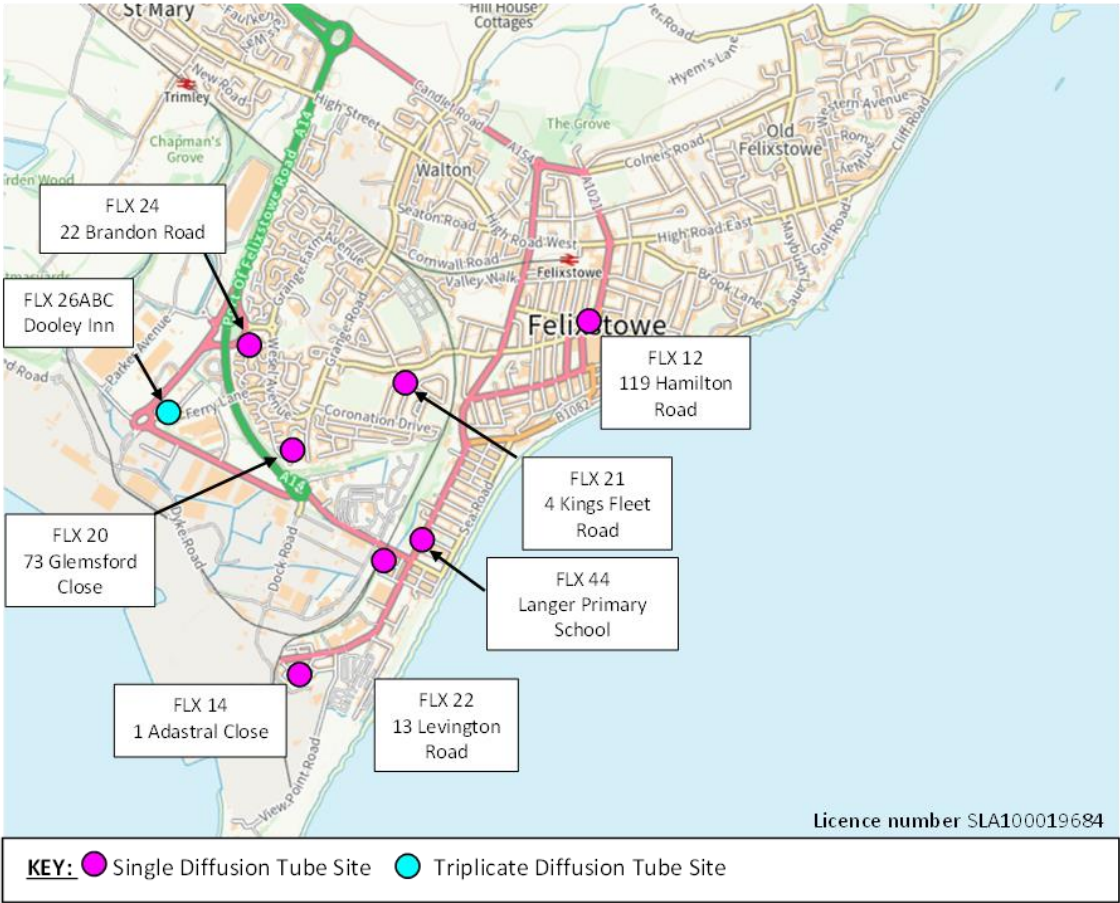


Figure D.11: Map of diffusion tubes: Felixstowe and Trimley St Mary – TRM 3, TRM 4, TRM 5, TRM 8, FLX 17, FLX 23 and FLX 39

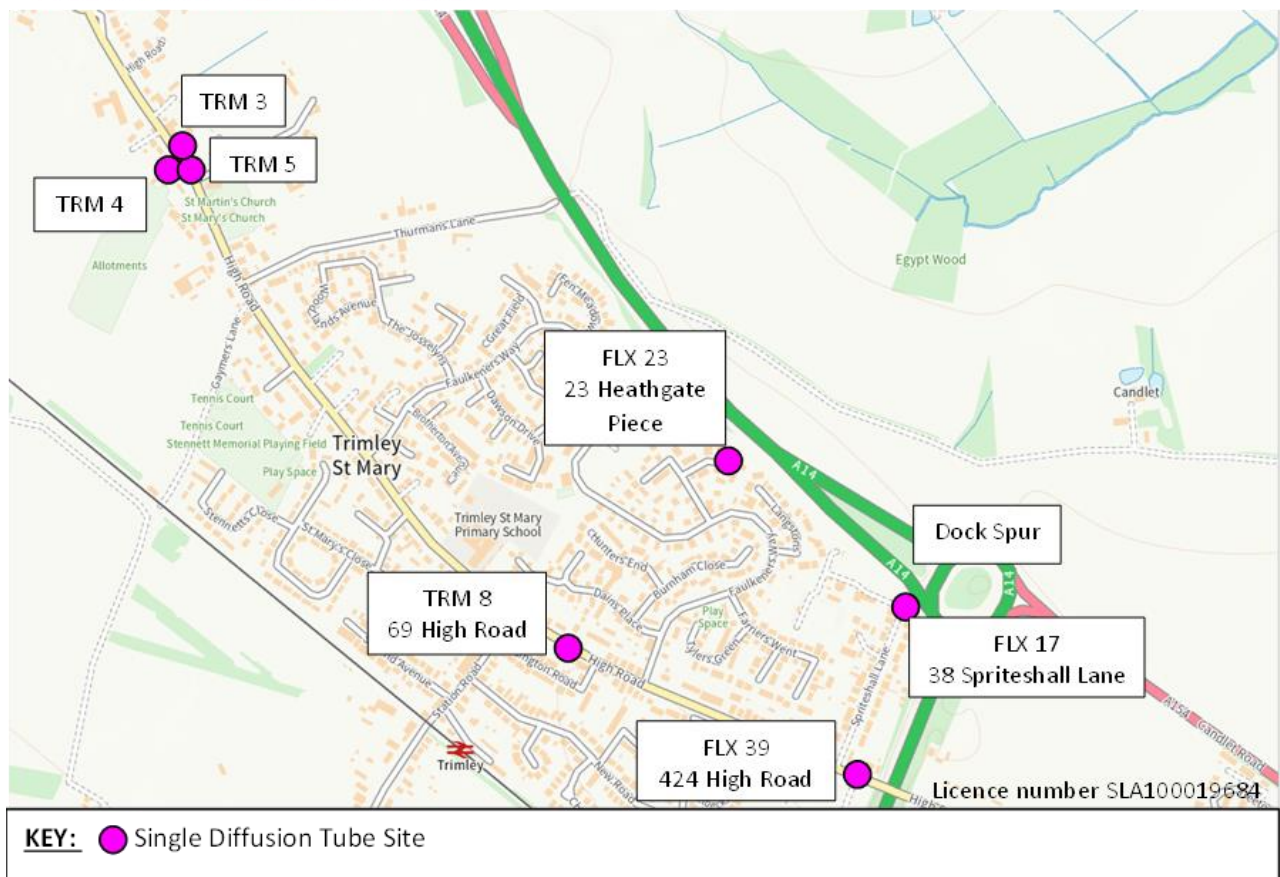


Figure D.12: Map of diffusion tubes: Trimley St Mary – TRM 3, TRM 4 and TRM 5

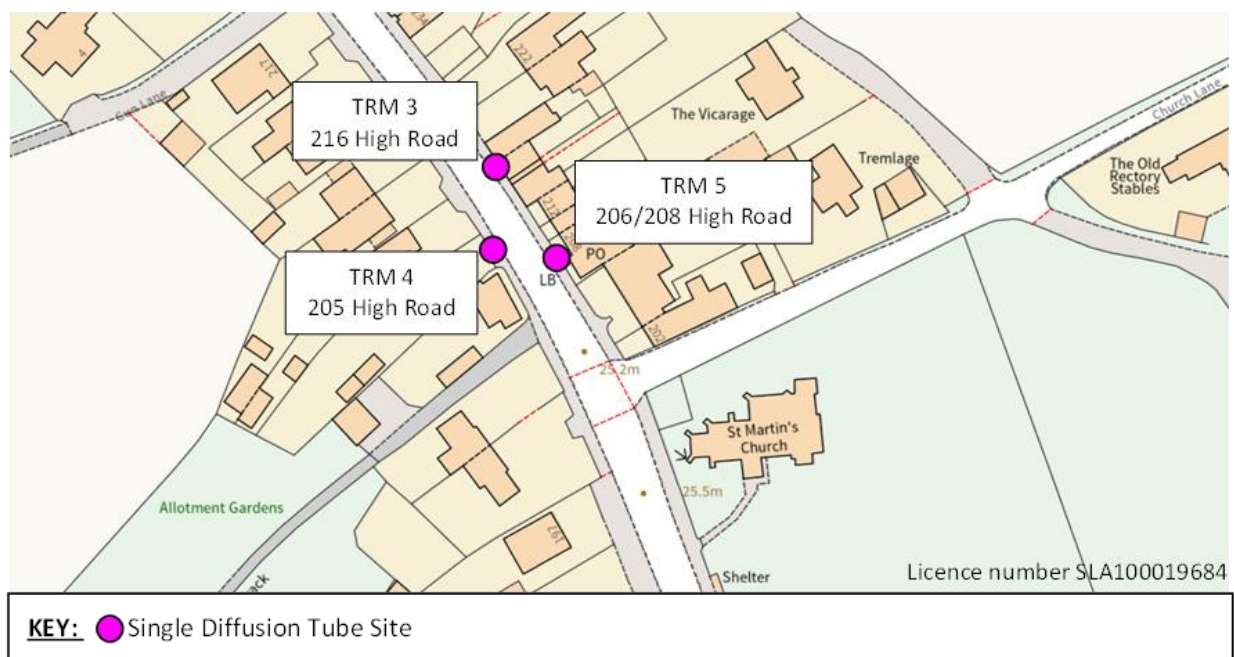


Figure D.13: Map of diffusion tubes: Trimley St Mary – TRM



Figure D.14: Map of diffusion tubes: Felixstowe and Trimley St Mary – TRM 10, TRM 12, FLX 17 and FLX 39

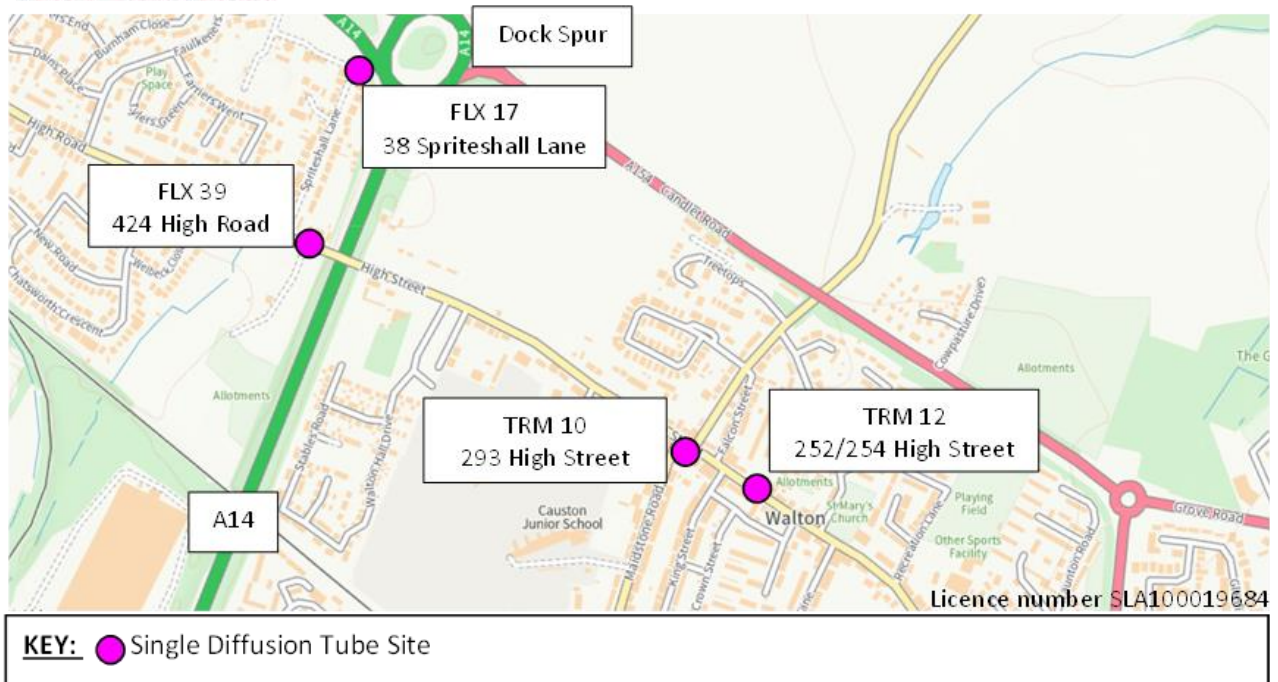


Figure D.15: Map of diffusion tubes: Kesgrave – KSG 9 and KSG 10ABC.

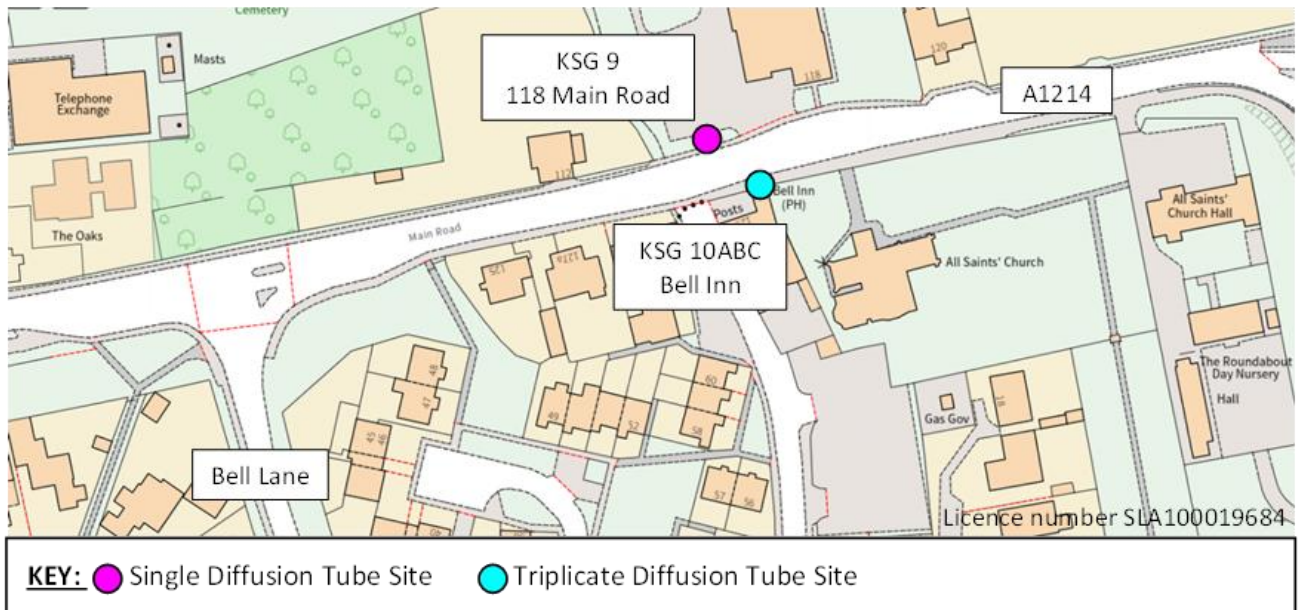


Figure D.16: Map of diffusion tubes: Melton – MEL 5 and MEL 7

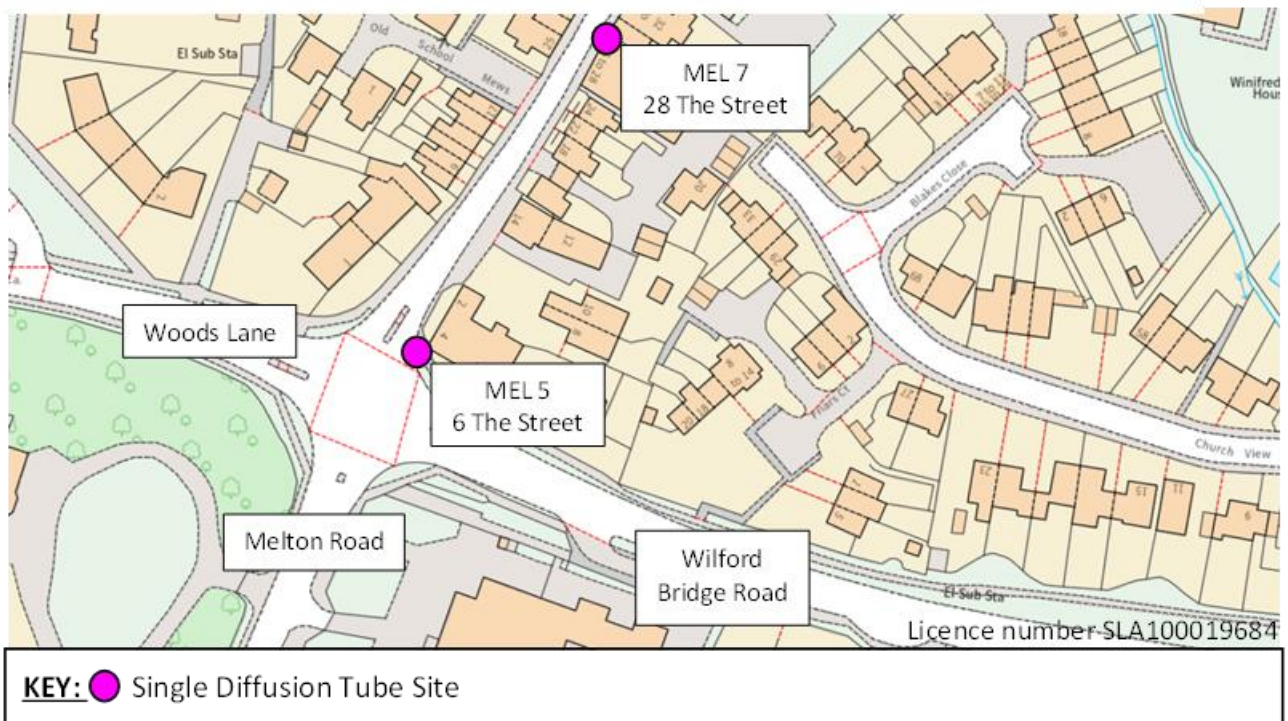


Figure D.17: Map of diffusion tubes: Martlesham– MRT 1 ABC

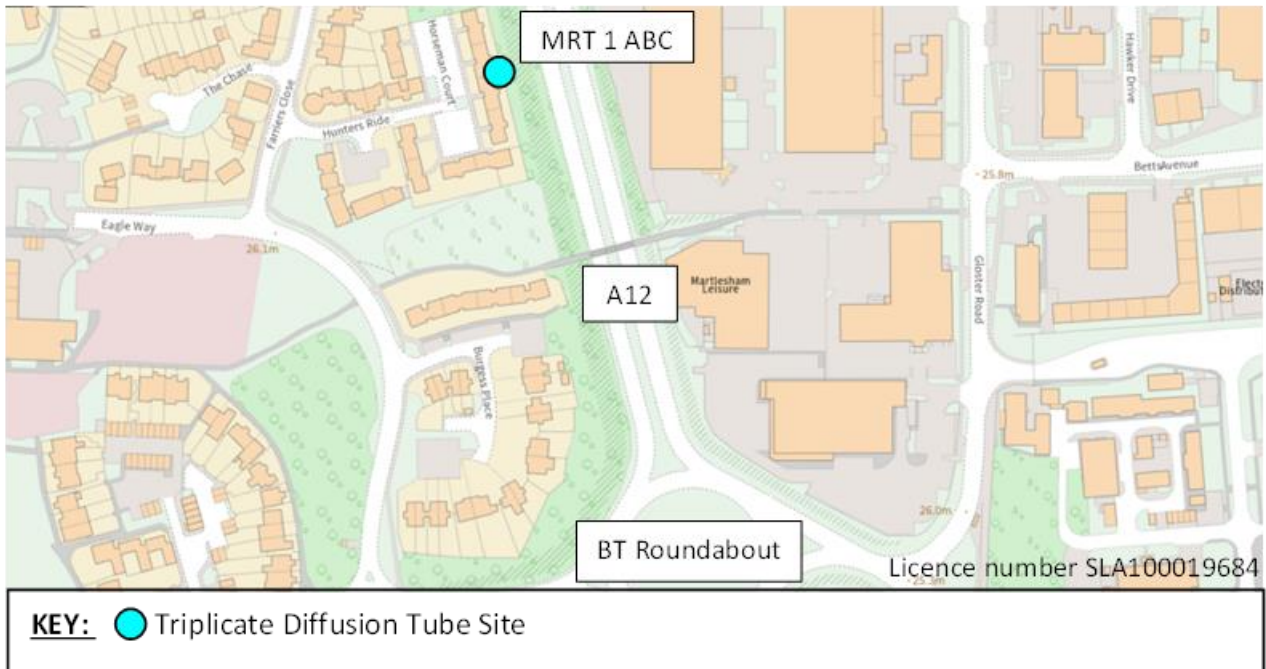


Figure D.18: Map of diffusion tubes: Martlesham– MRT 9

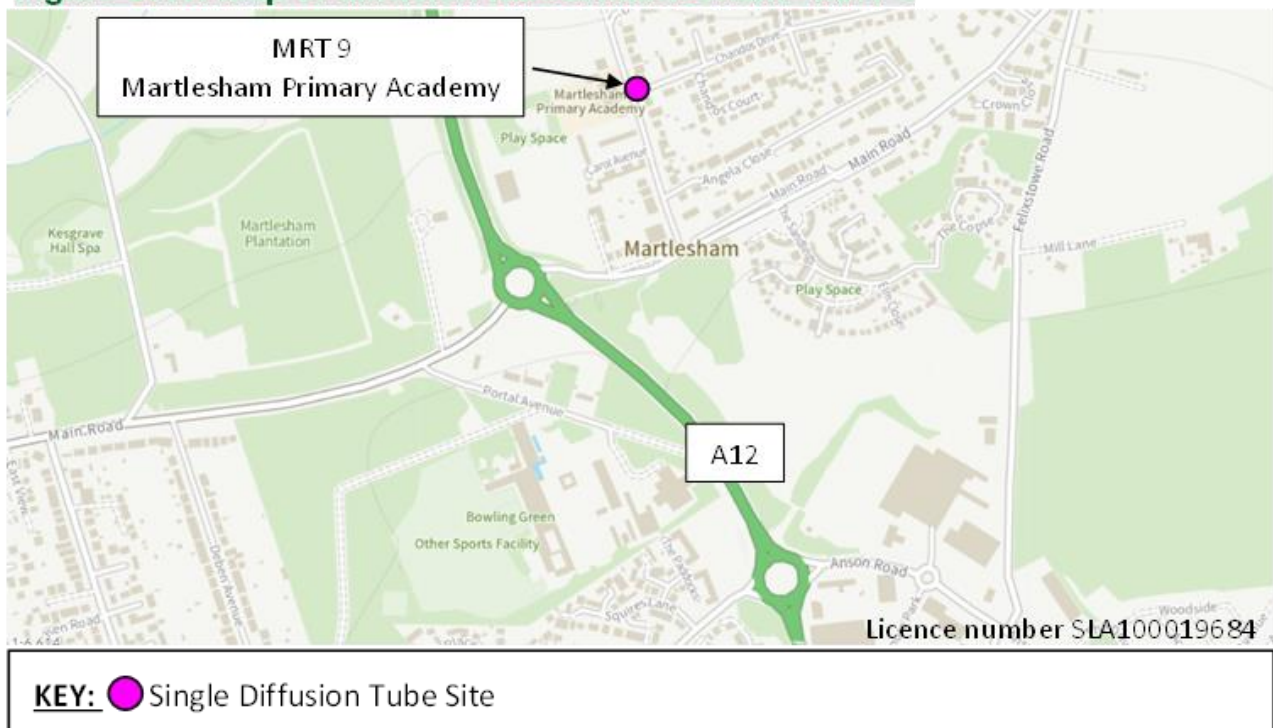


Figure D.19: Map of diffusion tubes: Farnham and Stratford and Little Glemham - FAR 1, FAR 2ABC, STA 1ABC, STA 2, STA 6, STA 7, STA 8ABC and LGM 2

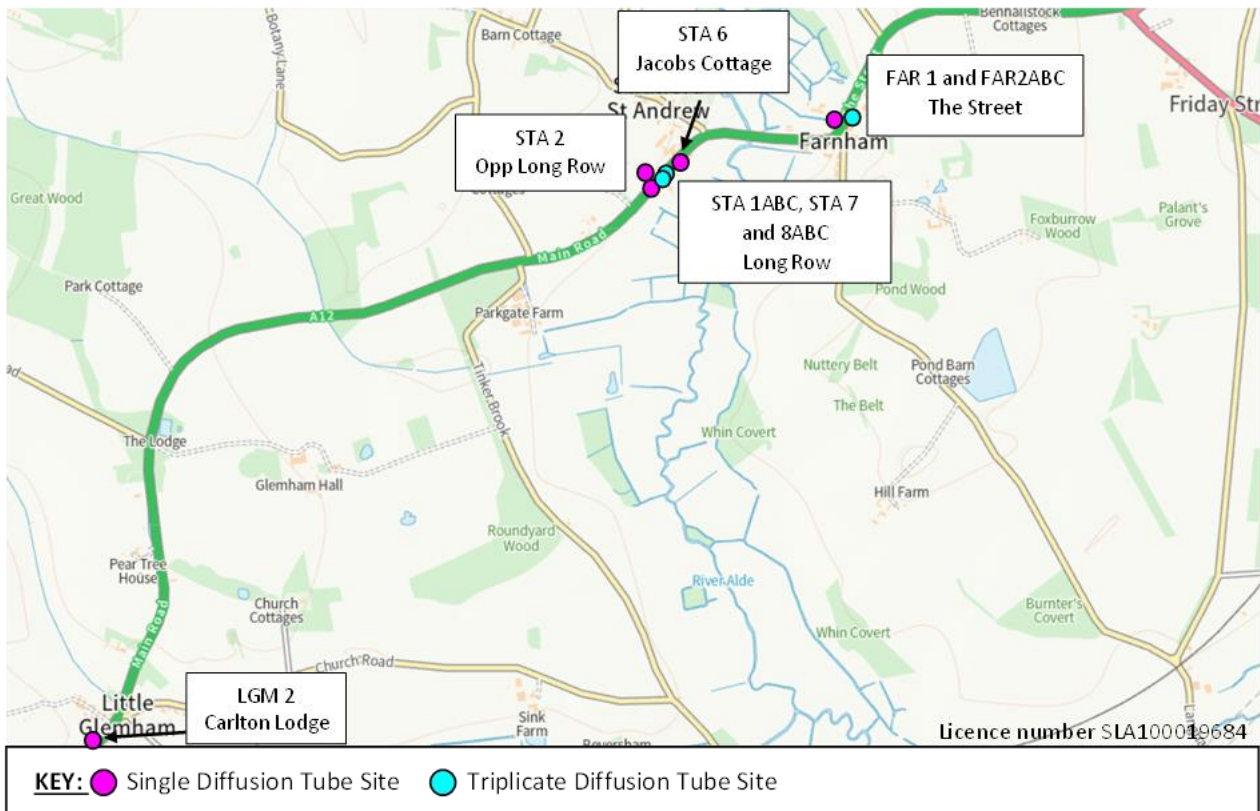


Figure D.20: Map of diffusion tubes and AQMA: Stratford St Andrew- STA 1ABC, STA 2, STA 6, STA 7, and STA 8ABC

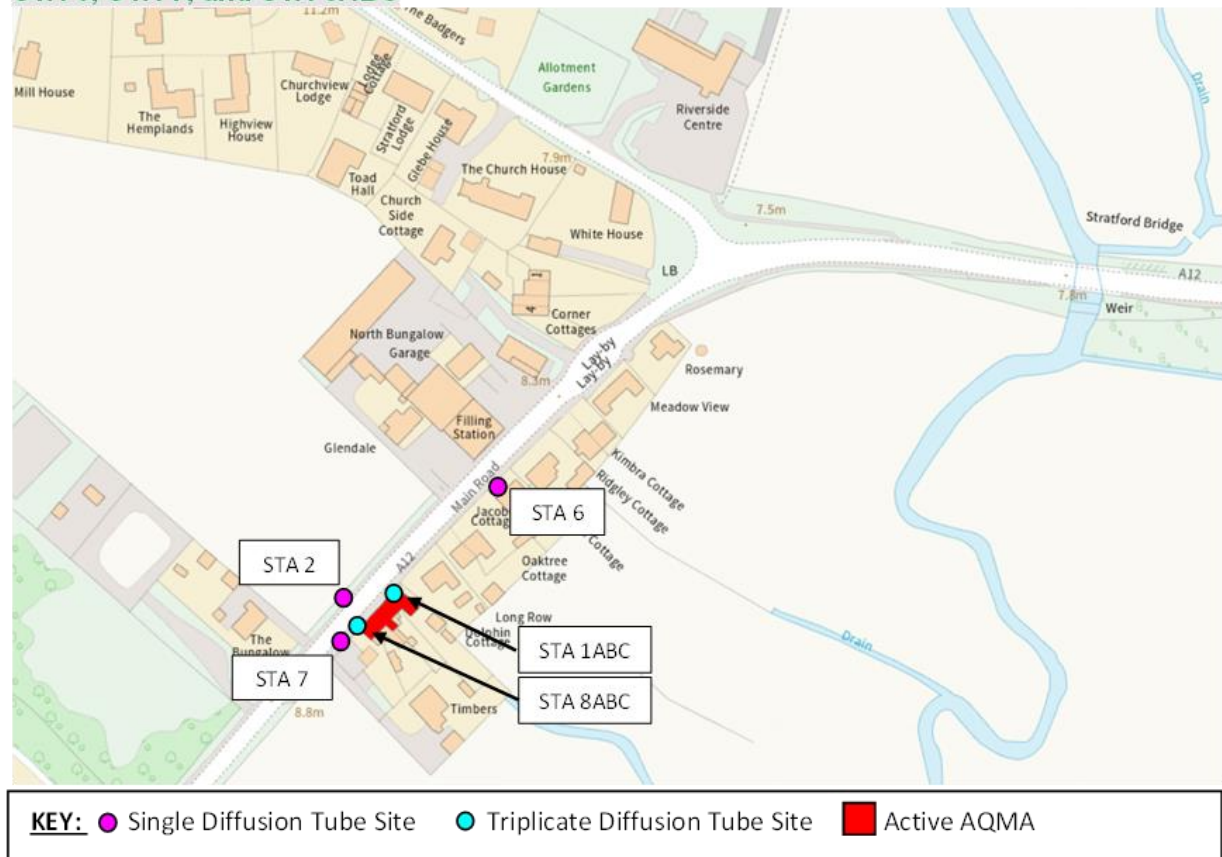


Figure D.21: Map of diffusion tubes: Little Glemham and Marlesford - LGM 2 and MARL 1



Figure D.22: Map of diffusion tubes: Theberton – THEB 1

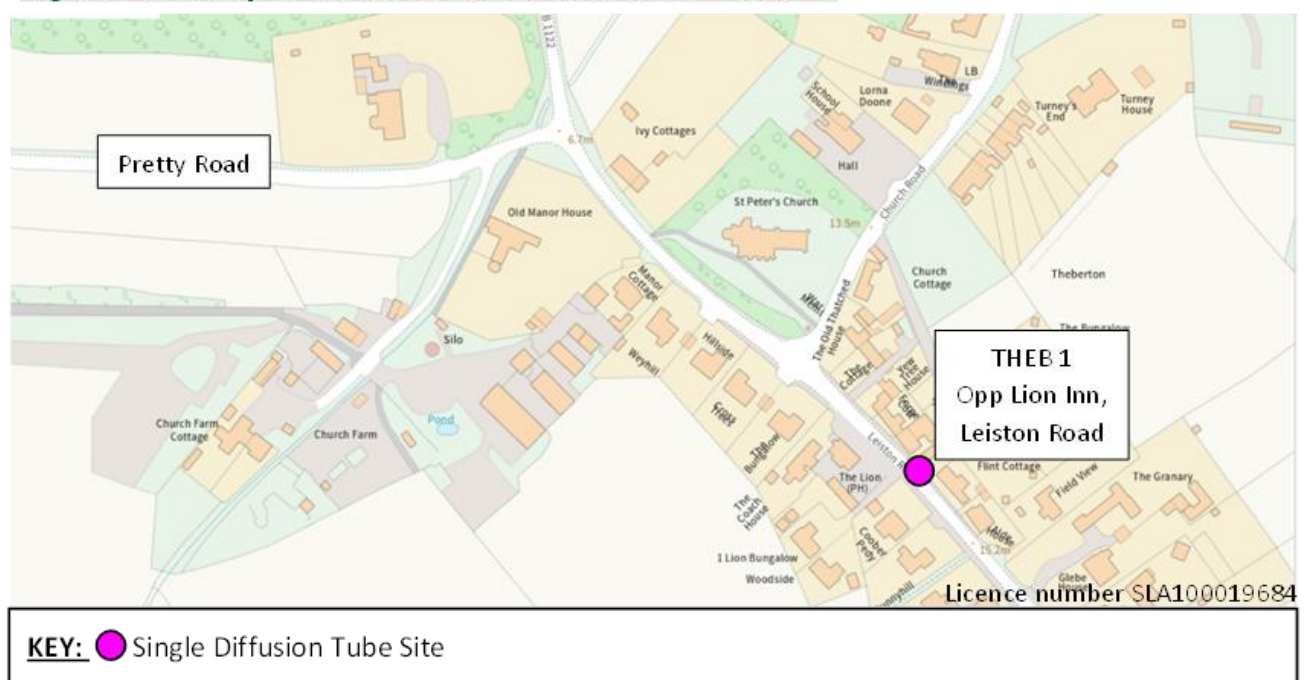


Figure D.23: Map of diffusion tubes: Middleton - MID 1

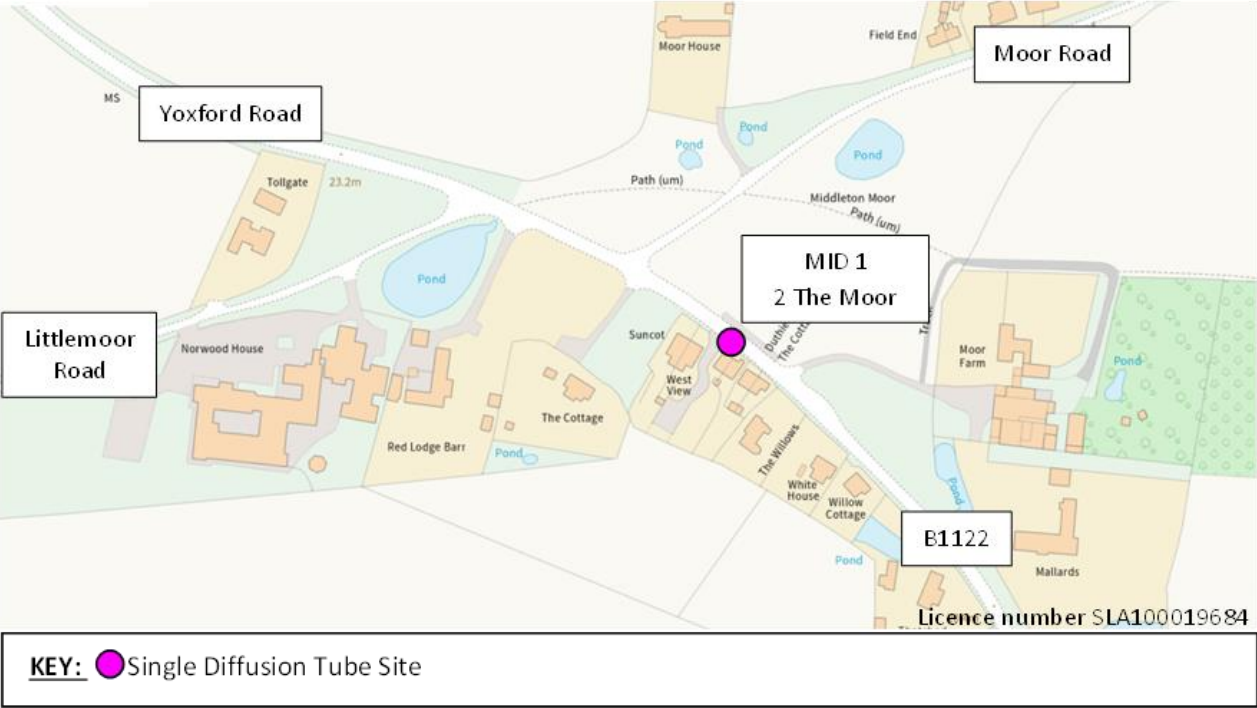


Figure D.24: Map of diffusion tubes: Yoxford – YOX 1 and YOX 2

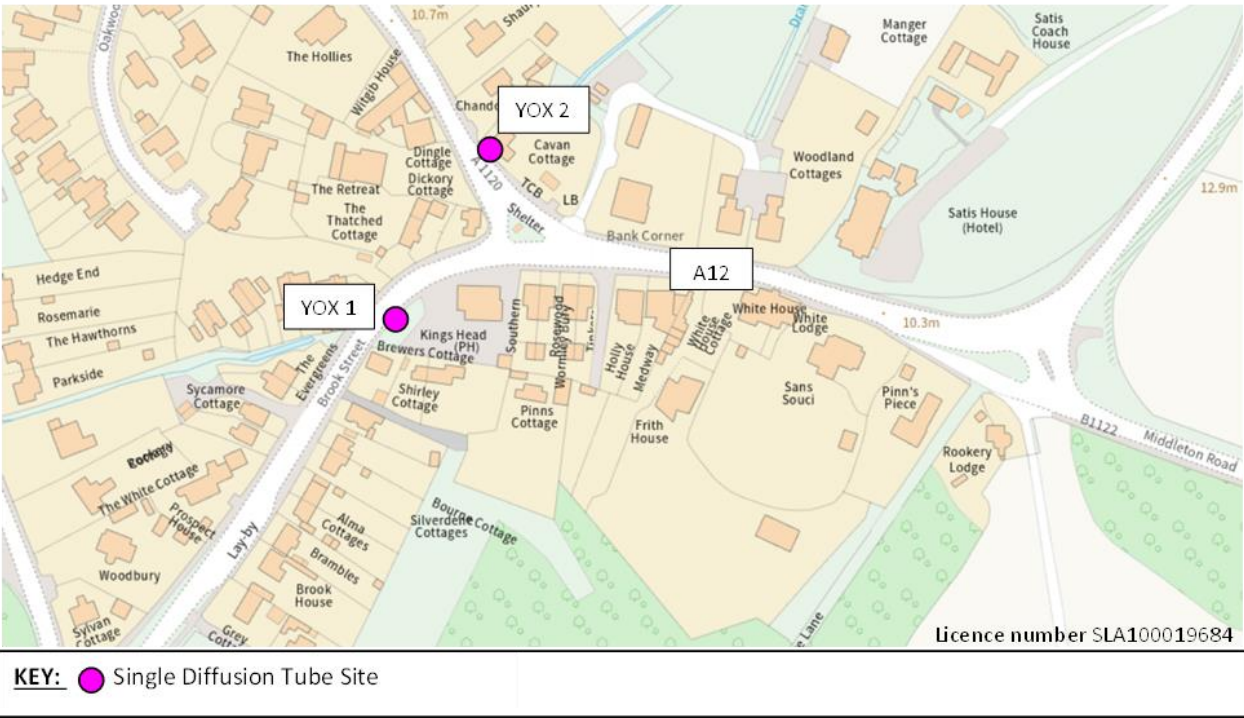


Figure D.25: Map of diffusion tubes: Saxmundham – SAX 1

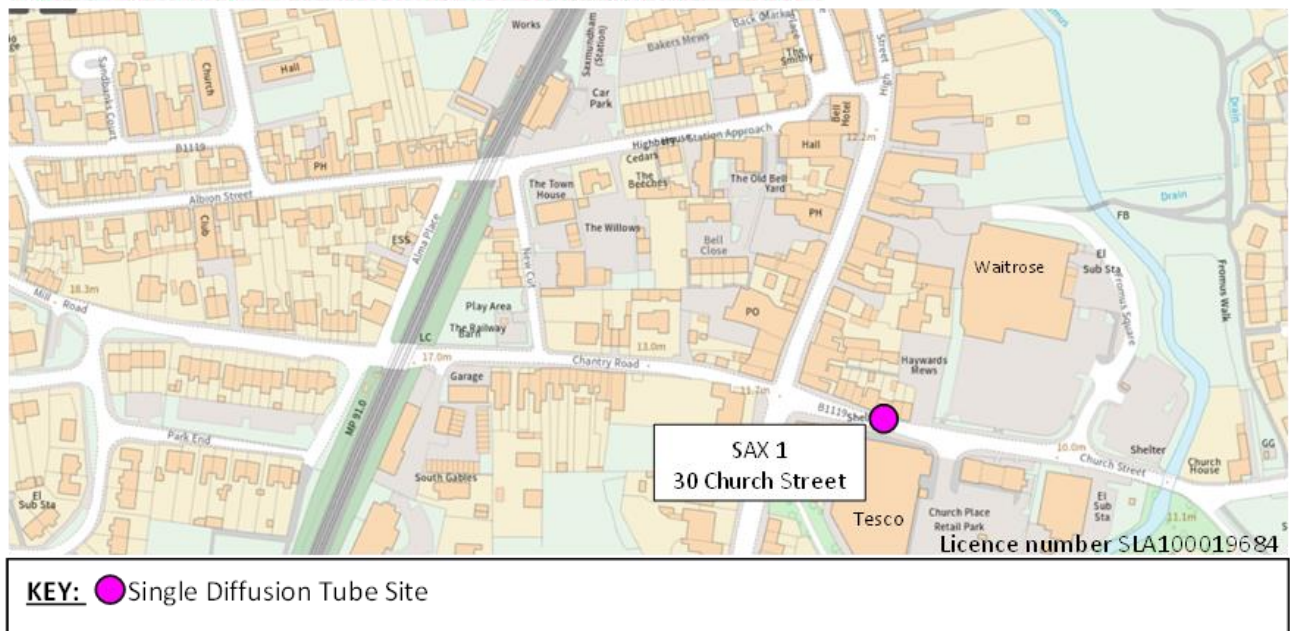


Figure D.26: Map of diffusion tubes: Leiston – LEI 2, LEI 3, LEI 4 and LEI 5



Figure D.27: Map of diffusion tubes: Tunstall – TUN 1



Figure D.28: Map of diffusion tubes: Wickham Market – WKM 1, WKM 2 and WKM 3

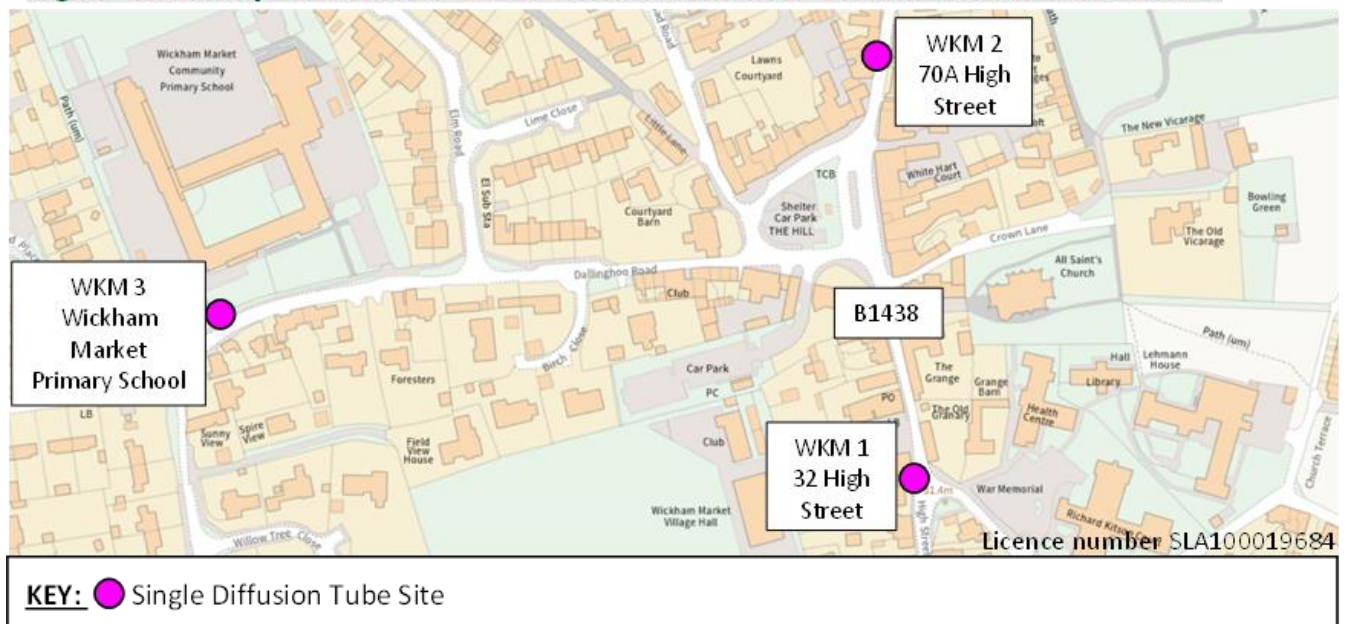


Figure D.29: Map of diffusion tubes and continuous NOx analyser: Woodbridge – WBG 1ABC, WBG 3, WBG 5, WBG 8, WBG 10, WBG 12, WBG 13, WBG 18, WBG 20, WBG 24 and WBG 25.



Figure D.30: Map of diffusion tubes, continuous NOx analyser and revoked AQMA: Woodbridge – WBG 1abc, WBG 5, WBG 8, WBG 10, WBG 12, WBG 13, WBG 18, and WBG 20

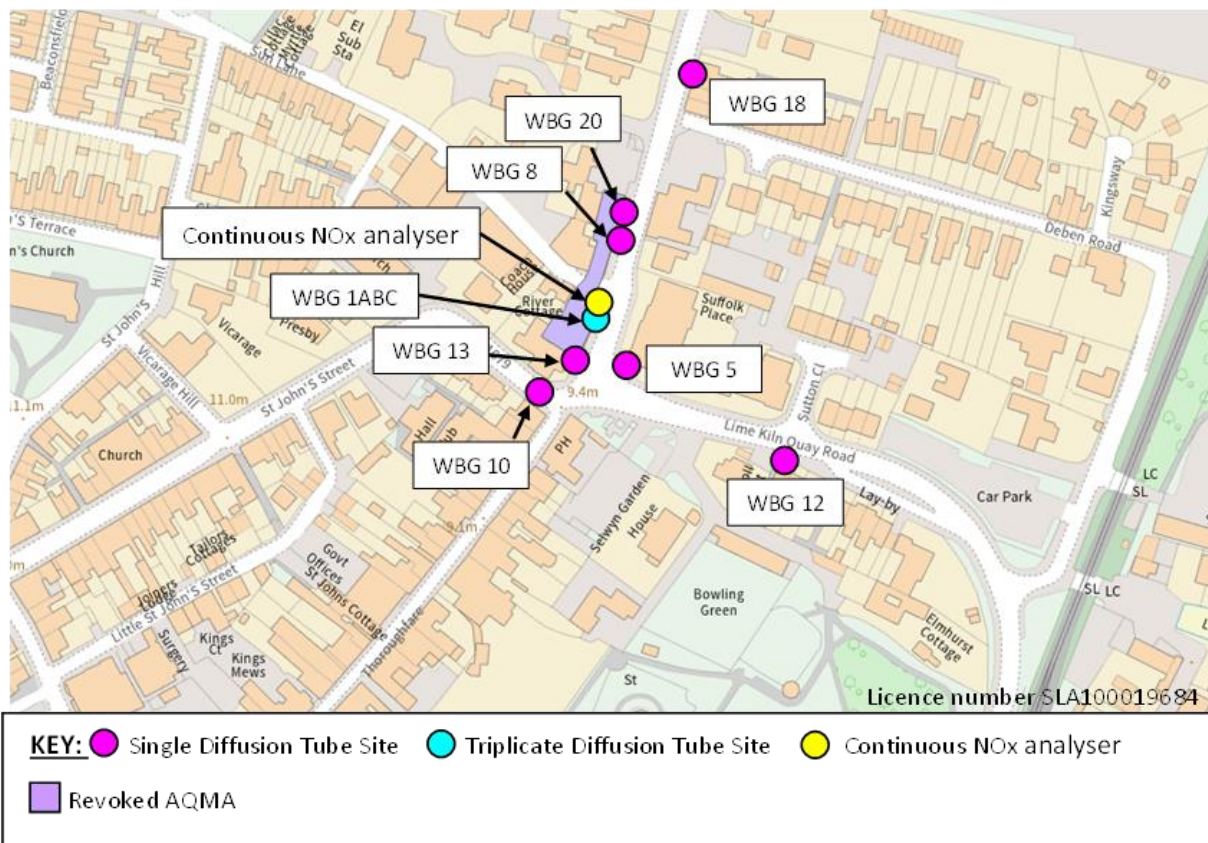
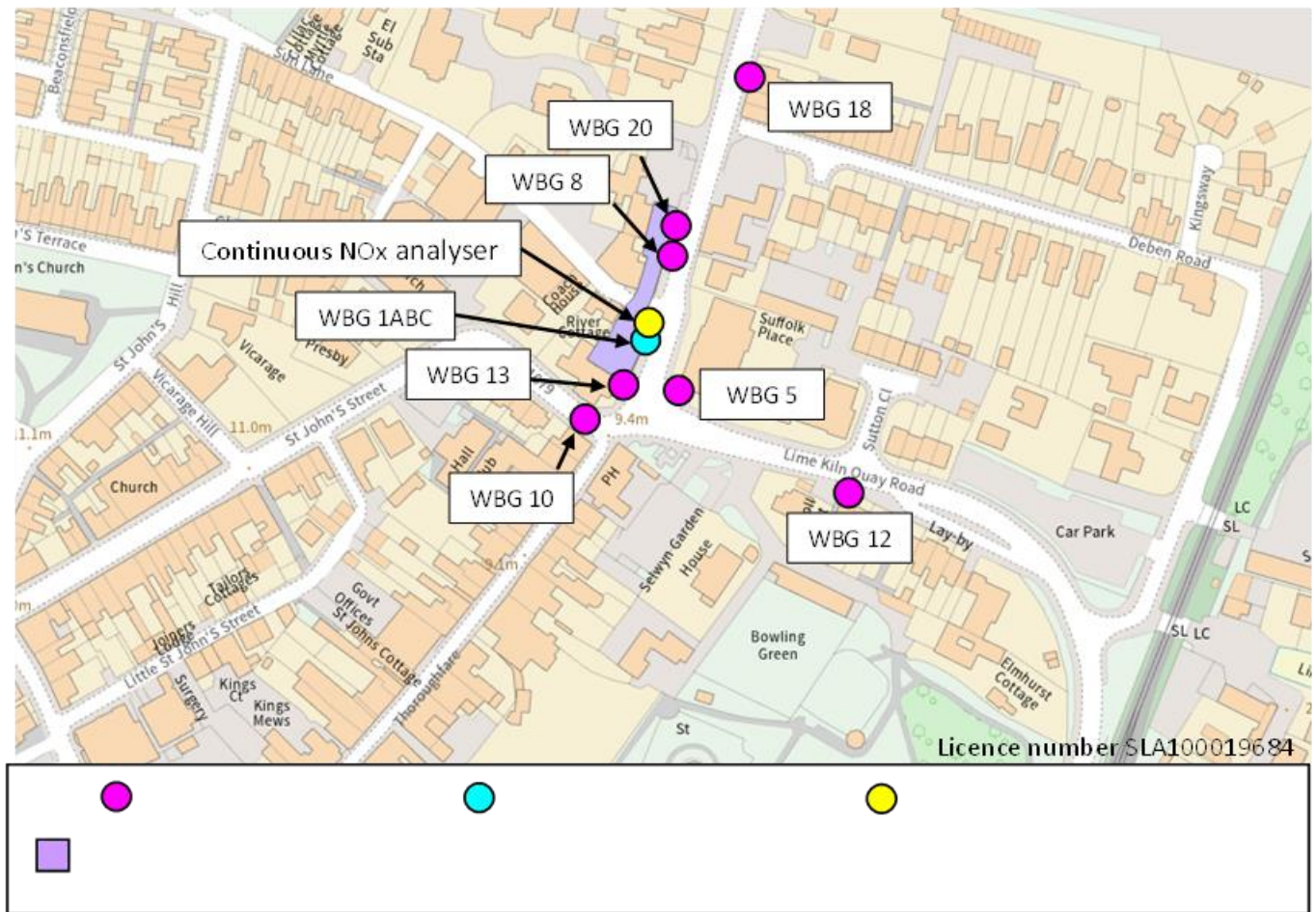


Figure D.30: Map of diffusion tubes, continuous NO_x analyser and revoked AQMA: Woodbridge – WBG 1abc, WBG 5, WBG 8, WBG 10, WBG 12, WBG 13, WBG 18, and WBG 20



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁷

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

⁷ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Appendix F: SCS OPCube Monitoring Results

Site deployment information

(taken from PAS 4023:2023 Selection, deployment and quality control of low-cost air quality sensor systems in outdoor ambient air – Code of practice)

Parameter	Metadata
Site name	Little Bealings
Site address	Hall Road, Little Bealings IP13 6NB
Installation date	Installed 20/07/22 Data collection started 22/07/22
Reason for siting	Following several dust complaints from nearby industrial location
Sensor details	Make and Model: SCS Praxis Cube Serial number: scsopc179
Location	Latitude: 52°04'27.2"N (52.074208) Longitude: 1°15'03.5"E (1.250969) OS grid reference: 622884 246746
Pollutants measured	NO2, PM10, PM2.5
Security/risk of vandalism/access	Details: Located in remote area within front garden of residential property, accessible without owner. Very little risk of vandalism. Owner has agreed access whenever needed.
Access to street furniture	None available in this location
Electricity supply	Via external socket on garage wall installed by Council electrician
Co-located with reference analyser	No
Ease of mounting sensor unit	Mounted on wooden fence post sunk in garden and head height – easy to remove
Height from ground level in metres	1.6m
Geographic concerns	Details: Located in open area of garden with no tree cover overhead. Many large trees nearby.
NOTE Where the recommendations on deployment have not been followed, then these deviations can be recorded in this table under geographic concerns.	

Air Pollution Report

Produced by Ricardo Energy & Environment on behalf of East Suffolk Council

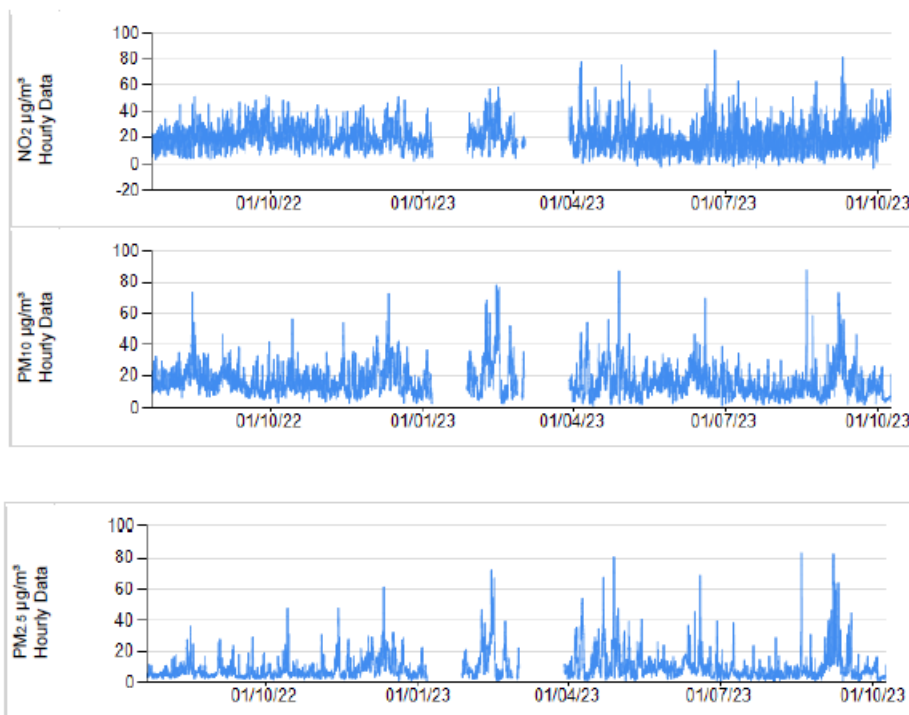
scsopc179

22/07/2022 to 08/10/2023

	V High (No. of Days)	High (No. of Days)	Mod (No. of Days)	Low (No. of Days)	Max. Hourly Conc.	Max. Daily Conc.	Max. Running 8 Hour Mean	Max. Running 24 Hour Mean	Period Mean Conc.	Period Data Capture (%)
NO ₂ (µg/m ³)	0	0	0	397	87	40	58	43	20	88.4
PM ₁₀ (µg/m ³)	0	0	2	388	88	56	69	57	17	88.5
PM _{2.5} (µg/m ³)	0	0	6	384	83	43	69	44	10	88.5

Particulate matter concentrations are reported at ambient temperature and pressure.
All mass units are at 20°C and 1013mb.

	Air Quality Objective	Exceedances	Days
NO ₂	Hourly mean > 200 µg/m ³	None	0
NO ₂	Period mean > annual mean obj 40 µg/m ³	No	
PM ₁₀	Daily mean > 50 µg/m ³	2	2
PM ₁₀	Period mean > annual mean obj 40 µg/m ³	No	
PM _{2.5}	Period mean > annual mean obj 10 µg/m ³ (Scotland)	No	
PM _{2.5}	Period mean > annual mean obj 25 µg/m ³ (UK)	No	
PM _{2.5}	Period mean > annual mean obj 20 µg/m ³ (EU)	No	
Note: When comparing site measurements against the air quality objectives data capture should meet or exceed 85% across a calendar year.			



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
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

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- East Suffolk Council Air Quality Strategy. Produced by East Suffolk Council, 2021.
- Defra. Local Air Quality Management 2022 NO_x NO₂ PM₁₀ PM_{2.5} CSV Format Background Maps at [Background Maps | LAQM \(defra.gov.uk\)](https://www.defra.gov.uk/air-quality/laqm/background-maps/)
- Suffolk Air Quality Strategy and Action Plan. Produced by Suffolk County Council, May 2023.