East Cambridgeshire District Council

2025 Air Quality Annual Status Report (ASR)

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

June 2025

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Local Responsibilities and Commitment

This ASR was prepared by the Environmental Services Department of East Cambridgeshire District Council with the support and agreement of the Executive Directors, Strategic Planning and Climate Change departments.

This ASR has been approved and signed off by the Chief Executive of East Cambridgeshire District Council and the Director of Public Health for Cambridgeshire and Peterborough.

If you have any comments on this ASR, please send them to Peter Ord at the above address.

Executive Summary: Air Quality in Our Area

Air Quality in East Cambridgeshire

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

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

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

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

East Cambridgeshire is predominantly rural in character. Air quality is relatively good and has steadily improved over the years. Statutory objectives are being met at all monitoring locations, and the council has not designated any Air Quality Management Areas (AQMAs). As in most areas of the country, road traffic emissions are the principal source

of poor air quality; and nitrogen dioxide (NO_2) and particulate matter (PM) are the main contaminants of concern.

This Annual Status Report (ASR) contains air quality monitoring data gathered between 1st January and 31st December 2024. East Cambridgeshire District Council monitored NO_2 levels at 25 locations across the district using diffusion tubes. Annual mean NO_2 values were derived for all 25 of these locations.

Compared with 2023 all locations recorded a decrease in NO_2 concentrations in 2024. The highest annual mean concentration of 16.6µg/m^3 was recorded at NAS18, Post Office, Wilburton; situated on the High Street close to the junction of the A1123 and B1049. The lowest concentrations were recorded at WIL2, Berristead Close, Wilburton (5.8µg/m^3); and SP1, Swaffham Prior Village Hall (5.2µg/$m^{3)}$. Air quality objectives were met at all monitoring locations in 2024 and the year-on-year downward trend in annual mean NO_2 concentrations continued.

Local authorities are not required to monitor for particulate matter (PM), but NO_2 concentration levels serve as an indicator of likely PM concentrations. This ASR has not identified the need to proceed to a Detailed Assessment for any pollutants. No new significant emission sources have been identified which could lead to poor air quality in the district. Air quality continues to improve.

East Cambridgeshire District Council will continue to operate the NO_2 diffusion tube monitoring programme to demonstrate that air quality objectives continue to be met. The council works with the Cambridgeshire and Peterborough Combined Authority (CPCA), Cambridgeshire County Council, Network Rail, and others to promote measures which improve air quality, such as improving public transport, expanding rail freight and passenger service provision, promoting electric vehicle charging point (EVCP) provision, and promoting active travel. The council will compile and submit a further ASR in 2026.

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. Proposals for funding the development of active travel routes in East Cambridgeshire were approved by the CPCA Investment Committee in March 2025. The Council was awarded £70,000 to produce a detailed design for a route between Ely and Stuntney. A further £400,000 was awarded for the Sustrans Study East Cambridgeshire Routes Project to enable further development of the feasibility schemes to preliminary

design stage for two routes - Ely to Soham; and Burwell to Fordham and wider links in the area, including a link to Cambridge.

Conclusions and Priorities

Air quality in East Cambridgeshire is relatively good and improving. Statutory air quality objectives are being met at all monitoring locations. The Council continues to help maintain and improve air quality by working with others to improve public transport provision, encourage electric vehicle uptake, and promote active travel.

How to get Involved

East Cambridgeshire District Council encourages the public to help improve air quality by reducing the number of car journeys they make, considering car sharing, choosing a low emission vehicle when buying a car, switching off car engines when stationary; and by walking, cycling, and using public transport for journeys wherever possible.

Table of Contents

Figures

Tables

1 Local Air Quality Management

This report provides an overview of air quality in East Cambridgeshire during 2025. 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 Cambridgeshire District Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

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

East Cambridgeshire currently does not have any declared AQMAs. A local Air Quality Strategy is in place to help prevent and reduce polluting activities. The Local Air Quality Strategy is available on the Council's website at Air Quality Strategy for East Cambridgeshire.pdf

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

DEFRA's appraisal of last year's ASR concluded that the ASR was detailed and well written and looked forward to the publication of the Council's Local Air Quality Strategy. The Air Quality Strategy was published in September 2024 and is available at Air Quality Strategy for East Cambridgeshire.pdf

East Cambridgeshire District Council has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1. Six measures are included within Table 2.1, with the type of measure and the progress East Cambridgeshire District Council has made during the reporting year of 2024 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.1.

More detail on these measures can be found in their respective Action Plans. A key completed measures is:

- CPCA Local Transport and Connectivity Plan approved and published. A separate local strategy for East Cambridgeshire is included within the plan.

The Local Transport and Connectivity Plan sets out a series of goals to improve bus and train services, promote active travel, improve air quality and reduce carbon emissions.

East Cambridgeshire District Council's priorities for the coming year are:

- to continue to work with our partners to ensure our transport and active travel infrastructure requirements are included and implemented through partner organisations policy documents
- to use the Cycling and Walking Strategy as the basis for influencing change, bidding for funds and negotiating with developers. The Council has prioritised four cycle routes for feasibility exploration and delivery
- to work with the CPCA on a county-wide strategy to roll out EVCPs

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

- Cambridgeshire and Peterborough Combined Authority
- Cambridgeshire County Council

- Network Rail

The principal challenges and barriers to implementation that East Cambridgeshire District Council anticipates facing are the requirement to maintain and improve air quality at a time of increased development pressure and possible cuts in public spending.

Planning applications for new development in East Cambridgeshire must comply with all relevant national and local policy and technical guidance to protect air quality. This includes the National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2024); Land Use Planning and Development Control: Planning for Air Quality (Environmental Protection UK and the Institute of Air Quality Management, 2017); and Policy ENV 9 of the East Cambridgeshire Local Plan, 2015 which states that all development proposals should minimise and where possible, reduce all emissions and other forms of pollution and ensure no deterioration in air quality.

Proposals will be refused where there are unacceptable impacts on air quality. Air quality assessments are required for larger developments. Developers are required to produce Construction Environment Management Plans for approval to ensure that air quality is not put at risk during the construction phase of a development.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Bus Service Improvements	Alternatives to private vehicle use	Other	2019	2027	CPCA, ECDC	CPCA	Partially Funded	£50k-£100k	Planning	Not Quantified	Compliance with AQ objectives	Funding in place for extra bus services	Economic pressures on bus operators, low passenger numbers, lack of funding, and roadworks caused operator to cut services. Some cuts have now been restored and new services introduced
2	Rail Capacity Improvements	Promoting Low Emission Transport	Other	2019	2030	Network Rail, ECDC	Department of Transport	Partially Funded	> £10 million	Planning	Not Quantified	Compliance with AQ objective	Funding approved for design work for Ely Area Rail Capacity Scheme	Competition for funds with other rail schemes
3	East Cambridgeshire Cycling and Walking Routes Strategy	Alternatives to private vehicle use	Other	2019	2030	ECDC, CPCA, Sustrans	ECDC, CPCA	Partially Funded	£10k - 50k	Implementation	Not Quantified	Compliance with AQ objectives	Proposals for funding the development of active travel routes in East Cambridgeshire were approved by CPCA Investment Committee on Monday 10 March 2025. £70,000 was awarded to produce a detailed design for a Stuntney to Ely route and a further £400,000 for the Sustrans Study East Cambridgeshire Routes project to enable further development of the feasibility schemes to preliminary design stage for two routes - Ely to Soham, and Burwell to Fordham and wider links	None
4	Increase the number of electric vehicle charging points (EVCPs)	Alternatives to private vehicle use	Other	2019	2030	ECDC, CPCA	ECDC, CPCA	Partially Funded	£10k - 50k	Implementation	Not Quantified	Compliance with AQ objectives	EVCP Strategy signed off October 2024	
5	Environmental and Climate Change Action Plan	Policy Guidance and Development Control	Other	2019	2036	ECDC	ECDC	Funded	< £10k	Implementation	Not Quantified	Compliance with AQ objectives	Action plans published and updated annually	This is a series of measures to benefit air quality and work toward carbon net zero
6	Local Transport and Connectivity Plan	Alternatives to private vehicle use	Other	2019	2026	CPCA	CPCA	NO	Funded	< £10k	Planning	Not Quantified	Compliance with AQ objectives	Plan approved and published by CPCA board

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 Strategy[1], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter. There is clear evidence that $PM_{2.5}$ (particulate matter smaller than 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Under the Health and Social Care Act 2012 the government introduced a Public Health Outcomes Framework (PHOF) which sets out key indicators of the state of public health. An indicator relating to air quality is included:

- D01 – Fraction of mortality attributable to particulate air pollution.

In 2023 this was estimated as 5.3% for East Cambridgeshire. This compares with figures of 5.4% for the East of England and 5.2% for England.

East Cambridgeshire District Council does not carry out $PM_{2.5}$ monitoring or take any measures to specifically address $PM_{2.5}$ concentrations. However, measures to reduce road traffic emissions are likely to have the effect of reducing emissions of $PM_{2.5}$. DEFRA estimates that $PM_{2.5}$ background levels in East Cambridgeshire are between 5.9 and 6.6ug/m^3 (2021 figures).

East Cambridgeshire District Council is taking the following measures to address $PM_{2.5}$:

- Working with the CPCA through the Local Transport and Connectivity Plan to prioritise sustainable transport alternatives and reduce traffic congestion
- Implementing actions to improve bus and train services and actions identified in the East Cambridgeshire Strategic Cycle/Footpath Strategy to encourage healthy and active travel
- Requiring applicants for planning permission to provide Construction Environment Management Plans to minimise the production of $PM_{2.5}$ and other particulates which might arise during construction work in considering

[1] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

applications for planning approvals for new development under the Town and Country Planning regime

- Moving the council's vehicle fleet to cleaner fuels and reducing business mileage

These measures are not targeted specifically at $PM_{2.5}$ reduction but implementation will have the effect of reducing $PM_{2.5}$ concentrations.

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

This section sets out the monitoring undertaken between 1st January and 31st December 2024 by East Cambridgeshire District Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed. This ASR relates to data gathered between 1st January and 31st December 2024.

NO_2 concentrations were well within the statutory objectives at all locations. Local authorities are not required to monitor for particulate matter (PM), but NO_2 concentration levels serve as an indicator of likely PM concentrations. This ASR has not identified the need to proceed to a Detailed Assessment for any pollutants. No new significant emission sources have been identified which could lead to poor air quality in the district. Air quality continues to improve despite increases in the population of the district, and road traffic levels having largely returned to pre-pandemic levels. It is not necessary to declare any AQMAs in East Cambridgeshire.

East Cambridgeshire District Council will continue to operate the NO_2 diffusion tube monitoring programme to demonstrate that air quality objectives continue to be met. The council works with the Cambridgeshire and Peterborough Combined Authority (CPCA), Cambridgeshire County Council, Network Rail, and others to promote measures which improve air quality, such as improving public transport, expanding rail freight and passenger service provision, providing electric vehicle charging points (EVCPs), and promoting active travel. The council will compile and submit a further ASR in 2025.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

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

3.1.2 Non-Automatic Monitoring Sites

East Cambridgeshire District Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 25 sites during 2024 using diffusion tubes. Table A.1 in Appendix A presents the details of the non-automatic sites.

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

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compares the adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

The full 2024 diffusion tube 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.

It has not been necessary to use the annualisation methodology developed by DEFRA and published in LAQM.TG22 to derive any annual mean values as data capture is more than 75% for all sites. All data have been corrected for bias.

In 2024 all locations recorded a decrease in NO_2 concentrations compared with 2023. The highest annual concentration of 16.6µg/m^3 was recorded at NAS18, Post Office, Wilburton, situated on the High Street close to the junction of the A1123 and B1049. The lowest annual mean of 5.2µg/m^3 was recorded at SP1 Swaffham Prior Village Hall. However, this location is 33m from the nearest road and so is relatively unaffected by road traffic emissions. The next lowest was WIL2 Berristead Close, Wilburton at 5.8µg/m^3. Overall,

there was a marked reduction in NO_2 concentrations across the district. Air quality objectives were met at all monitoring locations in 2024 and the downward trend in annual mean NO_2 concentrations continued.

Appendix A: Monitoring Results

Table A.1 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
NAS1	Market Street, Ely	Roadside	554154	280427	NO2	No	0.0	1.5	No	2.5
NAS2	Abbot Thurston Avenue, Ely	Urban Background	554616	281320	NO2	No	4.5	1.5	No	2.3
NAS3	Station Road, Ely	Roadside	554322	279566	NO2	No	5.0	1.8	No	2.5
NAS5	Main Street, Littleport	Roadside	556845	280309	NO2	No	0.0	1.6	No	3.0
NAS8	Sherriffs Court, Burrough Green	Suburban	563721	255387	NO2	No	2.1	2.0	No	2.3
NAS10	Tramar Drive, Sutton	Urban Background	545012	279286	NO2	No	5.8	1.5	No	2.3
NAS11	Nutholt Lane, Ely	Roadside	554255	280536	NO2	No	8.0	2.0	No	2.3
NAS12	A142, Witcham Toll	Roadside	546346	279106	NO2	No	1.8	2.0	No	2.3
NAS13	A10, Stretham	Roadside	550811	274395	NO2	No	12.0	1.5	No	2.3

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
NAS14	High Street, Burwell	Roadside	558896	266364	NO2	No	4.0	2.0	No	2.3
NAS15	Hop Row, Haddenham	Roadside	546468	275463	NO2	No	2.0	1.0	No	3.0
NAS18	Post Office, Wilburton	Roadside	548320	274895	NO2	No	0.0	1.5	No	2.5
NAS20	Granta Close, Witchford	Roadside	549542	279026	NO2	No	4.0	1.5	No	2.5
SO3	Station Road, Soham	Roadside	558856	273255	NO2	No	22.0	1.4	No	2.3
SO2	Fordham Road, Soham	Roadside	559883	272550	NO2	No	7.0	1.8	No	2.3
NAS22A	Broad Street, Ely	Roadside	554353	280016	NO2	No	1.7	1.6	No	2.3
EL1	Back Lane, Ely	Roadside	554420	280133	NO2	No	0.0	1.0	No	3.0
FO4	Market Street No 2, Fordham	Roadside	562682	270294	NO2	No	0.0	1.5	No	2.5
WIL2	Berristead Close, Wilburton	Urban Background	548439	275193	NO2	No	22.0	2.1	No	2.3
SP1	Village Hall, Swaffham Prior	Suburban	556764	264098	NO2	No	17.0	33.0	No	2.3
SP2	Fairview Grove, Swaffham Prior	Suburban	557211	264351	NO2	No	9.2	1.9	No	2.3
SP3	Tothill Road, Swaffham Prior	Suburban	557017	263941	NO2	No	12.7	2.0	No	2.3

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
NAS23B	Cage Hill, Swaffham Prior	Suburban	557052	264135	NO2	No	1.7	1.5	No	2.3
SP4	Green Head Road, Swaffham Prior	Suburban	556941	264033	NO2	No	6.2	1.5	No	2.3
SP5	High Street, Swaffham Prior	Suburban	556735	263877	NO2	No	0.0	1.5	No	2.3

Notes:

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

(2) N/A if not applicable.

Table A.2 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

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 2024 (%) (2)	2020	2021	2022	2023	2024
NAS1	554154	280427	Roadside		92.5	14.8	14.4	14.4	13.6	10.9
NAS2	554616	281320	Urban Background		100.0	9.8	9.3	9.3	8.5	8.0
NAS3	554322	279566	Roadside		100.0	15.4	15.6	15.9	15.0	13.1
NAS5	556845	280309	Roadside		92.5	12.8	11.7	12.0	10.9	9.0
NAS8	563721	255387	Suburban		100.0	8.2	7.4	8.8	6.8	6.7
NAS10	545012	279286	Urban Background		90.6	11.4	11.1	10.8	10.1	9.0
NAS11	554255	280536	Roadside		100.0	14.1	13.6	15.0	13.8	10.4
NAS12	546346	279106	Roadside		100.0	19.9	19.0	10.9	18.8	16.4
NAS13	550811	274395	Roadside		100.0	14.6	14.6	15.8	14.1	12.4
NAS14	558896	266364	Roadside		90.6	13.6	14.3	14.9	13.3	12.6
NAS15	546468	275463	Roadside		100.0	17.8	17.2	16.8	15.2	12.6
NAS18	548320	274895	Roadside		92.5	20.8	20.8	20.8	18.2	16.6

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 2024 (%) (2)	2020	2021	2022	2023	2024
NAS20	549542	279026	Roadside		100.0	8.6	8.3	8.1	8.1	7.0
SO3	558856	273255	Roadside		75.0		10.1	10.6	9.5	8.7
SO2	559883	272550	Roadside		100.0		15.9	15.8	15.9	14.1
NAS22A	554353	280016	Roadside		100.0		20.6	20.2	18.9	15.7
EL1	554420	280133	Roadside		100.0			17.4	16.9	14.7
FO4	562682	270294	Roadside		100.0			13.0	12.6	10.4
WIL2	548439	275193	Urban Background		92.5				6.7	5.8
SP1	556764	264098	Suburban		100.0				6.1	5.2
SP2	557211	264351	Suburban		100.0				8.6	6.7
SP3	557017	263941	Suburban		100.0				8.4	7.3
NAS23B	557052	264135	Suburban		100.0	9.7	11.1	11.0	9.0	7.8
SP4	556941	264033	Suburban		100.0				8.6	7.4
SP5	556735	263877	Suburban		100.0				8.6	6.9

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

☒ **Diffusion tube data has been bias adjusted.**

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

Notes:

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

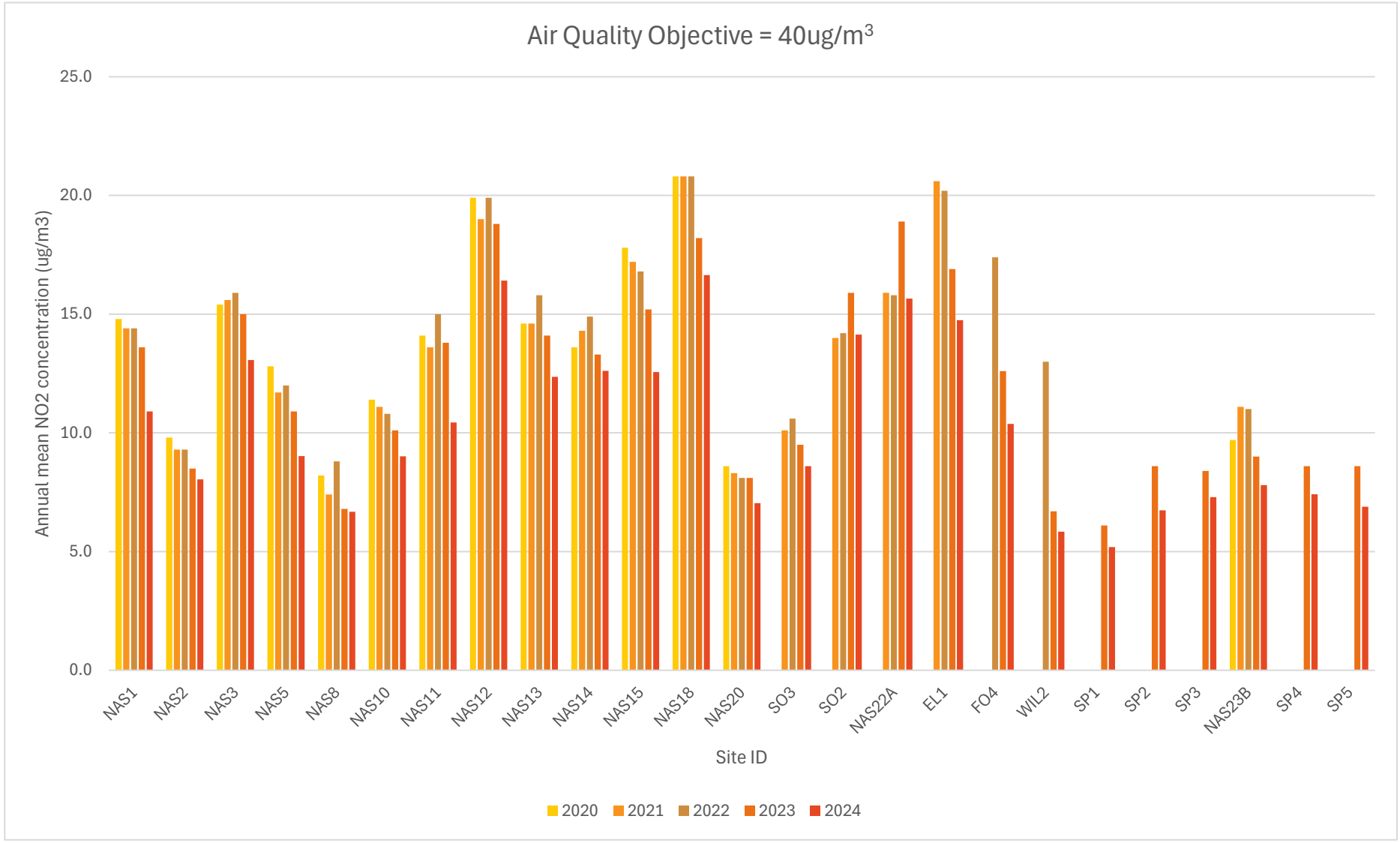
Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations: 2020-2024



Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results (µg/m^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 (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
NAS1	554154	280427	20.5	17.4	11.4	12.6	13.4	12.1	9.8	10.9	12.9	16.4		16.4	14.0	10.9		
NAS2	554616	281320	16.5	13.8	10.9	8.3	6.8	6.0	5.1	5.3	9.4	14.0	16.8	10.8	10.3	8.0		
NAS3	554322	279566	21.2	23.5	18.8	12.4	15.6	14.4	13.4	12.4	16.4	19.0	19.1	14.8	16.8	13.1		
NAS5	556845	280309		12.9	12.3	8.7	10.6	10.5	8.9	10.2	9.0	15.4	15.2	13.6	11.6	9.0		
NAS8	563721	255387	13.3	12.1	10.7	8.3	6.9	3.8	4.3	5.3	7.1	9.6	12.2	9.1	8.6	6.7		
NAS 10	545012	279286	16.3	12.0	9.6	8.6	11.9	9.0	6.6		12.5	14.0	16.4	10.2	11.6	9.0		
NAS 11	554255	280536	19.2	20.2	17.3	10.0	12.3	11.6	11.0	12.6	12.7	18.3	4.1	11.3	13.4	10.4		
NAS 12	546346	279106	25.5	22.2	24.3	17.1	24.6	15.2	19.9	18.1	24.3	23.1	22.5	15.8	21.1	16.4		
NAS 13	550811	274395	21.5	19.7	16.9	12.5	15.1	13.0	13.9	14.5	15.6	20.6	15.6	11.2	15.8	12.4		
NAS 14	558896	266364	18.6	18.1	13.9	14.9		13.6	12.7	13.8	16.6	17.5	28.1	10.1	16.2	12.6		
NAS 15	546468	275463	18.1	21.1	16.6	12.5	13.8	14.7	10.3	13.6	15.4	19.5	19.8	17.9	16.1	12.6		
NAS 18	548320	274895	24.2	30.5	28.4	19.1	19.4	18.9	18.0	19.6	15.5	27.6		13.6	21.3	16.6		
NAS 20	549542	279026	15.2	12.3	7.7	7.3	6.5	5.3	3.9	5.8	9.5	11.5	13.6	9.7	9.0	7.0		
SO3	558856	273255	16.1	13.2	12.1	9.3	9.9	8.8		8.5	10.0	14.9	8.6		11.1	8.7		
SO2	559883	272550	25.2	22.2	18.7	16.3	16.3	16.3	12.6	14.4	16.6	19.6	24.2	15.1	18.1	14.1		
NAS 22A	554353	280016	26.4	25.7	25.0	17.1	22.7	16.9	19.7	14.5	16.4	22.8	22.8	10.8	20.1	15.7		
EL1	554420	280133	25.6	27.0	18.7	15.6	16.2	16.2	16.4	16.3	16.1	20.0	20.0	18.8	18.9	14.7		
FO4	562682	270294	19.3	14.5	16.5	12.3	11.1	11.0	7.8	11.0	11.6	18.0	18.0	8.6	13.3	10.4		
WIL2	548439	275193	7.3	11.7	12.3	5.5	5.6	5.1	3.0	6.0		8.4	11.6	5.8	7.5	5.8		
SP1	556764	264098	10.5	9.9	7.0	5.6	5.1	3.7	2.6	4.9	5.0	8.6	9.1	7.8	6.7	5.2		
SP2	557211	264351	13.8	12.0	11.6	8.1	5.6	5.5	4.4	6.9	8.3	12.5	6.6	8.4	8.6	6.7		
SP3	557017	263941	14.6	11.7	11.3	8.4	7.4	5.5	4.1	6.6	7.5	11.7	14.3	9.1	9.4	7.3		
NAS 23B	557052	264135	16.0	12.0	11.9	9.5	8.9	7.1	5.3	7.3	8.6	14.6	12.2	7.3	10.1	7.8		
SP4	556941	264033	15.6	12.6	10.2	8.7	6.9	5.2	3.7	7.7	7.9	11.8	11.0	12.7	9.5	7.4		
SP5	556735	263877	14.9	9.2	10.4	8.3	7.9	5.9	4.2	6.8	9.0	11.6	9.8	8.0	8.8	6.9		

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

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

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

☒ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

☒ **East Cambridgeshire District Council confirm that all 2024 diffusion tube data have been uploaded to the Diffusion Tube Data Entry System.**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 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 Cambridgeshire During 2024

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

Additional Air Quality Works Undertaken by East Cambridgeshire During 2024

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

QA/QC of Diffusion Tube Monitoring

East Cambridgeshire District Council's diffusion tubes were supplied and analysed by:

SOCOTEC UK
Unit 12, Moorbrook
Southmead Industrial Estate
Didcot,
Oxfordshire OX11 7HP

The tubes were prepared by spiking a 50:50 mixture of acetone and triethanolamine (TEA) onto the grids prior to being assembled. After exposure the tubes were returned to the laboratory, desorbed with distilled water and the extract analysed using a segmented flow analyser with ultraviolet detection.

The DEFRA Local Air Quality Management Helpdesk publishes information on laboratory performance in the precision of diffusion tube analysis. This can be found at: http://laqm.defra.gov.uk/diffusion-tubes/precision.html

For the purposes of LAQM, tube precision is classed as 'Good' or 'Poor' as follows. Tubes are considered to have Good precision where the coefficient of variation (CV) of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%, and the average CV of all monitoring periods is less than 10%. Tubes are considered to have

Poor precision where the CV of four or more periods is greater than 20% and/or the average CV is greater than 10%.

The distinction between Good and Poor precision is an indicator of how well the same measurement can be reproduced. This precision will reflect the laboratory's performance /consistency in preparing and analysing the tubes, as well as the subsequent handling of the tubes in the field. Any laboratory can show Poor precision for a particular period/co-location study if this is due to poor handling of the tubes in the field. In 2024 the SOCOTEC Didcot laboratory received a rating of Good in 33 studies and Bad in 4 for the 50% TEA in acetone analysis method.

The AIR PT NO_2 proficiency testing scheme is an independent analytical testing scheme operated on behalf of DEFRA and the Devolved Administrations to test laboratory proficiency. Details of laboratory performance can be found at: http://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html.

SOCOTEC achieved a score of 100% Satisfactory in the proficiency tables for 2024.

All monitoring has been completed in adherence to the 2024 Diffusion Tube Monitoring Calendar issued by DEFRA.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within East Cambridgeshire 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 have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

East Cambridgeshire District Council has applied a national bias adjustment factor of 0.78 to the 2024 monitoring data. A summary of bias adjustment factors used by East Cambridgeshire Council over the past five years is presented in Table C1.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	06/25	0.78
2023	National	03/24	0.77
2022	National	03/23	0.76
2021	National	06/22	0.78
2020	National	09/19	0.77

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure can be estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website. Fall-off with distance calculations were not required for any of the East Cambridgeshire data in 2024.

Appendix D: Maps of Monitoring Locations

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

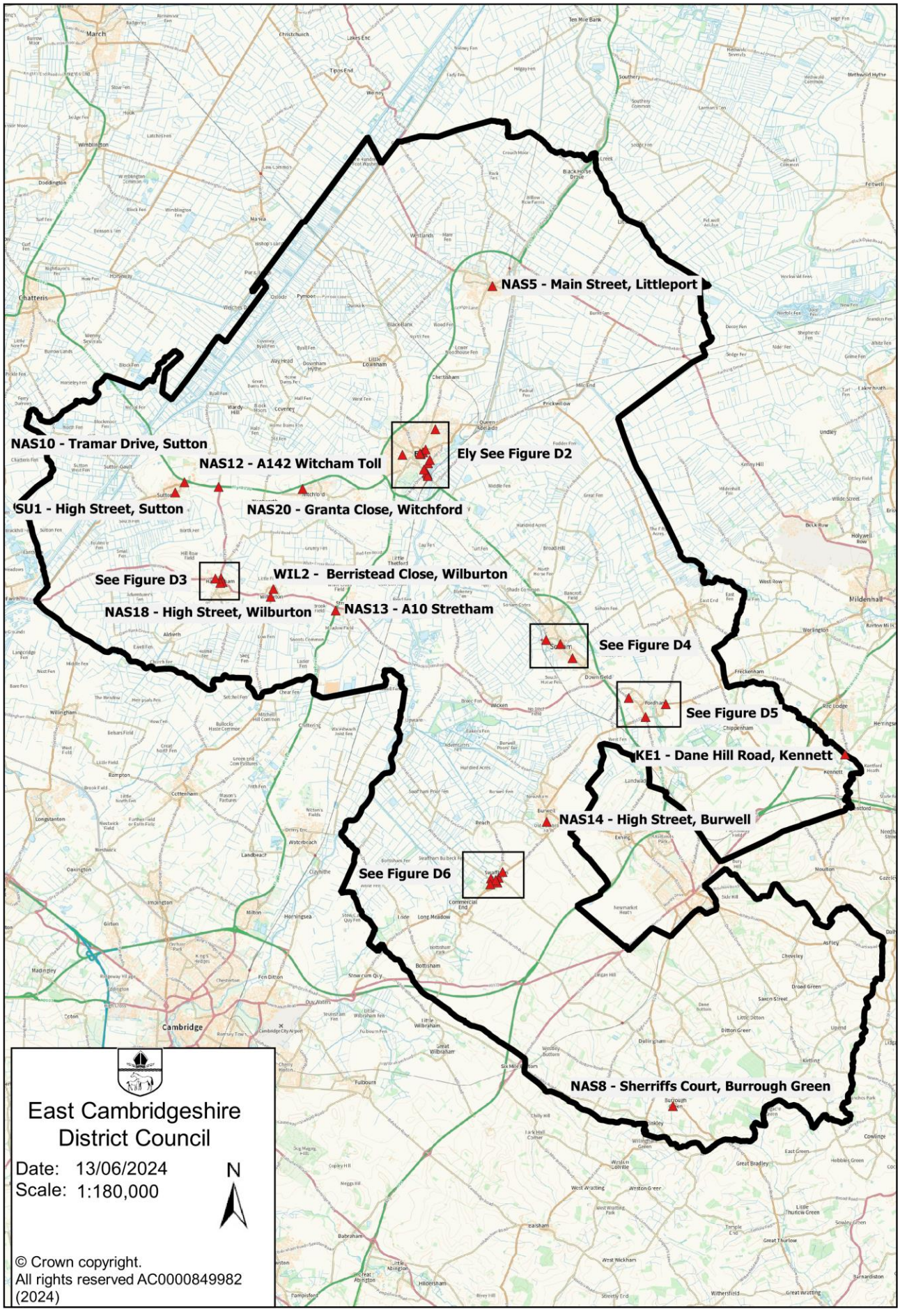


Figure D.2 – Map of Non-Automatic Monitoring Sites in Ely

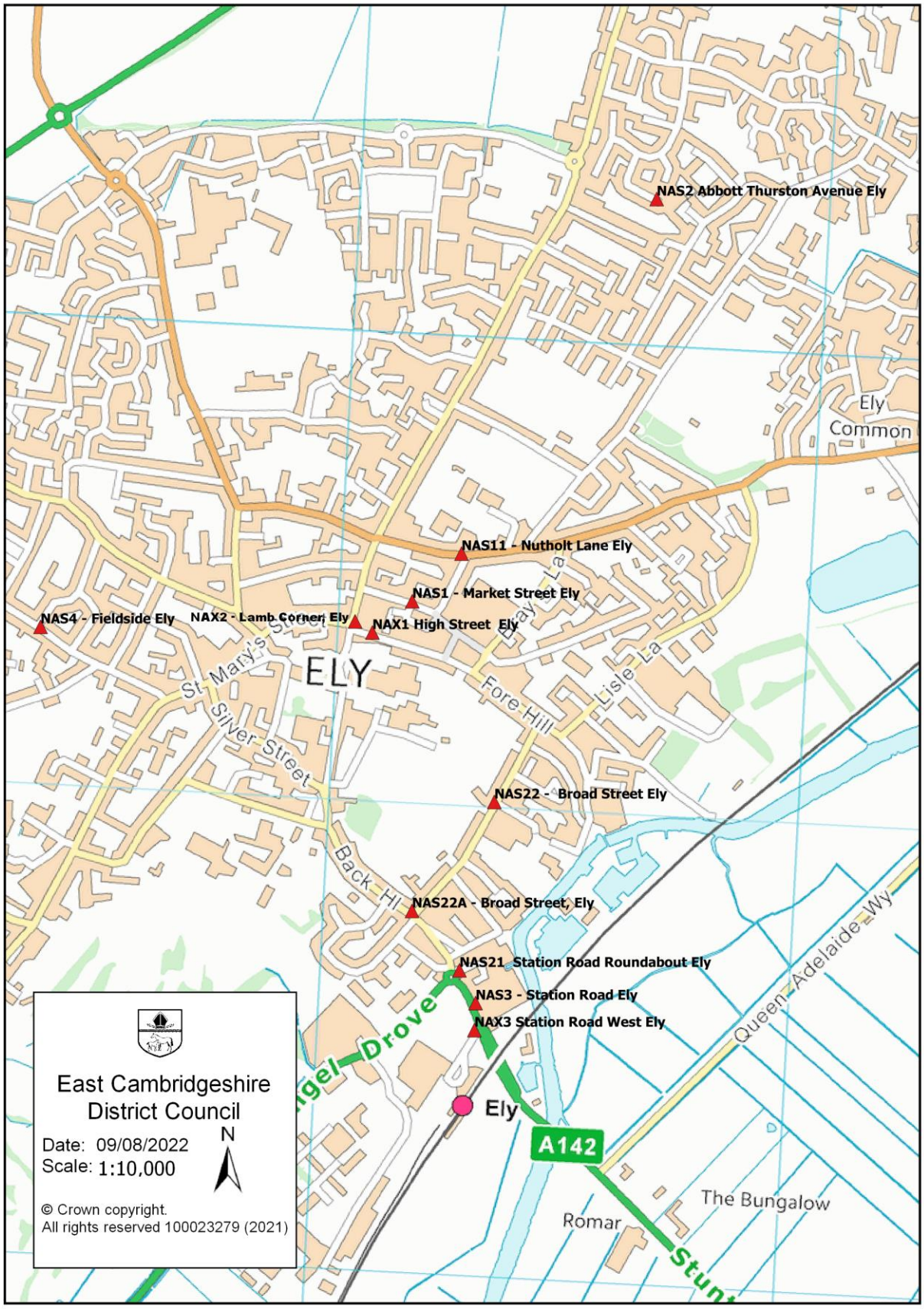


Figure D.3 – Map of Non-Automatic Monitoring Sites in Haddenham

Figure D.4 – Map of Non-Automatic Monitoring Sites in Soham

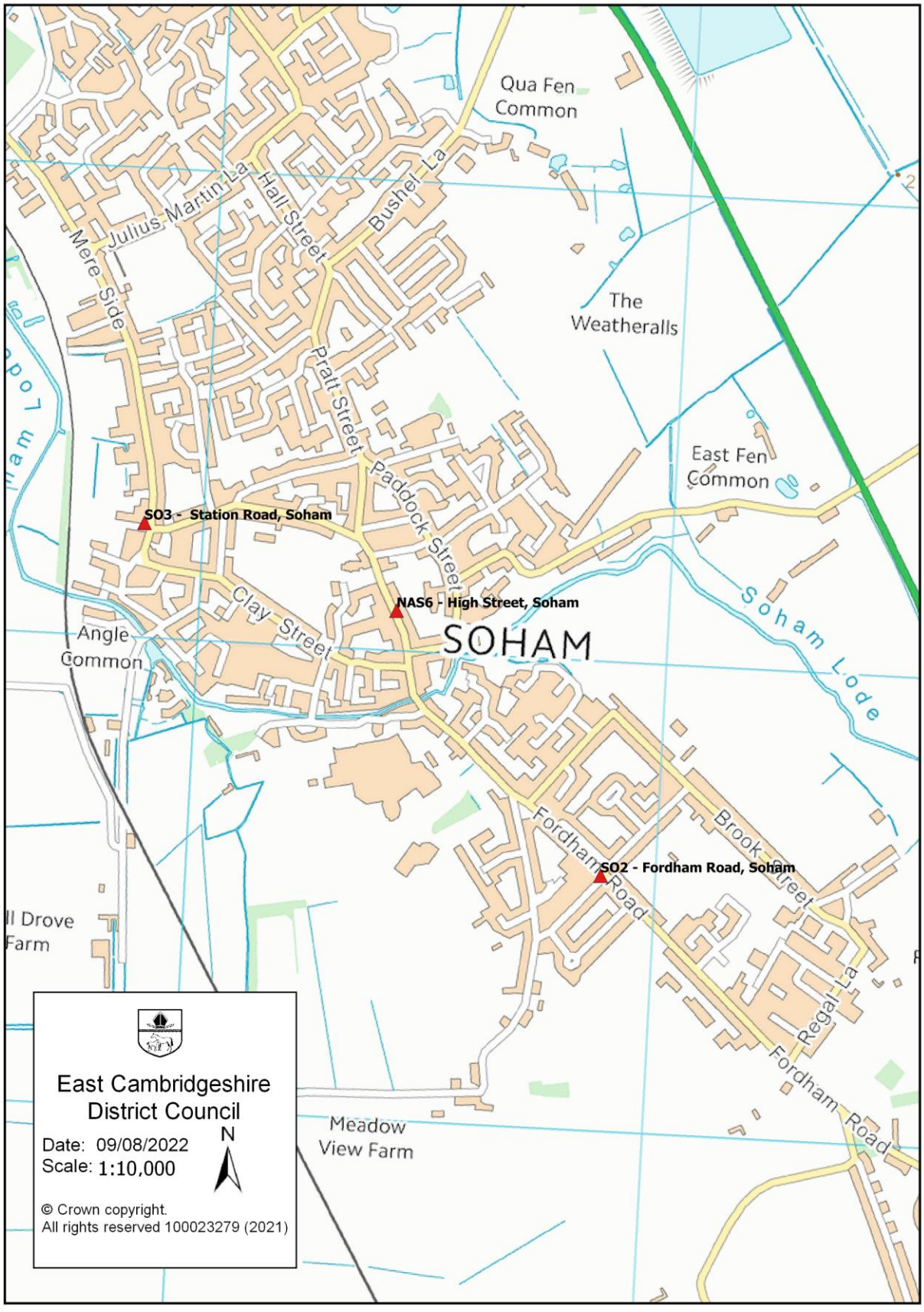
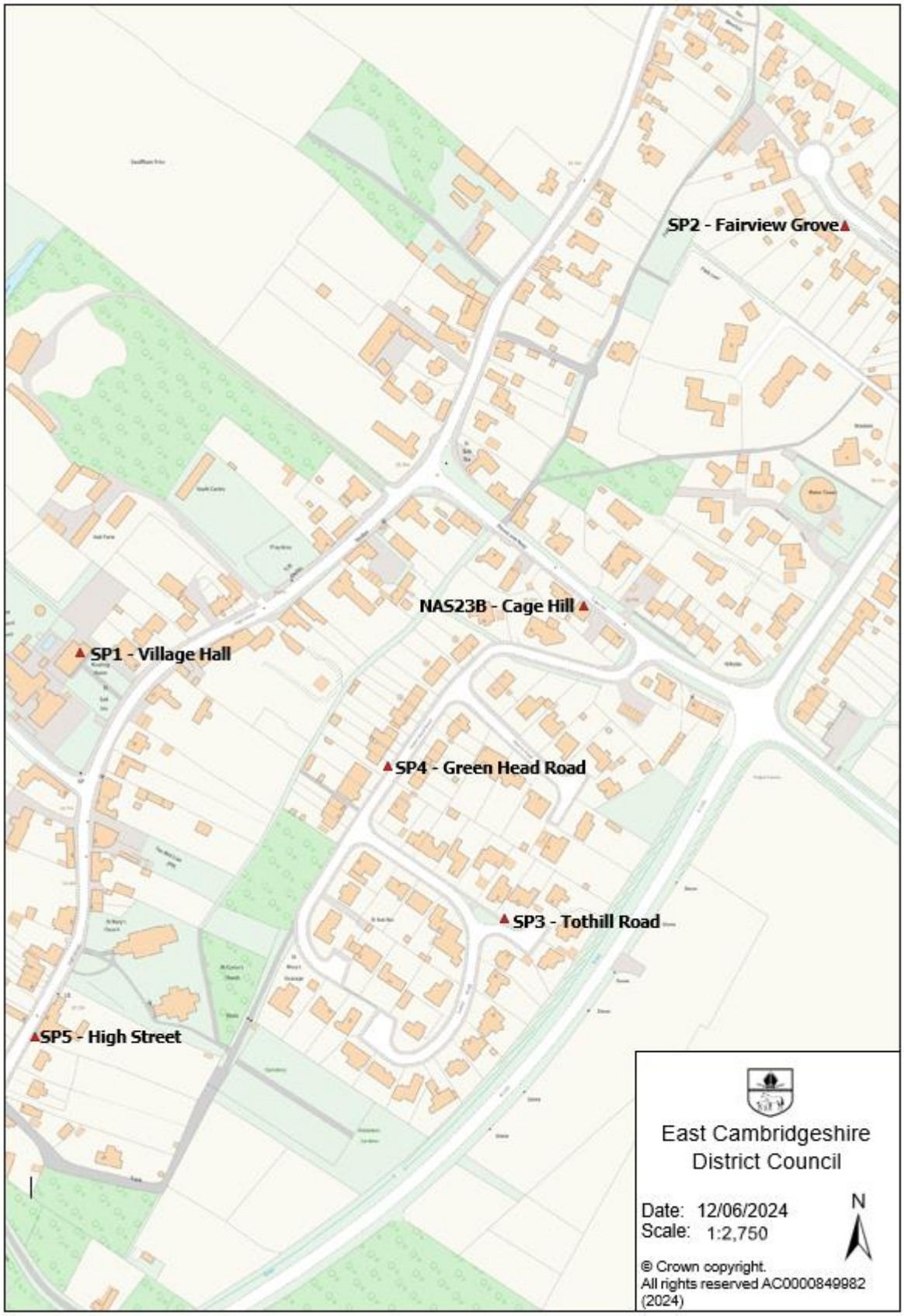


Figure D.5 – Map of Non-Automatic Monitoring Sites in Fordham

Figure D.6 – Map of Non-Automatic Monitoring Sites in Swaffham Prior



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[2]

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

[2] The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

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
CCC	Cambridgeshire Country Council
CPCA	Cambridgeshire and Peterborough Combined Authority
DEFRA	Department for Environment, Food and Rural Affairs
DT	Diffusion Tube
ECDC	East Cambridgeshire District Council
EVCP	Electric Vehicle Charging Point
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
TEA	Triethanolamine
$\mu g/m^3$	micrograms per cubic metre

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