



**Lewes District Council**

# 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: December 2024

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## Executive Summary: Air Quality in Our Area

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 year<sup>1</sup>.

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 pollution<sup>2</sup>.

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

**Table ES 1 - Description of Key Pollutants**

Pollutant	Description
Nitrogen Dioxide (NO <sub>2</sub> )	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO <sub>2</sub> )	Sulphur dioxide (SO <sub>2</sub> ) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM <sub>10</sub> and PM <sub>2.5</sub> )	<p>Particulate matter is everything in the air that is not a gas.</p> <p>Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes.</p> <p>PM<sub>10</sub> refers to particles under 10 micrometres. Fine particulate matter or PM<sub>2.5</sub> are particles under 2.5 micrometres.</p>

<sup>1</sup> UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

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

## Air Quality in Lewes District Council

There are two Air Quality Management Areas (AQMA) within the administrative boundary of Lewes District Council (LDC), both of which were declared as a result of exceedances of the UK Air Quality Standard (AQS) for annual mean nitrogen dioxide (NO<sub>2</sub>). Full details and maps of these AQMA can be viewed at: [https://uk-air.defra.gov.uk/aqma/local-authorities?la\\_id=146](https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=146).

The AQMA cover parts of Lewes Town Centre and the Newhaven ring road and Town Centre and were declared in 2005 and 2014, respectively. In 2009 and 2016, respective Air Quality Action Plans (AQAPs) for Lewes and Newhaven were put in place to reduce pollutant emissions. The plans included details on the management of air quality monitoring stations established in each area to assess the impact of measures proposed in the AQAPs.

In 2023, NO<sub>2</sub> monitoring using diffusion tubes was carried out at 54 strategically positioned sites throughout the district. There were 4 new sites added in 2023.

In 2023, all but one site reported annual mean NO<sub>2</sub> concentrations below the 40 µg/m<sup>3</sup> AQS. Site 21, located at 204 School Hill in Lewes Town Centre, reported an exceedance of the annual mean NO<sub>2</sub> concentration of 45.7 µg/m<sup>3</sup>. However, it's possible that Monitoring Site ID 21 may be impacted by a very localised emission source, and therefore may not represent the air quality in the wider area. The monitoring location has been reviewed by the local authority and relocated to be away from the emission source. The monitoring results in 2024 will be reviewed again in next year's ASR.

The majority of sites within the Newhaven AQMA reported decrease in NO<sub>2</sub> annual mean concentrations for 2023, when compared to 2022 data. Within the Lewes Town Centre AQMA, more sites reported increases in annual means compared to 2022.

There was one locally managed automatic monitoring station (LS8) operational in LDC in 2023, which is situated on Little East Street, within the existing AQMA in Lewes Town Centre. The site monitors NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. No exceedances of annual means for all pollutants monitored were reported at the site: PM<sub>10</sub> and PM<sub>2.5</sub> annual means were 14.3 µg/m<sup>3</sup> and 8.3 µg/m<sup>3</sup> respectively, both well below the annual objectives (40 µg/m<sup>3</sup> for PM<sub>10</sub> and 20 µg/m<sup>3</sup> for PM<sub>2.5</sub>), while annual average NO<sub>2</sub> was 13.4 µg/m<sup>3</sup>. There was no reported exceedance of the 24 hour mean for PM<sub>10</sub> (50 µg/m<sup>3</sup>, not to be exceeded more than 35 times a year), and no reported exceedance of the 1 hour mean for NO<sub>2</sub>

(200  $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 18 times a year). In both cases, the number of exceedances reported by LS8 is permitted by the relevant AQS objective.

## Air Quality in Eastbourne Borough Council

There are no declared AQMAs within Eastbourne Borough Council (EBC) at present, and there are no current or historical concerns regarding exceedances of UK Air Quality Standards within the area. Despite continued compliance with all AQS,  $\text{NO}_2$  remains the primary pollutant of concern. In 2023, it was monitored using diffusion tubes placed at 21 strategic locations within the borough. The number and location of monitoring sites was unchanged from 2022.

The highest annual mean  $\text{NO}_2$  concentration was 24.2  $\mu\text{g}/\text{m}^3$ , well below the UK AQS, and was recorded at site 14, 109 Whiteley Road. All 21 sites in EBC reported decreases compared to 2022 data.

There are two automatic monitoring sites located within EBC: EB1 (Devonshire Park) which monitors  $\text{NO}_2$ , ozone ( $\text{O}_3$ ) and  $\text{PM}_{10}$  and is locally managed, and EB3 (Holly Place) which is part of the Automatic Urban and Rural Monitoring Network (AURN) and monitors  $\text{NO}_2$ ,  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ .

There were no 24 hour mean  $\text{PM}_{10}$  concentrations greater than 50  $\mu\text{g}/\text{m}^3$  reported at site EB1 or site EB3. Annual means for EB1 and EB3 were 17.2  $\mu\text{g}/\text{m}^3$  and 11.8  $\mu\text{g}/\text{m}^3$  respectively, which are well below the 40  $\mu\text{g}/\text{m}^3$  UK AQS value. Annual mean concentrations of  $\text{PM}_{2.5}$  recorded at EB3 have consistently remained well below the 20  $\mu\text{g}/\text{m}^3$  AQS, with 7.3  $\mu\text{g}/\text{m}^3$  reported in 2023.

Ozone ( $\text{O}_3$ ) is monitored exclusively at site EB1. The monitor had a data capture rate of 99.9% (which is classed as adequate data capture that does not require annualisation). On 119 occasions in 2023, the 8 hour mean was reported to be greater than 100  $\mu\text{g}/\text{m}^3$ . The UK AQS  $\text{O}_3$  objective is 100  $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 10 times a year, and as such, the concentrations recorded at site EB1 did not meet the UK AQS for ground level ozone.  $\text{O}_3$  reacts with atmospheric NO (formed from the interaction of  $\text{NO}_2$  with sunlight) to form  $\text{O}_2$  and  $\text{NO}_2$ . High concentrations of  $\text{O}_3$  were also observed in 2023.

## 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 Plan<sup>3</sup> 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<sub>2.5</sub>), the pollutant of most harmful to human health. The Air Quality Strategy<sup>4</sup> provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero<sup>5</sup> 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.

### Actions to Improve Air Quality in Lewes District Council

During 2023, LDC continued to progress Cycle Route 90. The eastern section of the route, from Cliffe High Street to Southerham roundabout, has been agreed by Cycle Lewes and the preliminary design has been completed. Feasibility designs are ongoing for the town centre and western section options.

LDC also has several ongoing initiatives and schemes in place, such as their eco-driving campaign, which is aimed at reducing emissions from idling vehicles at schools across both Lewes and Eastbourne councils. This anti-idling message will be continually delivered to schools over the next few years. There are also several ongoing measures in place aiming to improve coordination of building and road works in Lewes Town Centre and promote sustainable transport modes.

Other measures can be found in section 2.2 and [Table 2.2](#).

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<sup>3</sup> Defra. Environmental Improvement Plan 2023, January 2023

<sup>4</sup> Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

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

## Actions to Improve Air Quality in Eastbourne Borough Council

In 2023, EBC completed the detailed design for the Eastbourne Town Centre Improvement Scheme Phase 2a, with construction due to commence this year. The Eastbourne Town Centre Improvement Scheme (ETCIS) is a joint project between East Sussex County Council and Eastbourne Borough Council. The ETCIS aims to Create an attractive pedestrian friendly environment addressing current issues of pedestrian congestion experienced along Terminus Road.

EBC is also continuing the anti-idling education campaign aimed at schools over both Lewes and Eastbourne councils. This anti-idling message will be continually delivered to schools over the next few years.

## Conclusions and Priorities

### Conclusions and Priorities for Lewes District Council

In 2023, there were no exceedances of the PM<sub>10</sub> or PM<sub>2.5</sub> AQS. One site (Site 21 at 204 School Hill, Lewes) reported an annual mean NO<sub>2</sub> concentration that exceeded the NO<sub>2</sub> annual mean AQS of 40 µg/m<sup>3</sup>. One site (Site 3 at 16 Southway, Newhaven) reported an annual mean NO<sub>2</sub> concentration within 10% of AQS objective. LDC will continue to monitor particulate matter and NO<sub>2</sub> in 2024.

In 2023, LDC started preparing a revised AQAP and dispersion modelling has been completed now to evaluate the AQMA's located in Lewes Town Centre and Newhaven. It is expected that the new AQAP for Lewes Town Centre AQMA and A259 Newhaven Ring Road AQMA will be published in 2025, covering activities from 2025 – 2030.

LDC will continue to monitor the impact of ongoing Transport Planning and Infrastructure measures aimed at emissions reduction and will continue to work towards the implementation of the planned Cycle Network, which is currently in the design stages.

LDC will continue to work with ESCC, Sustrans and community groups to implement transport-related measures which will improve air quality across the borough.

### Conclusions and Priorities for Eastbourne Borough Council

No exceedances of nitrogen dioxide or particulate matter were recorded at any monitoring location in 2023. Decrease in NO<sub>2</sub> concentrations were seen at all 21 monitoring locations when compared to 2022 data.

EBC will continue to monitor NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and O<sub>3</sub> in the next year.

EBC will continue to work with ESCC, Sustrans and Living Streets to implement transport-related measures which will improve air quality across the borough.

## Local Engagement and How to get Involved

Both LDC and EBC have recently set a carbon zero target for Council activities to be carbon neutral by 2030. The link to the Lewes climate change and sustainability strategy can be found [here](#) and the Eastbourne sustainability policy can be found [here](#).

Measures achieved so far include:

- Air source heat pumps installed in off-gas social houses
- Social housing photovoltaics installed
- Stock condition surveys completed as preliminary to retrofitting
- Green electricity supply purchased corporately
- Alternative fuelled refuse vehicles trialled
- Community action facilitation
- Tree planting and re-wilding
- Programme for Installation of [EV charge points](#) completed

*Help improve your own environment:*

Can you cut down on the use of your vehicle?

- Use public transport
- Cycle
- Walk
- Use alternative routes to get from A to B. Instead of walking or cycling along a major road, use alternative quieter and less polluted routes.

Not only can you help to improve our environment, but it gives you the added benefit of exercise and helps improve general health and well-being.

*Idling engines:*

Vehicle idling causes air pollution and engines should not be left running unnecessarily. Breathing polluted air is not only extremely unpleasant but is also detrimental to our health. The air inside the vehicle can be worse than outside!



### *Why it's good to turn off vehicle engines - Cut Engine Cut pollution*

- Exhaust emissions contain a range of air toxic pollutants such as carbon monoxide, benzene, formaldehyde, Polyaromatic hydrocarbons, nitrogen dioxide and particulate matter.
- Every minute your car idles you could fill 150 balloons with harmful chemicals.
- Turning off your car engine and restarting it after one minute causes less pollution and uses less fuel than keeping the engine running.
- Modern batteries need less engine running time to stay charged.
- It takes up to an hour for an engine to cool down which means your car heating fan will work with your engine turned off.
- Idling does not keep a catalytic converter warm. They retain heat for approximately 25 minutes after the engine is switched off.

Air quality is as important as exercise and diet for health. Reducing air pollutants can help reduce respiratory problems, heart disease, lung cancer and asthma attacks.

### *Changing your vehicle:*

- If you are considering buying a new or second-hand vehicle consider the options of newer cleaner models – e.g. hybrids, electric.
- Have a good look at vehicle emission credentials before buying.
- Consider alternatives – could you join a Car Club?

There are various organisations and clubs which offer help and advice on getting active, for example:

- Sustrans: <http://www.sustrans.org.uk/what-you-can-do>,
- Walking: <https://www.livingstreets.org.uk/walk-to-school>
- Bikeability: <http://bikeability.org.uk/>

These programmes involve schools and workplaces to try to encourage sustainable and active travel (cycling and walking activities).

Public Health England published a very informative document on air pollution and health. This can be found on this link:

<https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>.

Public Health England<sup>7</sup> says: '*Epidemiological studies have shown that long-term exposure to air pollution (over years or lifetimes) reduces life expectancy, mainly due to cardiovascular and respiratory diseases and lung cancer. Short-term exposure (over hours or days) to elevated levels of air pollution can also cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in respiratory and cardiovascular hospital admissions and mortality.*'

Details, including local air quality monitoring data, annual air quality reports and the impact air quality may have on health can be found on the [Sussex-air website](#). Sussex-air also runs the Sussex Air Quality Alert service providing warnings to people with respiratory and cardiovascular conditions, health professionals and carers in Sussex. The service is FREE to register/subscribe to and anyone can join. Alerts are sent direct to the Sussex Air Quality Alert app, email, mobile phone via text message or home phone. The app is provided as a free service by the Sussex Air Quality Partnership and supported by the Public Health Bodies (East Sussex & West Sussex County Council). Further information can be found at: <http://www.sussex-air.net> or by telephone: 01273 484337.

### *Business*

Businesses in East Sussex can obtain assistance from energy advisors LoCASE (Low Carbon Across the South East). Your business may be eligible for a free energy audit and funding for energy efficiency solutions identified with a grant. More information can be found at: <https://locase.co.uk/partners/> Local Responsibilities and Commitment

This ASR was prepared by the Air Quality Officer at Lewes District Council and Eastbourne Borough Council with the support and agreement of the following officers and departments:

East Sussex County Council, Transport Infrastructure and Active Travel Teams

Lewes District Council, Planning Policy and Sustainability Teams

This ASR has been approved by:

Councillor Emily O'Brien, Cabinet Member for Climate, Nature & Food Systems (Lewes District Council)

Councillor Jim Murray, Cabinet Member for Carbon Neutral 2030 (Eastbourne Borough Council)

This ASR has not been signed off by a Director of Public Health.

If you have any comments on this ASR please send them to Rachel Sadler at:

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# 1 Local Air Quality Management

This report provides an overview of air quality in Lewes District Council and Eastbourne Borough Council 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 Lewes District Council and Eastbourne Borough Council to improve air quality and any progress that has been made.

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



## 2 Actions to Improve Air Quality

### 2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out. An updated AQAP is currently being developed and is expected to be published in 2025.

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

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

EBC currently does not have any declared AQMAs. A map of all monitoring locations within the administrative area of EBC is provided in Appendix D: Map(s) of Monitoring Locations and AQMAs. A local Air Quality Strategy is under development to prevent and reduce polluting activities.

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

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
Lewes Town Centre AQMA	Declared 30/06/2005	Nitrogen dioxide NO <sub>2</sub> Annual Mean	An area encompassing a section of Lewes Town Centre extending north to include the Police Station, south to St Andrews Place.	NO	53 µg/m <sup>3</sup>	29.7 µg/m <sup>3</sup> *	4 years **	LDC AQAP May-09	<a href="https://www.lewes-eastbourne.gov.uk/media/421/2009-Air-Quality-Action-Plan-Lewes-District-Council/pdf/2009_Air_Quality_Action_Plan_Lewes_District_Council.pdf?m=1669048108347">https://www.lewes-eastbourne.gov.uk/media/421/2009-Air-Quality-Action-Plan-Lewes-District-Council/pdf/2009_Air_Quality_Action_Plan_Lewes_District_Council.pdf?m=1669048108347</a>
A259 Newhaven Ring Road AQMA	Declared 16/07/2014	Nitrogen dioxide NO <sub>2</sub> Annual Mean	The designated area incorporates Newhaven Town Centre, Southway, Northway, and sections of the A259 Brighton Road, Lewes Road and the swing bridge.	NO	49 µg/m <sup>3</sup>	38.2 µg/m <sup>3</sup>	Not compliant	Newhaven AQAP Jun-16	<a href="https://sussex-air.net/reports/NewhavenAQAP2016.pdf">https://sussex-air.net/reports/NewhavenAQAP2016.pdf</a>

\* There is one exceedance recorded close to Lewes Town Centre AQMA at site 21. This monitoring site has been reviewed and the 2024 monitoring result is pending review. Details provided in section 3.2.1.

\*\* Number of years compliant includes 2020 and 2021, which are likely anomalies due to the impact of the COVID-19 pandemic and nationally imposed lockdowns on emissions. Excluding anomalous years, this is the first year that the AQMA have been compliant with the Air Quality Objective.

LDC confirm the information on UK-Air regarding their AQMA(s) is up to date.

LDC confirm that all current AQAPs have been submitted to Defra.

## 2.2 Progress and Impact of Measures to address Air Quality in Lewes District Council and Eastbourne Borough Council

Defra's appraisal of last year's ASR concluded that "The report is well structured, detailed, and provides the information specified in the Guidance." The following comments were made to help inform future reports:

1. *Comments from previous ASR appraisals are included and directly responded to. This is welcomed and encouraged for future reports.*
2. *LDC has two active AQMAs, both have been compliant with the relevant AQS objectives for 3 years. They have stated their intention to review these AQMAs alongside the revision of their AQAP. This is encouraging to hear.*
3. *The councils have included a good Local Engagement and How to get Involved section with lots of information for the public about how to get involved with improving air quality.*
4. *It is noted that some sections of Table 2.2 are left blank. The council should endeavour to complete all sections of this table with available information.*
5. *There are instances where pollutants are not subscripted. For example, NO<sub>2</sub> in Table A.3. whilst this does not affect the readability of the report, the Councils should ensure future reports are checked for such errors.*

This has been checked and resolved in 2024 ASR report.

6. *The O<sub>3</sub> 8-hour objective was exceeded at EB1 in 2022. While LECs are not required to report monitoring data in this report, the councils are encouraged to keep this under supervision in the event of any further exceedances.*
7. *The councils have included appropriate maps of their monitoring network. The zoomed in sections aid the readability.*
8. *Overall, the report is detailed and satisfies the relevant criteria. The councils should continue their good and thorough work.*

In 2024, LDC and EBC are committed to providing a well-structured ASR which follows and provides all of the information specified in the Guidance. All appraisal comments from the 2023 ASR have been addressed.

## 2.2.1 Progress and Impact of Measures to address Air Quality in Lewes District Council

LDC 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. Nine measures are included within Table 2.2, with the type of measure and the progress LDC 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 these measures can be found in their respective Action Plans , [Lewes Local Plan](#), [East Sussex Strategic Partnership](#) and the [Local Transport Plan](#).

Key completed measures are:

- The fourth East Sussex Local Transport Plan 2024 – 2050 was adopted at Full Council on Tuesday 08 October 2024.

Key areas of progress made towards completion of measures are:

- Lewes – Cycle Route 90: preliminary design for the eastern section of Lewes Cycle Route 90, including toucan crossing and 40 mph speed limit;
- Better coordination of building and road works in the Lewes town area (LTP);
- Pipeline scheme – School Streets Southover CofE Primary – detailed design during 2023.

LDC expects the following progress on measures to be made over the course of the next reporting year:

- A259 South Coast Corridor Package – A259 Corridor Package: submission of Strategic Outline Business Case to the Department for Transport for Major Road Network Funding

LDC expects the following measures to be completed over the course of the next reporting year:

- Target long-distance freight management & heavy traffic through town (LTP)

LDC's priorities for the coming year are to carry out further design work and consultation with key stakeholders for Lewes Cycle Route 90.

LDC worked to implement these measures in partnership with the following stakeholders during 2023:

- National Highways (NH);
- ESCC;
- ESCC Network Management;
- Lewes Town Council (LTC);
- LDC;
- Sussex Police;
- Cycle Lewes;
- Business Community;
- Network Rail/Southern (Lewes Rail Station); and
- Private operators.

Whilst the measures stated above and in [Table 2.2](#) will help to contribute towards compliance, LDC anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Lewes Town Centre AQMA and A259 Newhaven Ring Road AQMA. The additional measures will be included in the updated AQAP which is currently being developed.

Compliance has been achieved for 4 consecutive years within the Lewes Town AQMA. However, there is one monitoring location (ID 21) which recorded an exceedance of the AQS in 2023. Detailed discussion is provided in section 3.2.1. LDC anticipates that the measures stated above will help maintain the compliance in Lewes Town AQMA.

## **2.2.2 Progress and Impact of Measures to address Air Quality in Eastbourne Borough Council**

EBC currently does not have any declared AQMAs, and therefore is not required to define measures or implement an AQAP. The Council will however need to specify if they are developing an Air Quality Strategy, which is now a requirement of Local Authorities who don't have AQMA's.

EBC 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 2.3](#). 17 measures are included within [Table 2.3](#) with the type of measure and the progress EBC 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 the table.

Key completed measures are:

- Eastbourne / South Wealden cycling and walking improvements-Eastbourne Cycle Parking; and
- Eastbourne / South Wealden cycling and walking improvements- Eastbourne Town Centre Wayfinding.

EBC expects the following measures to be completed over the course of the next reporting year:

- Hailsham/Polegate/Eastbourne Sustainable Transport Corridor PHASE 1;
- Eastbourne town centre improvement scheme Phase 2a;
- Eastbourne Walking and Cycle Network - Horsey Way Phase 1B (Cavendish Place to Ringwood Road);
- Eastbourne Walking and Cycle Network - Langney Rise cycle route;
- Eastbourne Walking and Cycle Network- Willingdon Drove cycle route;
- Eastbourne / South Wealden cycling and walking improvements - Eastbourne town centre cycle routes;
- Eastbourne seafront cycle feasibility study; and
- New pipeline schemes - cycling infrastructure (Local Cycling & Walking Infrastructure Plan).

EBC's priorities for the coming year are to secure funding to enable the construction of the Eastbourne Walking and Cycling Network to begin in 2023/2024, and to rework the detailed design of Hailsham/Polegate/Eastbourne Sustainable Transport Corridor PHASE 1 to address drainage issues.

EBC worked to implement these measures in partnership with the following stakeholders during 2023:

- ESCC
- EBC
- WDC (Wealden District Council)

The principal challenges and barriers to implementation that EBC anticipates facing regarding the planned construction of Eastbourne Walking and Cycling Network are the availability of full funding and the capacity within the wider construction programme. The progress of the Hailsham/Polegate/Eastbourne Sustainable Transport Corridor is dependent on fitting the construction of PHASE 3 Ersham Road roundabout, Hailsham into the wider delivery programme of various other junction improvements on the A22 corridor

around Hailsham, and the reallocation of road space that will be required for PHASE 4 and PHASE 5.

Progress on the delivery of PHASE 1 of the Hailsham/Polegate/Eastbourne Sustainable Transport Corridor has been delayed due to the impact of the COVID-19 pandemic on operations of the council, and the need to rework the detailed design to address drainage issues.

Table 2.2 – Progress on Measures to Improve Air Quality in Lewes District Council

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
1	Lewes – Cycle Route 90	Transport Planning and Infrastructure	Cycle network	2019	2025	ESCC NH Cycle Lewes LTC	Development Contributions and ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Preliminary design for eastern section, including toucan crossing and 40mph speed limit complete. Feasibility Designs ongoing for town centre and western section options.	Eastern section route, Cliffe High Street to Southerham roundabout has been agreed by Cycle Lewes. Implementation subject to securing full funding. The town centre and western section requires more design work and further consultation with key stakeholders.
2	Better coordination of building and road works in the Lewes town area (LTP)	Transport Planning and Infrastructure	Other	Ongoing	Ongoing	ESCC Network Management	TBC	NO	TBC	TBC	Implementation	Reduction of NO <sub>2</sub> (and PM) emission	Number of agreements and s.61 agreements	Ongoing	Ongoing
3	Target long-distance freight management & heavy traffic through town (LTP)	Transport Planning and Infrastructure	Other	Ongoing	2024	ESCC, LDC, Sussex Police (enforcement)	TBC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission	Traffic counts	Committed	A county wide freight policy will be developed as part of the review of the East Sussex Local Transport Plan 4.
4	Reduce emissions from idling vehicles - raise awareness through eco-driving campaign	Transport Planning and Infrastructure	Other	Ongoing	Ongoing	LDC	In-house resources	NO	N/a	N/a	Implementation	Reduction of NO <sub>2</sub> (and PM) emission	NO <sub>2</sub>	Ongoing	As funding available
5	Lewes Parking Management (LTP) - Intensification of existing/planned LTP programmes a) extension of parking-controlled area b) re-allocation of parking/loading spaces c) higher charges for long stay parking d) higher charges for residents second parking permits e) discounted permits for low-emission vehicles f) introduce car spaces for low-emission vehicles, car-clubs and car share g) maintain/increase provision of two-wheelers parking	Transport Planning and Infrastructure	Other	Ongoing	Ongoing	ESCC, LDC, Lewes Town Council, Business Community, Network Rail/Southern (Lewes Rail Station), private operators	TBC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission	Participation/	Higher charges for residents second parking permits and discounted permits for lower emission vehicles; the most recent increase was in 2020.	Will be undertaken as part of parking reviews
6	Partnership work with bus & train operators (LTP) Increase bus and train patronage: through supporting marketing campaign, extend use of subsidised/discounted fares, improve bus stop facilities, bus information, provision of additional undercover cycle parking at Lewes station	Transport Planning and Infrastructure	Other	Ongoing	Ongoing	ESCC/LDC Bus Operators Train Operating Companies	TBC	NO	TBC	TBC	Implementation	Accessibility/	Enforcements	Ongoing	As funding is available.
7	New pipeline schemes - cycling infrastructure (Local Cycling & Walking Infrastructure Plan)	Transport Planning and Infrastructure	Cycle network	Ongoing	Ongoing	ESCC	ESCC Local Transport Capital Programme	NO	TBC	TBC	Planning	awareness	Reduced traffic and congestion at peak time, reduced re-circulation, reduced emissions; and modal shift and	Point c – Lewes station cycle parking is complete	As funding is available.



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
													sustainable travel behaviour		
8	Address traffic flow & congestion on Newhaven Ring Road	Traffic Management	UTC, Congestion management, traffic reduction	Ongoing	Ongoing		ESCC	NO	TBC	TBC	Implementation	Reduction of NO <sub>2</sub> (and PM) emission		Feasibility	Pipeline scheme – School Streets Southover CofE Primary – detailed design during 2023.
9	A259 South Coast Corridor Package – A259 Corridor Package	Other	Other	Ongoing	Ongoing		ESCC	NO	TBC	TBC	Implementation	Reduction of NO <sub>2</sub> (and PM) emission		Improvements to crossings completed summer 2021 has helped to address flow and congestion	Will be further considered through A259 South Coast Corridor Package

Table 2.3 – Progress on Measures to Improve Air Quality in Eastbourne Borough Council

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
1	Hailsham/Polegate/Eastbourne Sustainable Transport Corridor PHASE 1	Transport Planning and Infrastructure	Other		2024	ESCC Local Growth Funding	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission		Detailed design to be completed 2023	Delivery delayed due to impact of the Covid 19 Pandemic on operations of the council and need to rework detailed design to address drainage issues
2	Hailsham/Polegate/Eastbourne Sustainable Transport Corridor PHASE 2 Victoria Drive bus lane	Transport Planning and Infrastructure	Other		2027	Development Contributions/ Other national funding	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission		Detailed Design	
3	Hailsham/Polegate/Eastbourne Sustainable Transport Corridor PHASE 3 Ersham Road roundabout, Hailsham	Transport Planning and Infrastructure	Other		2026	CIL	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission		LMTE report on consultation and next steps Oct 22 – resolved to progress to detailed design and construction.	Various other junction improvement on the A22 corridor around Hailsham will mean construction will need to be fitted into that wider delivery programme
4	Hailsham/Polegate/Eastbourne Sustainable Transport Corridor PHASE 4 A2021 Kings Drive/Rodmill Roundabout	Transport Planning and Infrastructure	Other		2025	Bus Service Improvement Plan funding	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission		Detailed design to commence 2023/24	
5	Hailsham/Polegate/Eastbourne Sustainable Transport Corridor PHASE 5 – Rodmill roundabout to town centre (northbound bus lane on approach to Rodmill roundabout)	Transport Planning and Infrastructure	Other		2025	Development Contributions/Bus Service Improvement Plan funding	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission		Village Green de-designated to enable roundabout to be delivered	
6	Eastbourne town centre improvement scheme Phase 2a	Transport Planning and Infrastructure	Other		2024	ESCC Local Growth Funding, ESCC	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission		Feasibility – part of Bus Service Improvement Plan funded package of bus priority measures.	Will require the re-allocation of road space
7	Eastbourne town centre improvement scheme Phase 2b	Transport Planning and Infrastructure	Other		2025	EBC Levelling Up Fund	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission			Short timescales for design and delivery
8	A22/A2290 MRN Corridor Study (Golden Jubilee Way to Seaside)	Transport Planning and Infrastructure	Other			Major Road Network Funding	ESCC	NO	TBC	TBC	Planning	N/A	N/A	Feasibility – part of Bus Service Improvement Plan funded package of bus priority measures.	Will require the re-allocation of road space
9	Eastbourne Walking and Cycle Network - Horsey Way Phase 1B (Cavendish Place to Ringwood Road)	Transport Planning and Infrastructure	Cycle network		2024	ESCC Local Growth Funding	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes		Short timescales for design and delivery
10	Eastbourne Walking and Cycle Network - Langney Rise cycle route	Transport Planning and Infrastructure	Cycle network		2024	ESCC Local Growth Funding	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Detailed design	
11	Eastbourne Walking and Cycle Network- Willingdon Drove cycle route	Transport Planning and Infrastructure	Cycle network		2024	ESCC Local Growth Funding	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Construction to commence in 2023	
12	Eastbourne / South Wealden cycling and walking improvements - Stone Cross Royal Parade via Langney	Transport Planning and Infrastructure	Cycle network			ESCC	ESCC	NO	TBC	TBC	Planning	Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Consultation completed 2021.Detailed Design being undertaken in 2022.	Subject to securing funding

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
13	Eastbourne / South Wealden cycling and walking improvements-Eastbourne Cycle Parking	Transport Planning and Infrastructure	Cycle network		2023	ESCC		NO				Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Consultation completed in 2022	Individual locations subject to local consultation and, in some cases, TRO process.
14	Eastbourne / South Wealden cycling and walking improvements - Eastbourne town centre cycle routes	Transport Planning and Infrastructure	Cycle network		2024	ESCC		NO				Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Consultation completed 2021. Detailed Design being undertaken in 2022. Construction to commence late 2022.	Construction will be subject to full funding being available and capacity within wider construction programme
15	Eastbourne / South Wealden cycling and walking improvements- Eastbourne Town Centre Wayfinding	Transport Planning and Infrastructure	Cycle network		2023	EBC		NO				Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Construction	Scheme delivered by EBC, nearing completion.
16	Eastbourne seafront cycle feasibility study	Transport Planning and Infrastructure	Cycle network		2024	ESCC		NO				N/A	N/A	Feasibility	
17	New pipeline schemes - cycling infrastructure (Local Cycling & Walking Infrastructure Plan)	Transport Planning and Infrastructure	Cycle network		2024	ESCC		NO				Reduction of NO <sub>2</sub> (and PM) emission	Increased use of sustainable transport modes	Feasibility	As funding is available.

## 2.3 PM<sub>2.5</sub> – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy<sup>6</sup>, local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter (PM<sub>2.5</sub>). There is clear evidence that PM<sub>2.5</sub> (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

### **Lewes District Council**

In 2023 PM<sub>2.5</sub> was monitored at one site within LDC, LS8 in Lewes Town Centre and within the existing AQMA. Data capture at this site during 2023 was 96.6% giving an annual mean of 8.3 µg/m<sup>3</sup>. This was slightly lower than the 2022 reported annual mean (9.8 µg/m<sup>3</sup>).

Many of the measures to improve air quality currently being implemented in LDC are expected to lower PM<sub>2.5</sub> concentrations over time by reducing emissions from road traffic. LDC is supporting East Sussex County Council towards completion of Cycle Route 90 alongside new pipeline schemes for cycling infrastructure as part of the Local Cycling and Walking Infrastructure Plan to promote sustainable transport modes. The eco-driving campaign aiming to reduce emissions from idling vehicles and measures to intensify existing/planned LTP programmes are also expected to reduce PM<sub>2.5</sub> road traffic emissions.

The [Public Health Outcomes Framework](#) data tool compiled by Public Health England quantifies the mortality burden of PM<sub>2.5</sub> within England on a county and local authority scale. The 2022 fraction of mortality attributable to particulate air pollution across England is 5.8%, and the fraction within LDC at 3.7% is significantly lower than the national average and the South East regional average of 5.7%.

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<sup>6</sup> Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

## **Eastbourne Borough Council**

Within EBC, PM<sub>2.5</sub> was monitored at one site, EB3 Holly Place. Data capture at this site during 2023 was 61.9%. The annualised PM<sub>2.5</sub> annual mean is 7.3 µg/m<sup>3</sup> at EB3. This was slightly lower than the 2022 reported annual mean (8.9 µg/m<sup>3</sup>).

As in LDC, numerous measures to be implemented in EBC are focused on reducing road traffic emissions are therefore expected to reduce PM<sub>2.5</sub> emissions. The Hailsham/Polegate/Eastbourne Sustainable Transport Corridor will be implemented in phases and aims to improve public transport services, while there are also plans to extend the existing cycle network to promote sustainable transport modes.

The [Public Health Outcomes Framework](#) compiled by Public Health England quantifies the mortality burden of PM<sub>2.5</sub> within England on a county and local authority scale. The 2022 fraction of mortality attributable to particulate air pollution across England is 5.8%, and the fraction within LDC at 4.0% is significantly lower than the national average and the South East regional average of 5.7%.

In Defra's recently published Clean Air Strategy 2019 the government want to cut PM<sub>2.5</sub> levels to those recommended by the World Health Organisation:

*'We will progressively cut public exposure to particulate matter pollution as suggested by the World Health Organisation. We will halve the population living in areas with concentrations of fine particulate matter above WHO guideline levels (10 µg/m<sup>3</sup>) by 2025.'*

Public Health England published a very informative 'Health Matters'<sup>7</sup> of which an example page is reproduced below. The document demonstrates the causes and effects of pollutants and links the problems of air pollution and health. The Clean Burn Sussex education campaign was undertaken in 2019/20 and the report is available [here](#).

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<sup>7</sup> Health Matters: air pollution, Public Health England, published 14 November 2018. Available at: <https://www.gov.uk/government/publications/health-matters-air-pollution>

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

This section sets out the monitoring undertaken within 2023 by Lewes Borough Council and Eastbourne District Council 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

LDC undertook automatic (continuous) monitoring at one site during 2023. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The [Sussex-Air monitoring data](#) page presents automatic monitoring results for LDC.

EBC undertook automatic (continuous) monitoring at two sites during 2023. Table A.2 in Appendix A shows the details of the automatic monitoring sites. The [Sussex-Air monitoring data](#) page presents automatic monitoring results for EBC.

Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C. Maps showing the location of the monitoring sites are provided in Appendix D: Map(s) of Monitoring Locations and AQMAs.

#### 3.1.2 Non-Automatic Monitoring Sites

LDC undertook non-automatic (i.e. passive) monitoring of NO<sub>2</sub> at 54 sites during 2023. Table A.3 in Appendix A presents the details of the non-automatic sites.

EBC undertook non-automatic (i.e. passive) monitoring of NO<sub>2</sub> at 21 sites during 2023. Table A.4 in Appendix A presents the details of the non-automatic sites.

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

## 3.2 Individual Pollutants

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

### 3.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

#### Lewes District Council

Table A.5 and Table A.7 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40 µg/m<sup>3</sup>. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 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 NO<sub>2</sub> hourly mean concentrations for the past five years with the air quality objective of 200 µg/m<sup>3</sup>, not to be exceeded more than 18 times per year.

Figure A.1 - Figure A.4 show trends in nitrogen dioxide measured by diffusion tubes from 2019 to 2023. Each figure illustrates the concentration for groups of sites with data readings.

#### Lewes AQMA

Table A.9 shows that there was no exceedance of 1 hour NO<sub>2</sub> concentrations greater than objective of 200 µg/m<sup>3</sup> at the continuous monitoring site, LS8, located within the existing Lewes AQMA. As up to 35 exceedances a year are permitted by the NO<sub>2</sub> 1 hour AQS objective, the site is compliant with the 1 hour NO<sub>2</sub> AQS objective. Table A.5 shows that the annual mean NO<sub>2</sub> concentration recorded at LS8 was 13.4 µg/m<sup>3</sup>, which is well below the NO<sub>2</sub> annual mean AQS objective (40 µg/m<sup>3</sup>). LS8 reported a valid data capture rate of 99.4% for NO<sub>2</sub> in 2023.



Figure A.1 shows the diffusion tubes within Lewes AQMA. The highest annual mean concentration was  $29.7 \mu\text{g}/\text{m}^3$ , recorded at DT ID 12 (Fisher St. East). Six sites (LS8, DT ID 8, 12, 13, 23 and 24) reported an increase in annual average concentration compared to 2022 data and three sites (DT ID 9, 10 and 11) reported a decrease. The diffusion tube with highest concentration in 2023 which is Site DT ID 12 (Fisher St. East), has shown consistently lower concentrations towards the middle and western end of this street where a change of priority in traffic was implemented as part of recommendations made in the Lewes AQAP 2009. Lewes AQMA has been compliant for the last four years, although excluding the years 2020 and 2021, which are likely to be considered abnormal years, this is the second year that there have been no annual exceedances within Lewes AQMA. Revocation of the Lewes AQMA will be able to be considered if compliance is maintained for the few next years.

### Newhaven AQMA

Figure A.2 Figure A.1 presents the annual mean  $\text{NO}_2$  concentrations for the last 5 years reported at diffusion tube sites within the Newhaven AQMA. The highest annual mean concentration was  $38.2 \mu\text{g}/\text{m}^3$ , recorded at DT ID 12 (Fisher St. East).

In 2023, DT ID 3 – 16 Southway – reported the highest annual mean of  $38.2 \mu\text{g}/\text{m}^3$ , which is within 10% of the annual air quality objective of  $40 \mu\text{g}/\text{m}^3$ . All other sites reported values below the annual objective. Only one site – DT ID 40 (The Old Chapel) – reported increase in annual mean when compared to 2022 data. The Old Chapel is located on a hill, near a junction and will receive ‘launch’ exhaust from vehicles that have stopped and then started on the hill at the nearby pedestrian crossing.

### Outside of AQMA's

Figure A.3 and Figure A.4 show the diffusion tubes outside of any AQMA's in LDC. In 2023, DT ID 21 – 204 School Hill – reported the highest annual mean of  $45.7 \mu\text{g}/\text{m}^3$ , which exceeds the annual air quality objective of  $40 \mu\text{g}/\text{m}^3$ . All other sites outside of AQMA's in LDC recorded  $\text{NO}_2$  concentrations below the annual mean AQS of  $40 \mu\text{g}/\text{m}^3$  and also below  $36 \mu\text{g}/\text{m}^3$  (not 10% within the AQS).

However, it should be noted that the Monitoring Site ID 21 location may be impacted by a very localised emission source and may therefore not be representative of the air quality in the wider area. A review of the monitoring location has been done by LDC and the site has been relocated to be away from the emission source. The 2024 monitoring result will be



reviewed again to decide whether to extend the AQMA boundary to cover the High Street where Site ID 21 located.

### **Eastbourne Borough Council**

Table A.6 and Table A.8 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations in EBC for the past five years with the air quality objective of 40 µg/m<sup>3</sup>. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes in EBC, the full 2023 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.2 includes distance corrected values, only where relevant.

The highest annual mean NO<sub>2</sub> concentration was 24.2 µg/m<sup>3</sup>, well below the UK AQS, and was recorded at site 14, 109 Whiteley Road. All 21 sites in EBC reported decreases compared to 2022 data.

Table A.9 in Appendix A compares the ratified continuous monitored NO<sub>2</sub> hourly mean concentrations in EBC for the past five years with the air quality objective of 200 µg/m<sup>3</sup>, not to be exceeded more than 18 times per year.

Figure A.5 and Figure A.6 show all the diffusion tubes within EBC. Results show that no monitoring location has been in exceedance of the annual mean objective of 40 µg/m<sup>3</sup> in the last 5 years. Table A.9 shows that there were no 1 hour NO<sub>2</sub> concentrations greater than 200 µg/m<sup>3</sup> reported at either of the continuous monitoring sites, EB1 and EB3.

### **3.2.2 Particulate Matter (PM<sub>10</sub>)**

Table A.10 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM<sub>10</sub> annual mean concentrations for the past five years with the air quality objective of 40 µg/m<sup>3</sup>.

Table A.11 in Appendix A compares the ratified continuous monitored PM<sub>10</sub> daily mean concentrations for the past five years with the air quality objective of 50 µg/m<sup>3</sup>, not to be exceeded more than 35 times per year.

**Lewes District Council**

LS8 in Lewes Town Centre monitored PM<sub>10</sub> with a data capture of 99.3% for the year 2023. The annual mean concentration recorded at LS8 was 14.3 µg/m<sup>3</sup>, well below the annual mean AQS. There was no recorded exceedance of the 24 hour mean AQS (50 µg/m<sup>3</sup>).

**Eastbourne Borough Council**

In 2023, PM<sub>10</sub> data was collected at both automatic monitors EB1 and EB3, with data capture rates of 90.4% and 61.9% respectively. In 2023, the annual concentrations recorded were 17.2 µg/m<sup>3</sup> and 11.8 µg/m<sup>3</sup> (annualised) at EB1 and EB3 respectively, well below the annual mean AQS. There were no recorded exceedances of the 24 hour mean 50 µg/m<sup>3</sup> AQS at EB1 and at EB3. The 90.4<sup>th</sup> percentile of 24-hour means at EB3 is 22 µg/m<sup>3</sup> which is well below the 24 hour mean 50 µg/m<sup>3</sup> AQS.

**3.2.3 Particulate Matter (PM<sub>2.5</sub>)**

Table A.12 in Appendix A presents the ratified and adjusted monitored PM<sub>2.5</sub> annual mean concentrations for the past five years.

**Lewes District Council**

In 2023, site LS8 had a valid data capture of 96.6%, and recorded an annual mean concentration of 8.3 µg/m<sup>3</sup>, well below the UK AQS of 20 µg/m<sup>3</sup>.

**Eastbourne Borough Council**

In 2023, PM<sub>2.5</sub> data was collected at EB3 Holly Place, with data capture rates of 61.9%. The annualised annual mean concentration recorded was 7.3 µg/m<sup>3</sup>, which is lower than the annual mean reported in 2022 (8.9 µg/m<sup>3</sup>), and well below the annual mean AQS of 20 µg/m<sup>3</sup>.

**3.2.4 Ozone (O<sub>3</sub>)**

Table A.13 in Appendix A compares the ratified continuous monitored O<sub>3</sub> 8-hour running mean concentrations for 2023 with the air quality objectives for O<sub>3</sub> of 100 µg/m<sup>3</sup>, not to be exceeded more than 35 times a year.

EB1 in EBC monitored O<sub>3</sub> with a data capture of 99.1% for the year 2023. There were 119 recorded exceedances of the 8 hour running mean AQS (100 µg/m<sup>3</sup>).

## Appendix A: Monitoring Results

**Table A.1 – Details of Automatic Monitoring Sites in Lewes District Council**

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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Inlet Height (m)
LS8	Little East Street	Roadside	541637	110276	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	Yes (Lewes AQMA)	Chemiluminescent	13.1	3.1	2.25

**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 Automatic Monitoring Sites in Eastbourne Borough Council**

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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Inlet Height (m)
EB1	Eastbourne – Devonshire Park	Urban Background	561146	98346	NO <sub>2</sub> , O <sub>3</sub> , PM <sub>10</sub>	No	Chemiluminescent BAM Beta-attenuation; UV absorption	N/A	5	3
EB3	Eastbourne-Holly Place	Urban Background	560155	103150	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub>	No	Chemiluminescent FDMS	N/A	N/A	4

**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 – Details of Non-Automatic Monitoring Sites in Lewes District Council**

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
1	Seaford- Sutton Pk Rd/Warwick Ave	Roadside	548420	99223	NO <sub>2</sub>	No	4.5	2.8	No	2.8
2	LDC 10 - 9 Southway – Newhaven	Kerbside	544354	101388	NO <sub>2</sub>	Yes - Newhaven AQMA	5.0	1.0	No	2.5
3	LDC - 16 Southway – Newhaven	Kerbside	544414	101273	NO <sub>2</sub>	Yes - Newhaven AQMA	0.0	1.0	No	2.5
4	LDC 11 - Lewes Rd – Newhaven	Roadside	544273	101532	NO <sub>2</sub>	No	4.0	2.0	No	2.5
5	Telscombe – South Coast Rd/Central Ave	Roadside	540063	101263	NO <sub>2</sub>	No	6.0	1.8	No	2.6
6	LDC 8 - 8 Bay Vue Rd - Newhaven	Urban Background	544521	101089	NO <sub>2</sub>	No	3.0	N/A	No	2.5
7	LDC 25 - Westgate Chapel	Roadside	541285	109969	NO <sub>2</sub>	No	2.2	1.9	No	2.3
8	LDC 26 - Mount Pleasant/Sun Street	Roadside	541481	110277	NO <sub>2</sub>	Yes- Lewes AQMA	0.5	2.0	No	2.5
9	LDC 27 - West St Police Station	Roadside	541541	110246	NO <sub>2</sub>	Yes- Lewes AQMA	5.0	2.6	No	2.3
10	LDC 18 - Fisher Street	Kerbside	541505	110236	NO <sub>2</sub>	Yes- Lewes AQMA	0.0	1.4	No	2.5
11	LDC 36 - Fisher St West	Kerbside	541519	110167	NO <sub>2</sub>	Yes- Lewes AQMA	N/A	1.0	No	2.2
12	LDC 1- Fisher St East	Kerbside	541540	110130	NO <sub>2</sub>	Yes- Lewes AQMA	N/A	1.0	No	3.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
13	LDC 29 - Market St	Kerbside	541598	110169	NO <sub>2</sub>	Yes- Lewes AQMA	1.5	1.0	No	2.5
14	Peacehaven – o/s 223 South Coast Rd	Kerbside	540969	100974	NO <sub>2</sub>	No	2.9	1.4	No	2.7
15	LDC 31 - North St	Kerbside	541646	110370	NO <sub>2</sub>	No	5.0	1.0	No	3.0
16	LDC 33 - Cuilfail Tunnel/Thomas St	Roadside	542178	110454	NO <sub>2</sub>	No	8.0	5.0	No	3.0
17	LDC 4 - 159 Malling St – Lewes	Roadside	542315	110733	NO <sub>2</sub>	No	3.0	2.0	No	3.5
18	LDC 6 East Street	Roadside	541669	110278	NO <sub>2</sub>	No	0.0	3.5	No	2.5
19	LDC 30 - Little East St	Roadside	541726	110335	NO <sub>2</sub>	No	1.0	2.7	No	2.5
20	LDC 45 - School Hill	Kerbside	541755	110206	NO <sub>2</sub>	No	3.0	1.0	No	2.5
21	LDC - 204 School Hill	Roadside	541684	110181	NO <sub>2</sub>	No	0.0	2.7	No	2.6
22	LDC 35 - Walmer Lane/Lansdowne Terrace	Roadside	541709	109990	NO <sub>2</sub>	No	1.8	3.0	No	2.4
23	LDC 23 - Station St/Lansdowne Terrace	Roadside	541615	109968	NO <sub>2</sub>	Yes- Lewes AQMA	N/A	1.8	No	2.5
24	LDC 14 - Station St - Lewes	Roadside	541603	110001	NO <sub>2</sub>	Yes- Lewes AQMA	2.0	1.9	No	3.0
25	LS6 - Denton Community Centre	Urban Background	545142	102433	NO <sub>2</sub>	No	N/A	N/A	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
26	Peacehaven – South Coast Rd/Steving Ave	Roadside	541231	100957	NO <sub>2</sub>	No	10.0	3.0	No	2.7
27	Give Way Sign Adj. To 1 Abinger Place	Roadside	541438	110293	NO <sub>2</sub>	No	4.0	1.5	No	2.0
28	8 Abinger Place	Roadside	541430	110328	NO <sub>2</sub>	No	1.2	1.5	No	2.5
29	Peacehaven – o/s 53 South Coast Rd	Roadside	542168	100675	NO <sub>2</sub>	No	10.0	3.0	No	2.7
30	ESCC 20 - A259 SFD (nr Chyngton Gardens)	Roadside	550077	99291	NO <sub>2</sub>	No	10.0	1.5	No	3.0
31	ESCC 23 - Railway Rd – Newhaven	Kerbside	544996	101264	NO <sub>2</sub>	No	5.0	1.0	No	3.0
32	ESCC 24 - 35 Heighton Crescent - Denton	Urban Background	544908	102704	NO <sub>2</sub>	No	10.0	N/A	No	1.8
33	ESSCC 2 - Ringmer Village Hall	Roadside	544681	112441	NO <sub>2</sub>	No	N/A	1.8	No	2.0
34	ESCC 18 - High St – Ditchling	Roadside	532605	115203	NO <sub>2</sub>	No	5.0	2.0	No	2.5
35	Ditchling High Street 2	Kerbside	532587	115410	NO <sub>2</sub>	No	1.0	1.0	No	1.8
36	ESCC 22 - Southover High St – Lewes	Roadside	541032	109613	NO <sub>2</sub>	No	1.0	2.0	No	2.1
37	Newhaven - Bridge Pub	Kerbside	544603	101485	NO <sub>2</sub>	Yes - Newhaven AQMA	N/A	0.5	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) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
38	Newhaven- Essex Place	Roadside	544497	101499	NO <sub>2</sub>	Yes - Newhaven AQMA	5.0	1.2	No	2.0
39	Newhaven - Rathan Court	Roadside	544330	101423	NO <sub>2</sub>	Yes - Newhaven AQMA	10.0	1.5	No	2.0
40	Newhaven - The Old Chapel	Roadside	544497	101285	NO <sub>2</sub>	Yes - Newhaven AQMA	3.0	1.5	No	2.5
41	The Drove - Newhaven	Roadside	544948	101549	NO <sub>2</sub>	No	N/A	4.0	No	2.5
42	Knight's Gate Road - Falmer Roundabout	Roadside	535187	108928	NO <sub>2</sub>	No	20.0	2.5	No	1.9
43	A26 South Heighton/nr Hollow	Roadside	544886	102879	NO <sub>2</sub>	No	12.0	1.0	No	1.0
44	C7 Piddinghoe Rd	Roadside	543431	103022	NO <sub>2</sub>	No	3.5	1.3	No	1.8
45	O/S Kingston Primary school	Roadside	539543	108284	NO <sub>2</sub>	No	15.0	2.5	No	1.8
46	Opp Seaford Station - Station Approach	Roadside	548167	99160	NO <sub>2</sub>	No	2.0	1.5	No	3
47	Plumpton Green/Station Rd, flood sign	Roadside	536441	116231	NO <sub>2</sub>	No	7.0	1.0	No	2
48	Barcombe High Str o/s old shop	Roadside	542029	115781	NO <sub>2</sub>	No	3.0	2.5	No	2.5
49	O/S Covers, Cooksbridge	Roadside	540141	113548	NO <sub>2</sub>	No	0.0	2.0	No	2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
50	O/S 64 Brighton Rd	Roadside	544185	101350	NO <sub>2</sub>	No	2.5	1.5	No	2.8
51	School Hill, Lewes - Gail's Bakery	Kerbside	541814	110211	NO <sub>2</sub>	No		0.8	No	
52	Eastgate Street, Boots	Kerbside	541831	110231	NO <sub>2</sub>	No		1.0	No	
53	Eastgate Street, Old Bus Station	Kerbside	541803	110271	NO <sub>2</sub>	No		1.0	No	
54a, 54b, 54c	Co-location Lewes AQMS	Roadside	541637	110276	NO <sub>2</sub>	Yes- Lewes AQMA		3.1	Yes	

**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.4 – Details of Non-Automatic Monitoring Sites in Eastbourne Borough Council**

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
1	Post Office	Kerbside	560774	99163	NO <sub>2</sub>	No	2.0	0.0	No	3.1
2	Langney KFC	Kerbside	561458	99116	NO <sub>2</sub>	No	4.0	0.0	No	2.9
3	27 Pevensey	Kerbside	561568	99108	NO <sub>2</sub>	No	3.0	0.0	No	2.7
4	Nail Fairy Seaside	Kerbside	561717	99061	NO <sub>2</sub>	No	3.0	0.0	No	2.8
5	34 Seaside	Kerbside	561621	99004	NO <sub>2</sub>	No	3.0	0.0	No	2.8
6	Top of Cavendish	Kerbside	561737	98948	NO <sub>2</sub>	No	3.0	0.0	No	2.6
7	Royale Parade/Prince's Park	Kerbside	562692	100149	NO <sub>2</sub>	No	4.0	0.0	No	2.7
8	Seaside Tesco	Kerbside	562655	100970	NO <sub>2</sub>	No	10.0	0.0	No	2.8
9	Larkspur / Friday	Kerbside	561885	103847	NO <sub>2</sub>	No	8.0	1.0	No	2.7
10	East Dean Rd	Roadside	557829	98190	NO <sub>2</sub>	No	20.0	3.0	No	2.0
11	The Goffs	Roadside	560440	99352	NO <sub>2</sub>	No	3.0	2.0	No	3.0
12	32 The Avenue	Kerbside	560943	99480	NO <sub>2</sub>	No	7.0	0.9	No	2.4
13	68 Susans	Kerbside	561354	99279	NO <sub>2</sub>	No	3.0	0.6	No	2.4

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
14	109 Whiteley Rd	Roadside	561527	99846	NO <sub>2</sub>	No	6.5	1.5	No	2.5
15	Opp 7 Lewes	Roadside	561043	99828	NO <sub>2</sub>	No	2.0	1.6	No	2.7
16	Lottebridge Tesco	Kerbside	562583	101109	NO <sub>2</sub>	No	N/A	0.9	No	2.7
17	3 Mountfield	Roadside	560749	102189	NO <sub>2</sub>	No	5.0	1.6	No	2.6
18	43 Brassey Ave	Roadside	560505	102196	NO <sub>2</sub>	No	7.0	1.7	No	2.5
19	Kings Drive / Weavers	Roadside	560134	100561	NO <sub>2</sub>	No	5.5	2.9	No	2.8
20	DGH Kings Drive	Roadside	559894	101035	NO <sub>2</sub>	No	11.0	0.9	No	2.9
21	114 Willingdon	Roadside	559730	100251	NO <sub>2</sub>	No	10.0	1.5	No	2.4

**Table A.5 – Annual Mean NO<sub>2</sub> Monitoring Results: Automatic Monitoring (µg/m<sup>3</sup>) in Lewes District Council**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
LS8	541637	110276	Roadside	99.4	99.4	-	-	-	12.1	13.4

- ☒ **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 NO<sub>2</sub> 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/m<sup>3</sup>.

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> 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.6 – Annual Mean NO<sub>2</sub> Monitoring Results: Automatic Monitoring (µg/m<sup>3</sup>) in Eastbourne Borough Council**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
EB1	561150	98341	Urban Background	100	100	14	15.5	13.1	12.8	10.6
EB3	560085	103118	Urban Background	57.6	57.6	11	9	9.4	9.3	7.4

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 NO<sub>2</sub> 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/m<sup>3</sup>.

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> 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.7 – Annual Mean NO<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>) in Lewes District Council**

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
1	548420	99223	Roadside	92.3	92.3	25.2	18.5	20.7	20.1	18.0
2	544354	101388	Kerbside	92.3	92.3	33.4	24.2	28.5	28.1	23.2
3	544414	101273	Kerbside	75.0	75.0	<b>40.7</b>	31.6	36.9	<b>41.3</b>	38.2
4	544273	101532	Roadside	82.7	82.7	30.7	22.0	24.3	23.4	21.2
5	540063	101263	Roadside	92.3	92.3	23.4	16.6	18.0	18.3	17.3
6	544521	101089	Urban Background	92.3	92.3	14.8	12.4	15.5	14.1	12.5
7	541285	109969	Roadside	100.0	100.0	29.9	19.9	21.0	19.4	23.0
8	541481	110277	Roadside	100.0	100.0	23.7	14.9	18.0	16.0	17.3
9	541541	110246	Roadside	90.4	90.4	21.0	14.4	16.2	13.5	13.2
10	541505	110236	Kerbside	100.0	100.0	24.1	15.5	16.8	17.4	17.0
11	541519	110167	Kerbside	82.7	82.7	32.0	20.6	24.1	23.1	23.0
12	541540	110130	Kerbside	92.3	92.3	<b>41.9</b>	27.6	30.0	29.3	29.7
13	541598	110169	Kerbside	100.0	100.0	36.8	27.9	26.5	22.5	28.3
14	540969	100974	Kerbside	82.7	82.7	30.5	21.3	23.3	19.3	14.7
15	541646	110370	Kerbside	92.3	92.3	21.4	15.1	15.2	16.2	14.3
16	542178	110454	Roadside	100.0	100.0	30.4	22.3	24.9	22.4	23.1
17	542315	110733	Roadside	75.0	75.0	29.8	20.9	22.3	22.3	21.6
18	541669	110278	Roadside	65.4	65.4	23.2	15.3	17.0	16.8	17.0
19	541726	110335	Roadside	100.0	100.0	21.4	14.1	15.5	14.5	13.7
20	541755	110206	Kerbside	50.0	50.0	38.5	27.6	29.4	27.9	32.6
21	541684	110181	Roadside	92.3	92.3	<b>43.6</b>	31.6	33.0	35.3	<b>45.7</b>
22	541709	109990	Roadside	90.4	90.4	20.4	13.5	14.8	12.7	13.0
23	541615	109968	Roadside	92.3	92.3	24.7	16.1	19.1	17.7	18.6
24	541603	110001	Roadside	82.7	82.7	33.7	22.2	24.4	22.6	25.1
25	545142	102433	Urban Background	92.3	92.3	11.2	8.2	9.1	8.6	9.0
26	541231	100957	Roadside	100.0	100.0	22.8	16.9	17.4	18.4	15.7
27	541438	110293	Roadside	100.0	100.0	30.7	21.4	21.7	17.8	20.8
28	541430	110328	Roadside	100.0	100.0	29.4	19.2	21.2	20.7	19.2
29	542168	100675	Roadside	92.3	92.3	19.5	14.5	16.9	16.2	15.0
30	550077	99291	Roadside	92.3	92.3	29.0	22.5	26.7	14.3	19.1
31	544996	101264	Kerbside	100.0	100.0	20.1	15.4	18.6	22.6	13.5

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
32	544908	102704	Urban Background	100.0	100.0	13.8	10.5	11.7	17.8	11.7
33	544681	112441	Roadside	75.0	75.0	20.9	14.7	17.2	12.2	15.9
34	532605	115203	Roadside	100.0	100.0	26.9	18.2	20.8	20.0	18.7
35	532587	115410	Kerbside	75.0	75.0	21.4	13.8	16.2	16.0	13.6
36	541032	109613	Roadside	100.0	100.0	32.2	20.3	22.8	18.9	21.6
37	544603	101485	Kerbside	92.3	92.3	39.2	28.7	28.8	30.7	26.6
38	544497	101499	Roadside	92.3	92.3	30.7	21.5	24.0	25.1	17.1
39	544330	101423	Roadside	92.3	92.3	27.1	19.9	21.8	22.4	20.2
40	544497	101285	Roadside	40.4	40.4	<b>44.6</b>	34.1	35.8	33.7	34.1
41	544948	101549	Roadside	100.0	100.0	23.6	19.1	20.1	19.5	17.6
42	535187	108928	Roadside	100.0	100.0	<b>57.0</b>	25.6	30.8	31.8	29.9
43	544886	102879	Roadside	100.0	100.0	29.5	18.3	20.1	19.4	17.1
44	543431	103022	Roadside	100.0	100.0	24.3	15.8	17.1	17.3	15.3
45	539543	108284	Roadside	100.0	100.0	21.1	16.9	13.5	14.1	14.2
46	548167	99160	Roadside	92.3	92.3	29.5	17.9	21.6	19.5	17.6
47	536441	116231	Roadside	100.0	100.0	13.9	8.5	11.8	8.5	8.0
48	542029	115781	Roadside	84.6	84.6	16.6	10.7	13.8	12.2	11.6
49	540141	113548	Roadside	90.4	90.4	18.5	10.7	13.1	12.0	11.3
50	544185	101350	Roadside	84.6	84.6	<b>42.6</b>	25.8	29.1	29.1	27.7
51	541814	110211	Kerbside	57.7	57.7	-	-	-	-	25.0
52	541831	110231	Kerbside	82.7	82.7	-	-	-	-	21.9
53	541803	110271	Kerbside	92.3	92.3	-	-	-	-	21.2
54a, 54b, 54c	541637	110276	Roadside	92.3	92.3	-	-	-	-	15.5

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 NO<sub>2</sub> annual mean objective of  $40\mu\text{g}/\text{m}^3$  are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

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%).

**Table A.8 – Annual Mean NO<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>) in Eastbourne Borough Council**

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
1	560774	99163	Kerbside	92.5	92.5	15.5	19.8	22.5	23.4	19.6
2	561458	99116	Kerbside	100.0	100.0	11.7	14.2	16.9	17.1	14.9
3	561568	99108	Kerbside	100.0	100.0	26.0	19.1	19.3	20.3	17.7
4	561717	99061	Kerbside	100.0	100.0	21.6	22.9	23.9	24.8	23.0
5	561621	99004	Kerbside	92.5	92.5	24.7	22.8	23.9	23.9	21.2
6	561737	98948	Kerbside	100.0	100.0	30.1	15.5	17.8	18.0	15.0
7	562692	100149	Kerbside	100.0	100.0	31.9	16.6	20.9	20.6	19.3
8	562655	100970	Kerbside	83.2	83.2	24.2	22.4	25.9	25.5	22.6
9	561885	103847	Kerbside	100.0	100.0	23.8	15.0	17.5	17.3	16.3
10	557829	98190	Roadside	100.0	100.0	21.5	12.5	13.8	14.3	11.8
11	560440	99352	Roadside	74.4	74.4	10.4	17.5	19.6	19.8	17.6
12	560943	99480	Kerbside	100.0	100.0	18.5	17.1	18.7	19.5	16.3
13	561354	99279	Kerbside	100.0	100.0	25.9	17.3	18.2	18.2	16.0
14	561527	99846	Roadside	100.0	100.0	27.3	26.8	26.4	26.8	24.2
15	561043	99828	Roadside	92.5	92.5	25.6	17.3	18.4	19.6	17.6
16	562583	101109	Kerbside	92.5	92.5	39.3	18.9	22.2	24.3	21.1
17	560749	102189	Roadside	100.0	100.0	27.4	18.0	21.6	21.5	19.0
18	560505	102196	Roadside	100.0	100.0	31.8	16.2	17.6	17.8	15.2
19	560134	100561	Roadside	100.0	100.0	30.8	12.9	14.4	15.2	13.0
20	559894	101035	Roadside	100.0	100.0	25.1	18.0	20.9	21.8	18.2
21	559730	100251	Roadside	100.0	100.0	20.8	21.0	24.8	25.1	21.6

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

Diffusion tube data has been bias adjusted.

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

Notes:



The annual mean concentrations are presented as  $\mu\text{g}/\text{m}^3$ .

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

$\text{NO}_2$  annual means exceeding  $60\mu\text{g}/\text{m}^3$ , indicating a potential exceedance of the  $\text{NO}_2$  1-hour mean objective are shown in **bold and underlined**.

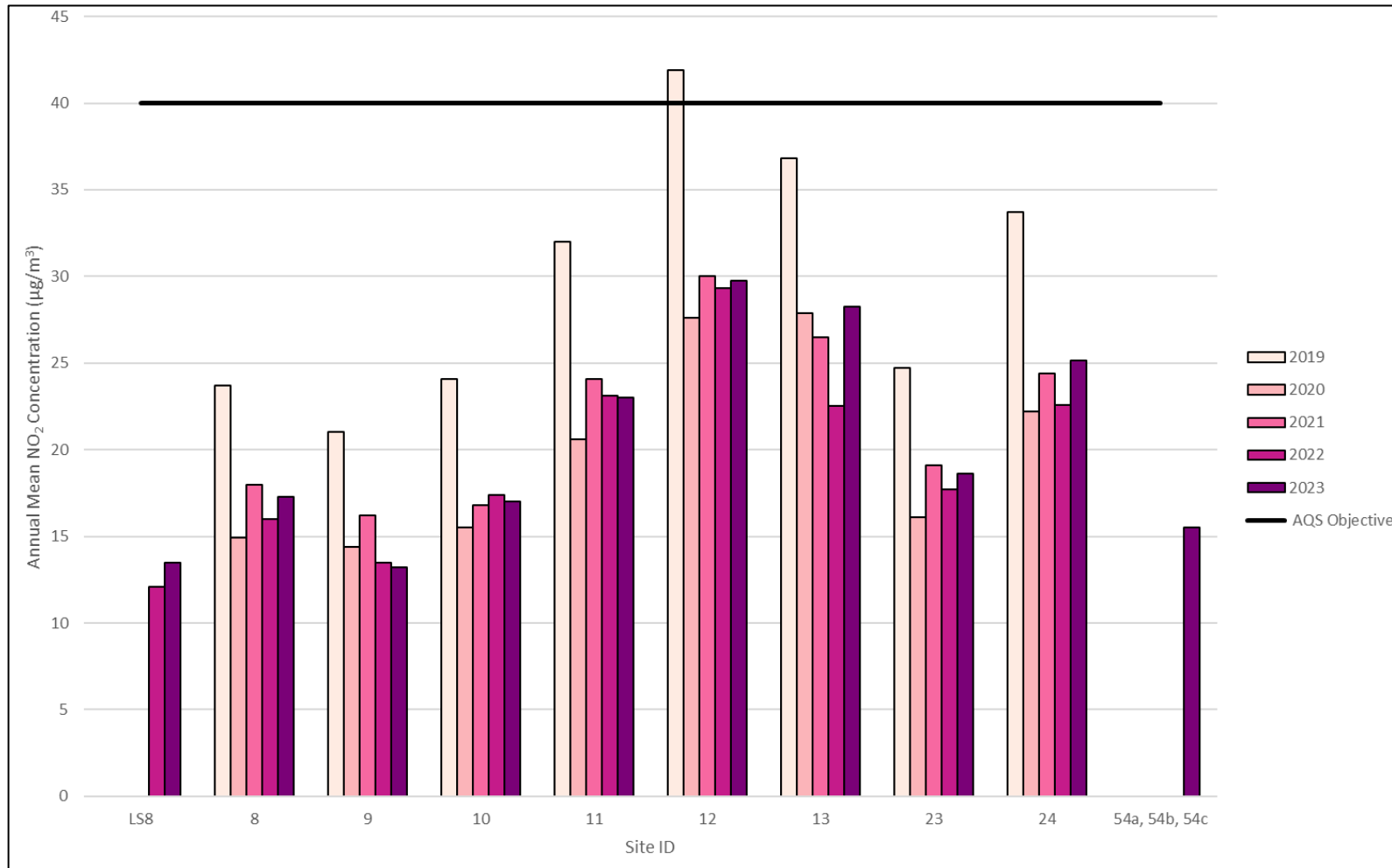
Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

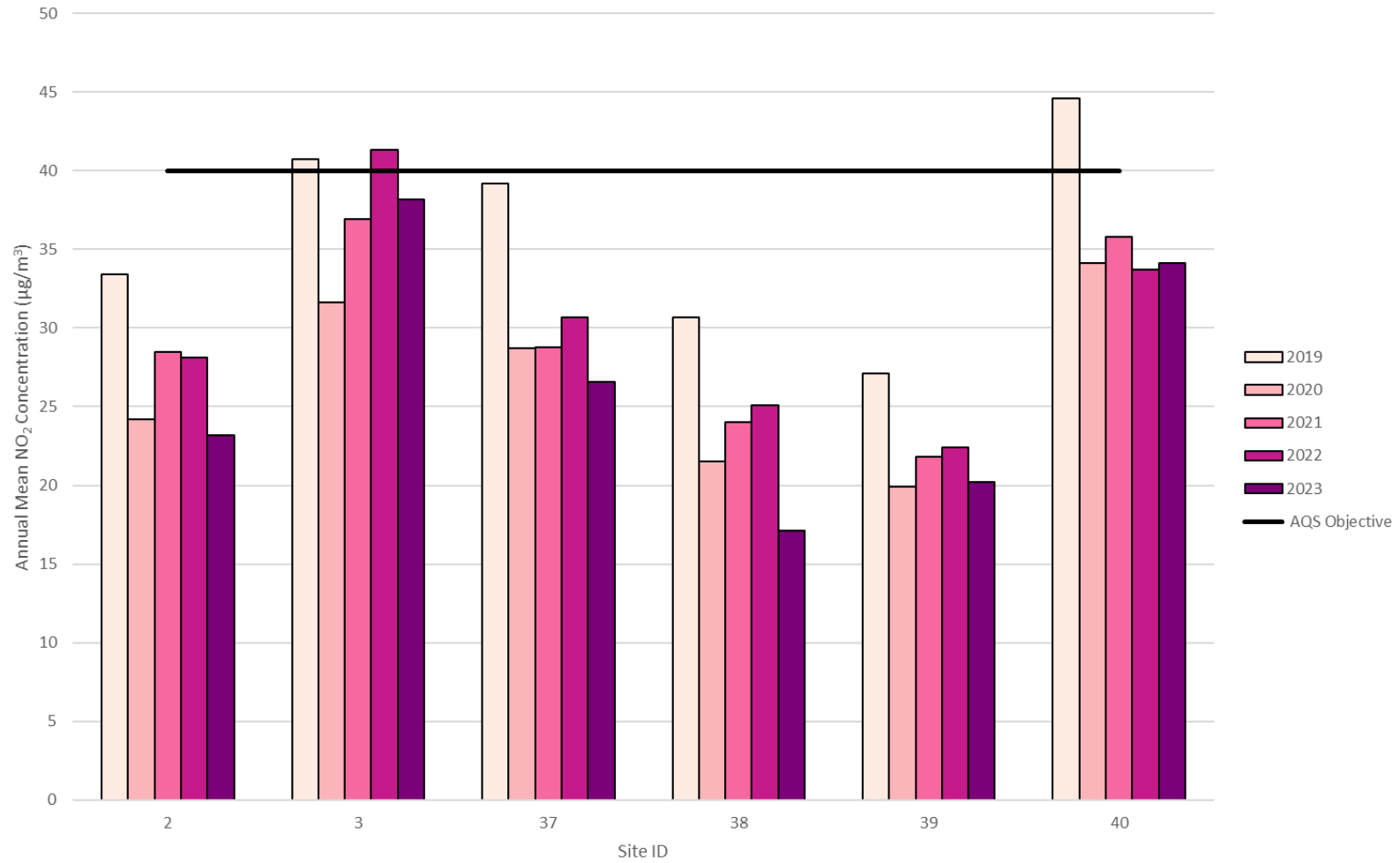
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

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

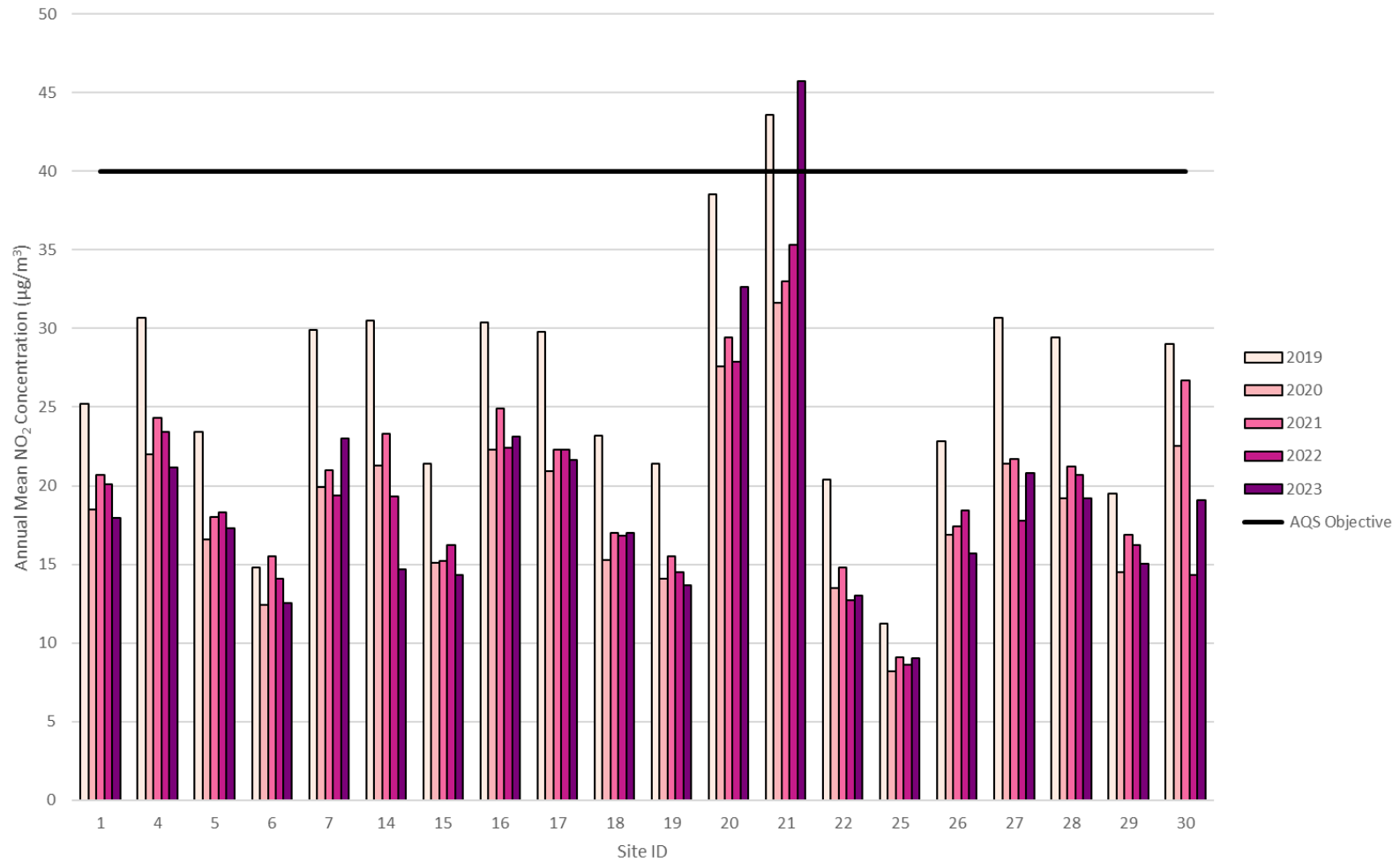
**Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations within Lewes AQMA in Lewes District Council**



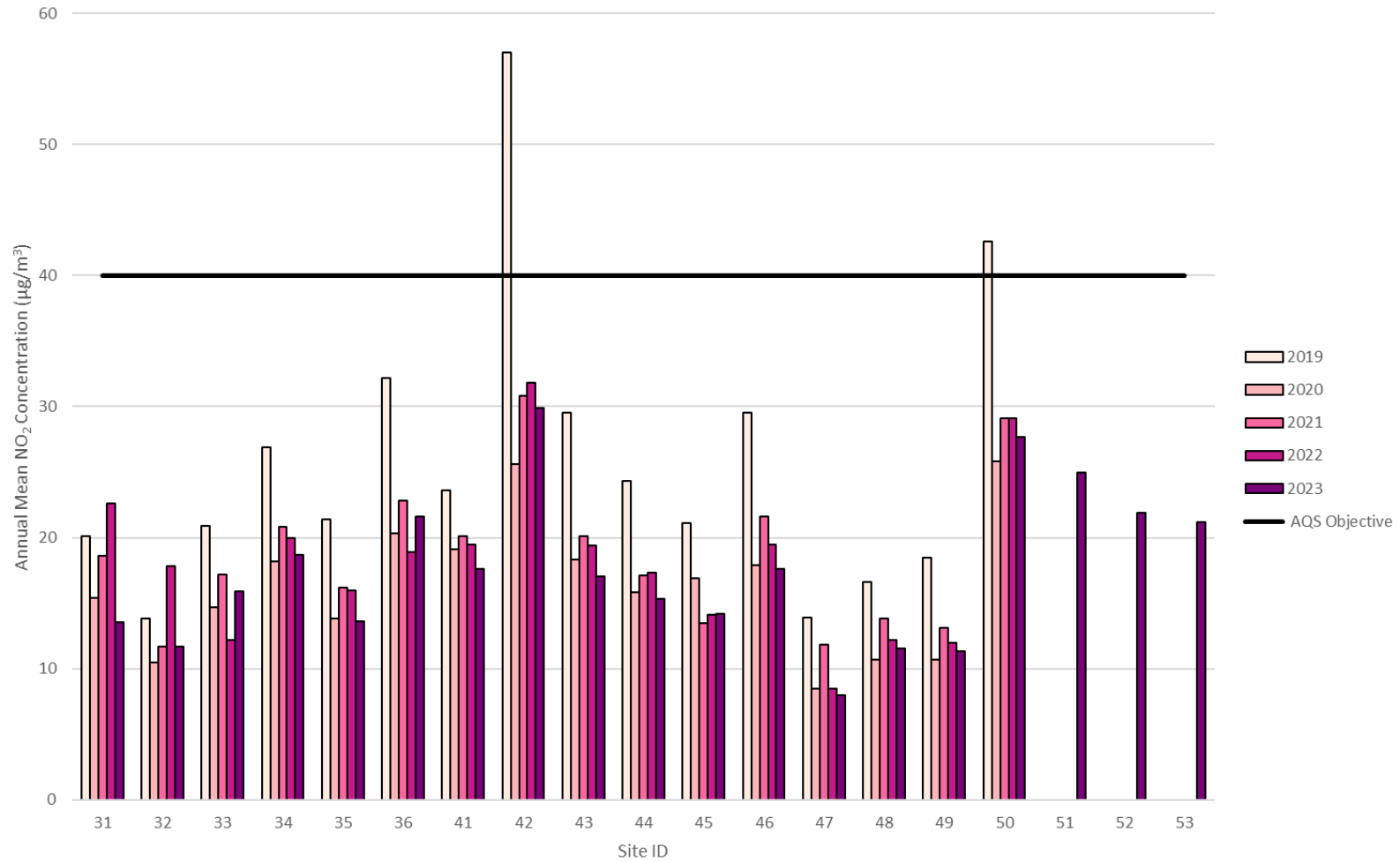
**Figure A.2 – Trends in Annual Mean NO<sub>2</sub> Concentrations within Newhaven AQMA in Lewes District Council**



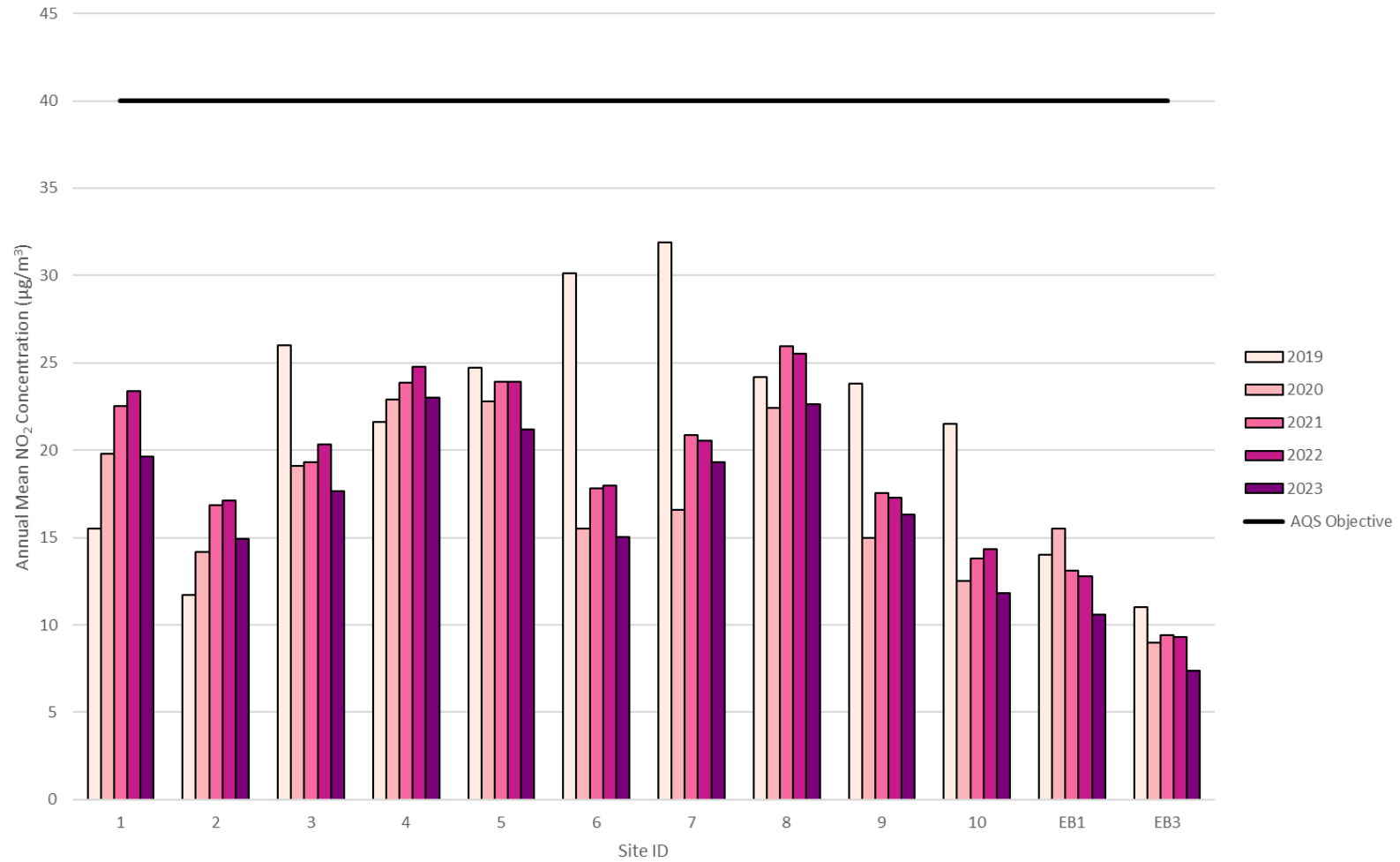
**Figure A.3 – Trends in Annual Mean NO<sub>2</sub> Concentrations outside of AQMAs in Lewes District Council: Part 1**



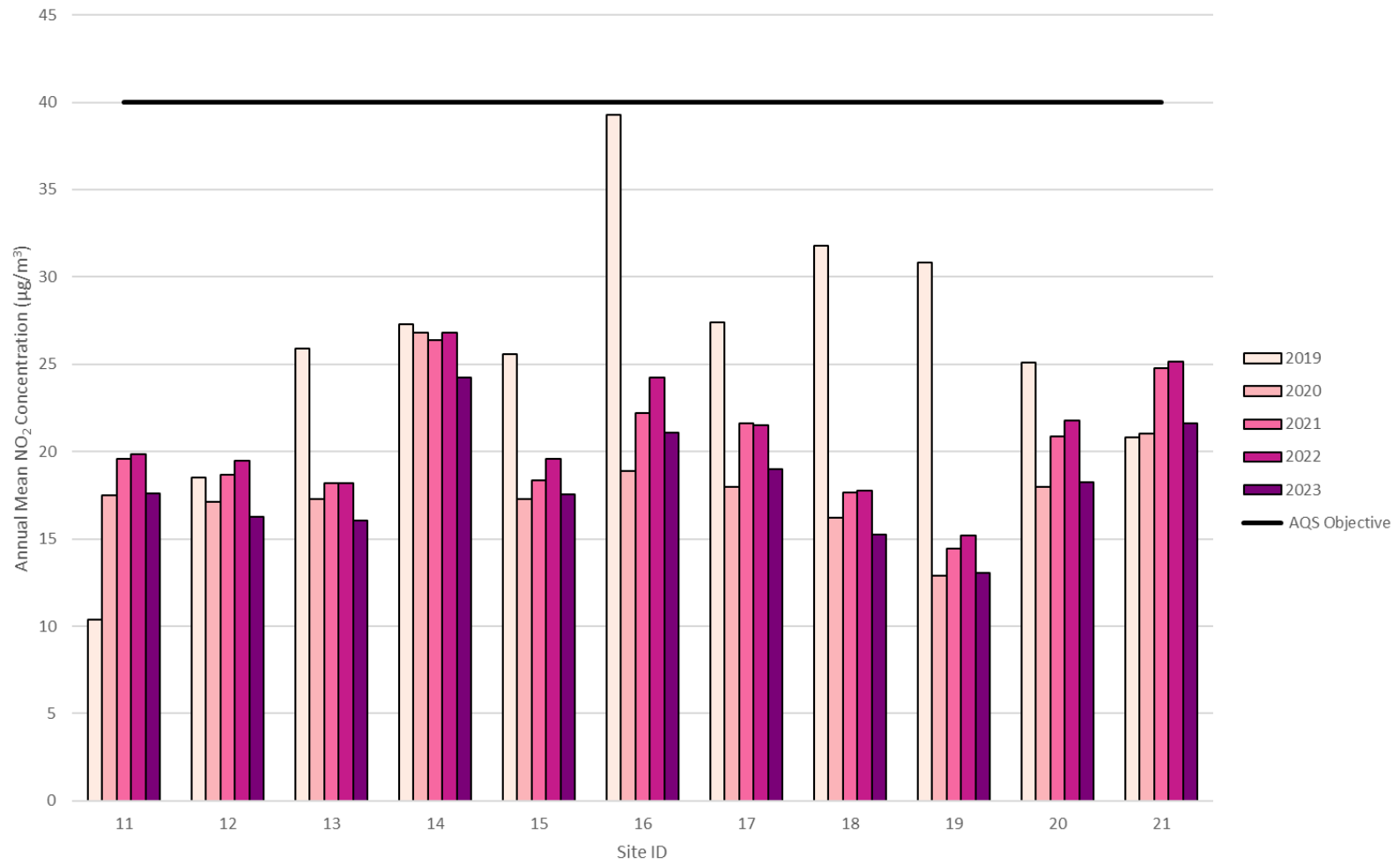
**Figure A.4 – Trends in Annual Mean NO<sub>2</sub> Concentrations outside of AQMAs in Lewes District Council: Part 2**



**Figure A.5 – Trends in Annual Mean NO<sub>2</sub> Concentrations in Eastbourne Borough Council: Part 1**



**Figure A.6 – Trends in Annual Mean NO<sub>2</sub> Concentrations in Eastbourne Borough Council: Part 2**



**Table A.9 – 1-Hour Mean NO<sub>2</sub> Monitoring Results, Number of 1-Hour Means > 200µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
LS8	541637	110276	Roadside	99.4	99.4	-	-	-	9 (158.2)	0
EB1	561150	98341	Urban Background	100	100	0	0	0	0	0
EB3	560085	103118	Urban Background	57.6	57.6	0	0	0	0 (66.6)	0(60)

**Notes:**

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m<sup>3</sup> have been recorded.

Exceedances of the NO<sub>2</sub> 1-hour mean objective (200µg/m<sup>3</sup> not to be exceeded more than 18 times/year) are shown in **bold**.

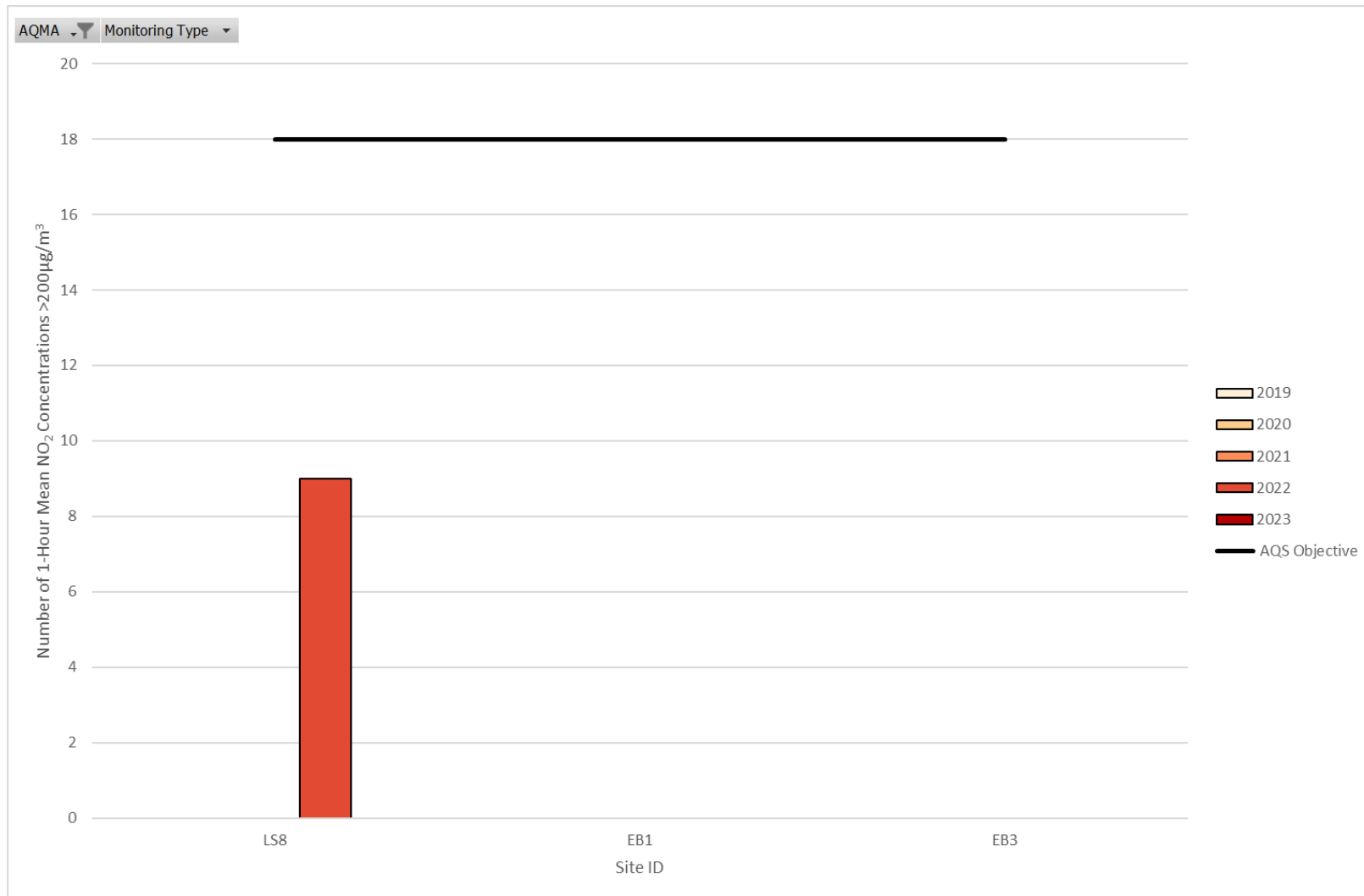
If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(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%).



**Figure A.7 – Trends in Number of NO<sub>2</sub> 1-Hour Means > 200µg/m<sup>3</sup>**



**Table A.10 – Annual Mean PM<sub>10</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
LS8	541637	110276	Roadside	99.3	99.3	-	-	-	15.6	14.3
EB1	561150	98341	Urban Background	90.4	90.4	17	17	17.2	19.3	17.2
EB3	560085	103118	Urban Background	61.9	61.9	15.5	14	13.1	14.6	11.8

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

**Notes:**

The annual mean concentrations are presented as µg/m<sup>3</sup>.

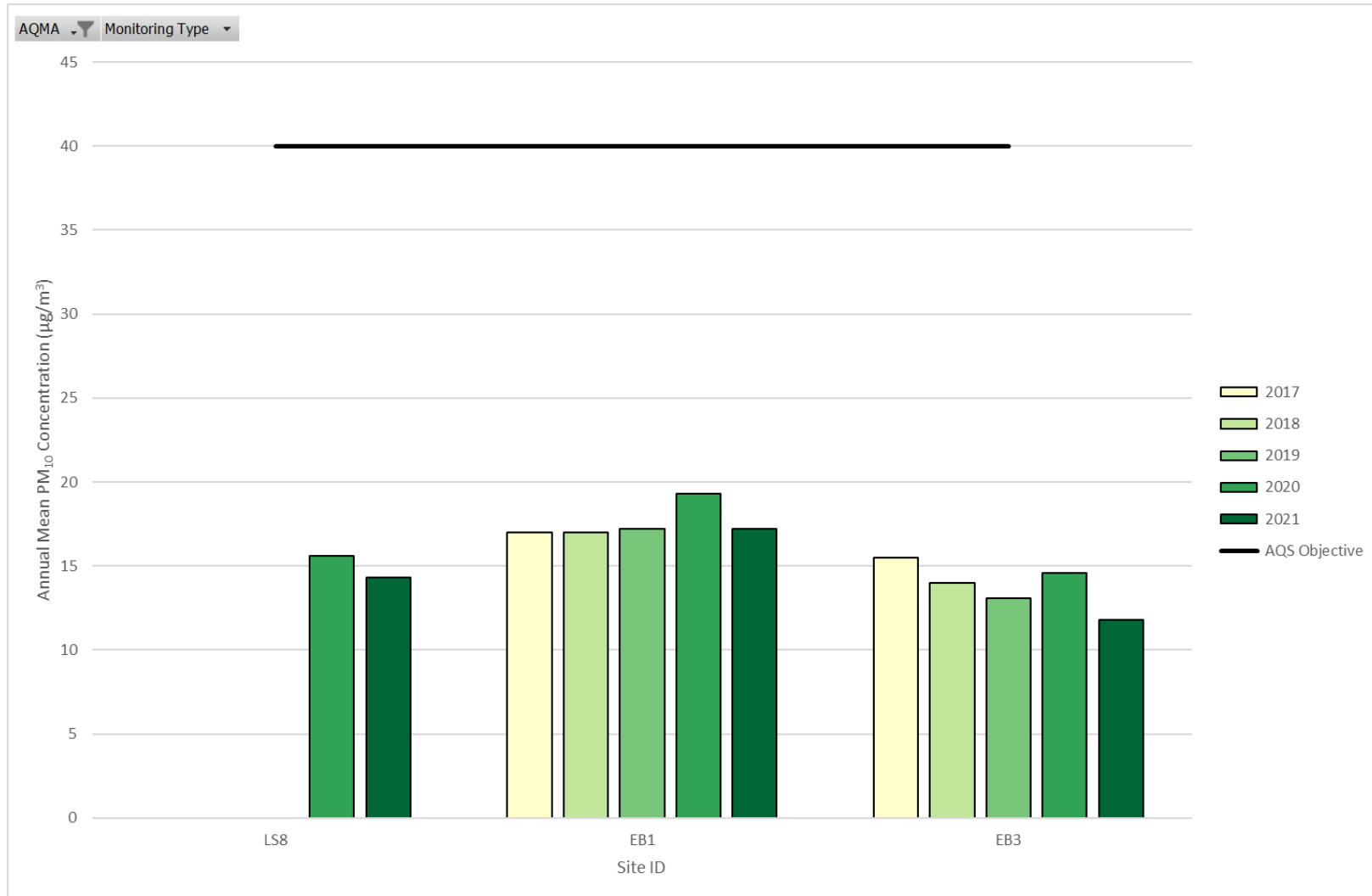
Exceedances of the PM<sub>10</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

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.

(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.8 – Trends in Annual Mean PM<sub>10</sub> Concentrations**



**Table A.11 – 24-Hour Mean PM<sub>10</sub> Monitoring Results, Number of PM<sub>10</sub> 24-Hour Means > 50µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
LS8	541637	110276	Roadside	99.3	99.3	-	-	-	1	0
EB1	561150	98341	Urban Background	90.4	90.4	1	1	2	5	0
EB3	560085	103118	Urban Background	61.9	61.9	3	0	1	1	0 (22)

**Notes:**

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m<sup>3</sup> have been recorded.

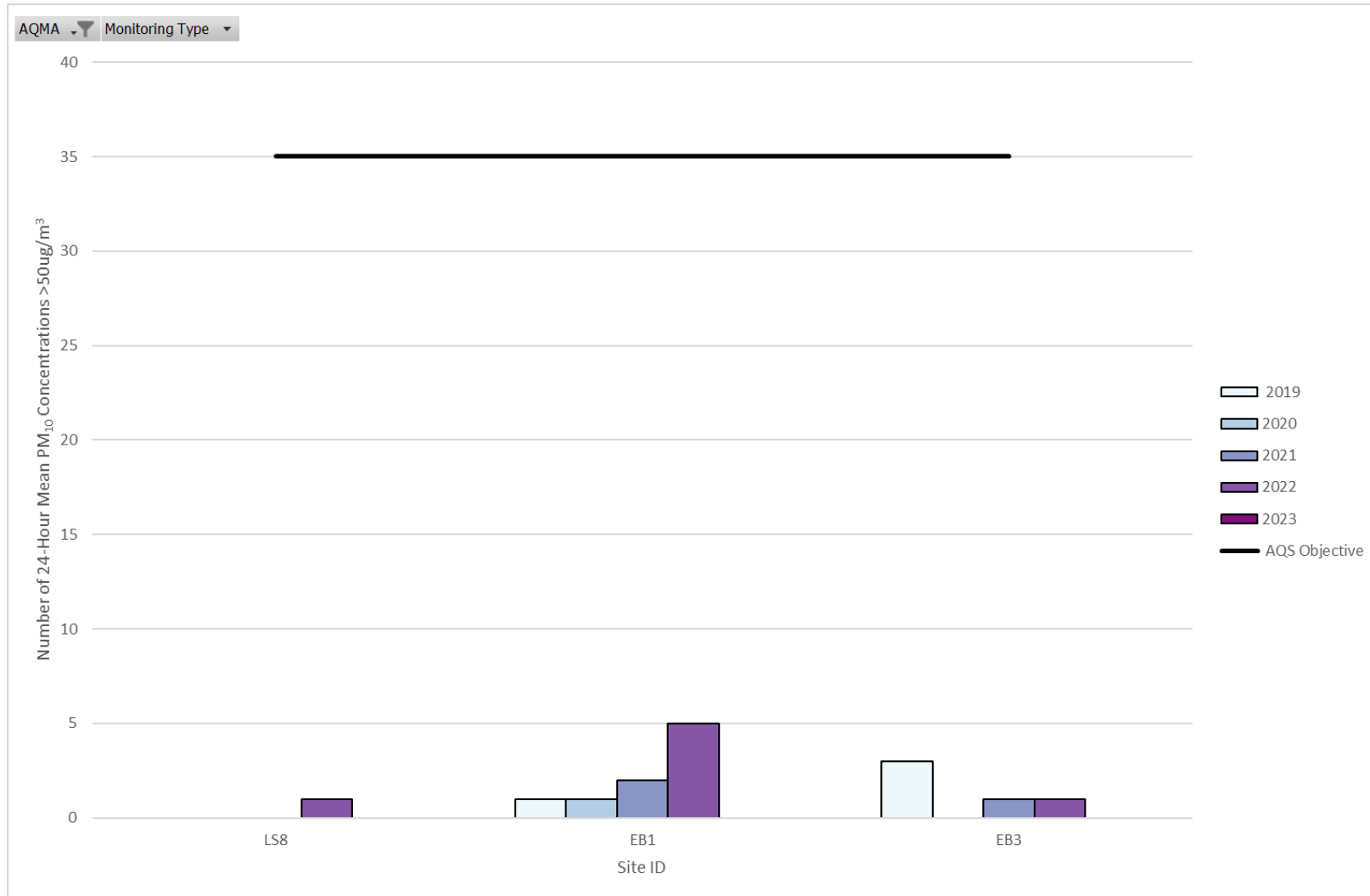
Exceedances of the PM<sub>10</sub> 24-hour mean objective (50µg/m<sup>3</sup> not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-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%).

**Figure A.9 – Trends in Number of 24-Hour Mean PM<sub>10</sub> Results > 50µg/m<sup>3</sup>**



**Table A.12 – Annual Mean PM<sub>2.5</sub> Monitoring Results (µg/m<sup>3</sup>)**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2023 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
LS8	541637	110276	Roadside	96.6	96.6	-	-	-	9.8	8.3
EB3	560085	103118	Urban Background	61.9	61.9	10.4	9	8.4	8.9	7.3

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

**Notes:**

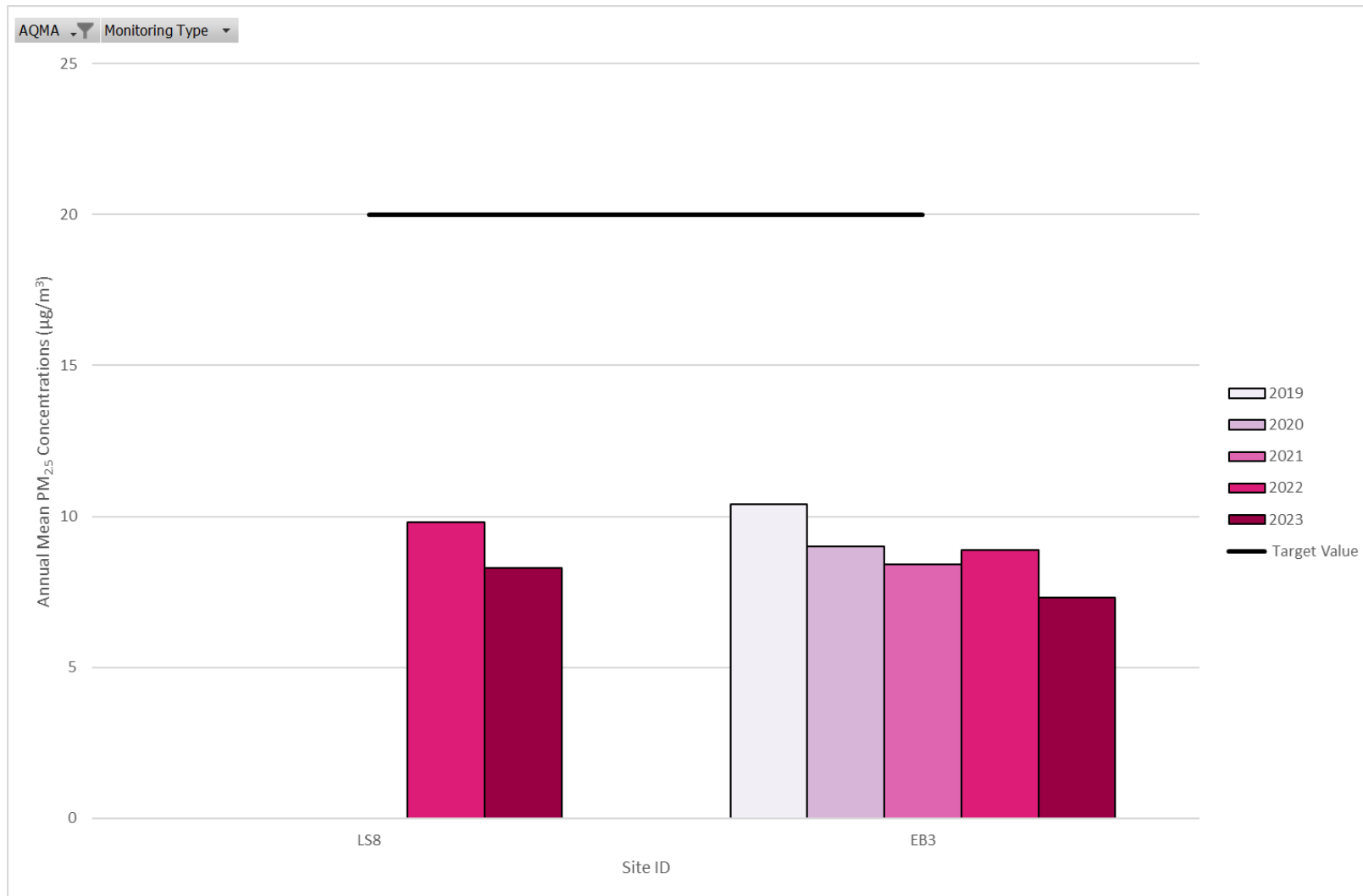
The annual mean concentrations are presented as µg/m<sup>3</sup>.

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.

(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.10 – Trends in Annual Mean PM<sub>2.5</sub> Concentrations**



**Table A.13 – Running 8-Hour Mean O<sub>3</sub> Monitoring Results, Number of 8-Hour Means > 100µg/m<sup>3</sup>**

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2021 (%) <sup>(2)</sup>	2019	2020	2021	2022	2023
EB1	544366	101367	Roadside	99.9	99.9	<b>13</b>	<b>26</b>	<b>16</b>	<b>12</b>	<b>119</b>

**Notes:**

Results are presented as the number of running 8-hour periods where concentrations greater than 100µg/m<sup>3</sup> have been recorded.

Exceedances of the O<sub>3</sub> 8-hour mean objective (100µg/m<sup>3</sup> not to be exceeded more than 10 times/year) are shown in **bold**.

(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 – NO<sub>2</sub> 2023 Diffusion Tube Results (µg/m<sup>3</sup>) in Lewes District Council

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	548420	99223	23.9	26.9	24.7	23.5	16.1	24.6	21.7	20.3		23.5	18.9	19.9	22.2	18.0	-	
2	544354	101388	28.1	37.6	32.0	33.6	27.9	34.1	18.1	26.0		30.7	24.3	22.1	28.6	23.2	-	
3	544414	101273	56.6	57.2	44.3	46.7	39.6	50.1	42.0				49.9	38.0	47.2	38.2	-	
4	544273	101532	33.8	29.6	27.5	27.0	18.0	27.5	22.6	23.6		28.8		23.0	26.1	21.2	-	
5	540063	101263	23.2	26.0	20.1	25.4	14.7	24.9	20.3	18.5		22.0	23.5	16.5	21.4	17.3	-	
6	544521	101089	19.0	21.4	15.5	17.0	12.6	17.3	11.3	12.3		13.5	17.2	12.9	15.5	12.5	-	
7	541285	109969	35.1	28.0	28.7	22.1	26.6	31.4	28.6	26.8	30.3	31.1	27.2	25.3	28.4	23.0	-	
8	541481	110277	41.7	23.8	22.3	15.1	16.1	12.6	23.3	16.3	20.7	24.9	18.1	21.3	21.4	17.3	-	
9	541541	110246	27.7	19.0	19.6	12.0	13.0	10.9	18.4	13.0	14.3	15.9		15.7	16.3	13.2	-	
10	541505	110236	27.9	21.6	22.9	14.8	17.7	17.4	37.0	15.5	21.2	20.3	19.9	15.5	21.0	17.0	-	
11	541519	110167	33.7	28.6	30.9	23.5	28.4			23.9	33.3	33.1	25.7	23.2	28.4	23.0	-	
12	541540	110130	46.7	37.4	40.0	30.6	36.4	42.1	19.3	31.6	42.0	40.7	37.2		36.7	29.7	-	
13	541598	110169	46.4	35.0	35.1	25.4	26.1	26.7	39.8	34.0	34.8	39.5	43.1	32.8	34.9	28.3	-	
14	540969	100974	22.7		19.8	21.8	12.7	18.7	15.3		19.6	16.5	18.3	15.5	18.1	14.7	-	
15	541646	110370	26.6	19.1	21.3	13.9	14.9	13.9	15.5	14.0		20.5	17.7	17.3	17.7	14.3	-	
16	542178	110454	38.0	28.6	31.2	21.3	24.0	23.8	28.7	24.6	32.6	31.2	31.6	27.2	28.6	23.1	-	
17	542315	110733	34.9	25.6	34.2	21.9				21.0	28.6	26.1	26.2	22.0	26.7	21.6	-	
18	541669	110278	32.4			15.2	18.3			16.2	20.1	20.7	24.0	20.7	21.0	17.0	-	
19	541726	110335	25.6	18.2	18.5	12.4	14.2	13.1	18.5	14.3	16.7	18.5	17.8	15.1	16.9	13.7	-	
20	541755	110206	54.0	40.0	44.0					40.4	49.4	43.9			45.3	32.6	-	
21	541684	110181	69.4	55.3	55.5	44.5	47.2	51.3		56.8	61.4	62.4	62.1	54.8	56.4	<b>45.7</b>	-	
22	541709	109990	23.9	17.5		12.5	15.2	15.7	14.5	11.9	15.6	15.6	18.1	16.6	16.1	13.0	-	
23	541615	109968	32.3		25.6	24.6	18.4	19.1	21.7	18.9	21.6	24.1	26.5	20.2	23.0	18.6	-	
24	541603	110001	45.7			16.5	26.7	23.9	36.7	29.1	31.5	34.3	34.8	31.0	31.0	25.1	-	
25	545142	102433	12.6	11.8	10.8	9.3	4.3	8.8	8.9	7.5		9.2	29.1	10.0	11.1	9.0	-	
26	541231	100957	23.6	24.1	18.3	22.2	12.3	21.0	16.8	17.2	20.3	18.9	21.0	16.9	19.4	15.7	-	
27	541438	110293	39.7	26.9	26.0	20.2	21.4	19.6	27.3	22.3	27.8	29.9	24.1	23.4	25.7	20.8	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
28	541430	110328	35.5	26.0	25.9	18.6	21.3	19.1	22.7	20.1	25.5	24.7	23.5	21.5	23.7	19.2	-	
29	542168	100675	24.9	21.3	15.4	17.5		16.1	11.5	14.9	18.3	15.6	34.9	13.5	18.5	15.0	-	
30	550077	99291	25.5		24.5	26.3	17.4	24.1	21.8	24.1	28.3	26.3	20.6	20.6	23.6	19.1	-	
31	544996	101264	14.8	24.0	15.9	16.5	12.7	15.8	15.3	15.7	19.1	15.4	20.3	15.2	16.7	13.5	-	
32	544908	102704	40.7	14.7	18.3	13.3	6.2	13.0	16.4	12.6	14.3	13.5	8.7	1.5	14.4	11.7	-	
33	544681	112441	27.7	18.5				15.1	19.5	16.9	20.2	21.0	19.7	17.7	19.6	15.9	-	
34	532605	115203	34.1	22.0	31.0	22.0	24.7	25.2	20.8	18.3	23.7	22.3	12.1	20.1	23.0	18.7	-	
35	532587	115410		16.2	20.3	14.1	15.4	16.2	16.7	13.6		17.1	21.5		16.8	13.6	-	
36	541032	109613	37.7	28.1	31.2	20.1	25.3	22.5	26.1	20.8	27.9	27.0	30.0	23.8	26.7	21.6	-	
37	544603	101485		40.6	35.5	36.9	26.4	38.3	35.1	37.0	37.9	33.3	23.9	16.0	32.8	26.6	-	
38	544497	101499		23.6	21.0	23.2	16.3	22.7	16.4	18.5	25.2	20.2	18.2	27.4	21.2	17.1	-	
39	544330	101423	33.8	30.9	29.5	26.5	18.4	25.6	15.0	22.6		25.3	28.8	17.8	24.9	20.2	-	
40	544497	101285	42.7								43.0	48.6	49.1	39.5	44.6	34.1	-	
41	544948	101549	27.9	27.6	19.0	21.5	28.5	23.2	15.1	17.6	21.3	19.0	23.8	16.9	21.8	17.6	-	
42	535187	108928	45.3	39.4	38.7	33.3	19.1	31.5	36.0	36.5	36.7	42.0	47.6	37.1	36.9	29.9	-	
43	544886	102879	22.1	24.1	24.5	21.9	16.0	23.1	21.0	21.3	24.0	22.7	13.3	18.9	21.1	17.1	-	
44	543431	103022	22.2	21.8	19.9	19.6	17.0	18.8	14.3	17.5	22.2	19.0	21.3	13.6	18.9	15.3	-	
45	539543	108284	20.6	19.9	16.8	17.0	15.9	16.7	16.1	15.9	17.2	18.3	20.9	14.4	17.5	14.2	-	
46	548167	99160	27.0		21.4	26.0	25.5	25.5	14.6	18.1	23.5	20.3	22.1	15.6	21.8	17.6	-	
47	536441	116231	16.4	9.4	13.0	8.0	9.3	9.0	8.5	7.2	9.0	9.0	10.0	9.8	9.9	8.0	-	
48	542029	115781	22.9	14.4	17.1	10.8		11.3	13.6	10.6	12.7	13.7	15.5		14.3	11.6	-	
49	540141	113548	20.0	13.1	17.7	11.6	13.8	14.3	12.5	11.0	13.7	13.9		12.3	14.0	11.3	-	
50	544185	101350	38.9	41.9	31.9	34.8	34.6	38.8		31.1	36.2	35.0	18.7		34.2	27.7	-	
51	541814	110211		29.5		23.6				29.9	31.0	39.0	36.6	34.9	32.1	25.0	-	
52	541831	110231		27.8	30.3	21.3	25.6	26.7	26.4		28.9	28.3	28.3	26.7	27.0	21.9	-	
53	541803	110271		26.7	28.6	19.9	22.4	20.3	26.2	23.4	27.4	32.1	31.4	29.0	26.1	21.2	-	
54a	541637	110276		20.3	22.9	13.9	15.0	11.9	21.6	16.8	19.7	22.1	21.9	20.8	-	-	-	Triplicate Site with 54a, 54b and 54c - Annual data provided for 54c only
54b	541637	110276		21.1	21.8	14.2	15.2	12.1	21.8	17.4	20.4	22.9	22.0	20.9	-	-	-	Triplicate Site with 54a, 54b and 54c - Annual data provided for 54c only
54c	541637	110276		22.1	23.3	14.6	15.3	12.3	22.0	17.5	21.1	23.3	22.3	21.3	19.1	15.5	-	Triplicate Site with 54a, 54b and 54c - Annual data provided for 54c only

- All erroneous data has been removed from the NO<sub>2</sub> diffusion tube dataset presented in Table B.1.
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.
- Local bias adjustment factor used.
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.
- LDC confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Table B.2 – NO<sub>2</sub> 2023 Diffusion Tube Results (µg/m<sup>3</sup>) in Eastbourne Borough Council

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.81)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	560774	99163	24.0	29.2	26.2	27.1	22.2	19.4	19.5	25.4	31.2		24.1	18.3	24.2	19.6	-	
2	561458	99116	20.2	25.6	18.5	19.2	16.8	17.1	14.1	19.1	19.2	16.8	19.9	14.4	18.4	14.9	-	
3	561568	99108	21.9	24.7	22.4	21.7	18.2	20.2	19.1	26.2	25.7	23.3	20.5	17.8	21.8	17.7	-	
4	561717	99061	26.8	32.3	27.5	32.1	25.8	27.6	24.3	33.1	34.1	29.2	25.7	22.6	28.4	23.0	-	
5	561621	99004	28.8	33.2	24.6		26.5	28.1	20.5	28.9	27.8	23.8	25.2	20.0	26.1	21.2	-	
6	561737	98948	21.4	24.9	20.4	18.1	19.1	18.2	14.6	17.5	20.8	16.1	18.8	12.9	18.6	15.0	-	
7	562692	100149	26.4	30.7	25.5	24.0	21.6	24.5	20.3	23.8	25.1	23.0	22.2	18.7	23.8	19.3	-	
8	562655	100970	28.5		29.9	27.6	26.6	27.4	23.9	28.8	33.1	30.9		22.4	27.9	22.6	-	
9	561885	103847	22.6	25.4	20.6	20.8	16.0	15.8	16.3	19.5	23.6	21.1	22.8	17.2	20.1	16.3	-	
10	557829	98190	11.5	16.8	13.4	17.0	13.6	15.4	14.3	18.4	19.1	14.6	11.8	9.7	14.6	11.8	-	
11	560440	99352	24.3	28.3	21.1	21.2	19.4	23.0	15.8	20.7	23.9				22.0	17.6	-	
12	560943	99480	24.1	25.5	23.3	20.1	16.8	13.2	16.6	19.2	21.5	21.1	21.9	17.8	20.1	16.3	-	
13	561354	99279	22.1	25.2	21.6	19.5	16.1	17.1	17.2	19.7	21.7	20.1	20.4	16.9	19.8	16.0	-	
14	561527	99846	28.4	33.5	32.2	31.7	30.2	30.2	25.1	32.2	35.0	31.0	26.2	23.4	29.9	24.2	-	
15	561043	99828	22.8	29.4	22.9	23.2	17.4	18.0	17.3	22.2	26.2		23.3	15.8	21.7	17.6	-	
16	562583	101109	23.5		27.3	29.6	26.8	27.2	21.9	27.9	31.7	27.4	24.8	18.7	26.1	21.1	-	
17	560749	102189	23.6	31.1	23.0	29.0	21.8	23.6	16.5	23.5	26.8	24.1	21.8	16.6	23.4	19.0	-	
18	560505	102196	19.2	25.0	19.2	20.7	16.1	16.1	14.1	19.5	22.1	20.9	18.3	14.4	18.8	15.2	-	
19	560134	100561	17.3	23.7	16.7	16.3	14.8	14.0	10.9	15.8	18.0	16.4	17.5	11.6	16.1	13.0	-	
20	559894	101035	22.2	27.3	23.5	23.7	21.0	21.2	19.2	22.7	25.8	24.1	22.1	17.6	22.5	18.2	-	
21	559730	100251	27.7	35.6	28.1	27.8	26.6	26.9	18.5	28.1	32.0	21.0	29.8	18.0	26.7	21.6	-	

- All erroneous data has been removed from the NO<sub>2</sub> diffusion tube dataset presented in Table B.2.
- 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.
- EBC confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

## **Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC**

### **New or Changed Sources Identified Within Lewes District Council and Eastbourne Borough Council During 2023**

LDC and EBC have not identified any new sources relating to air quality within the reporting year of 2023.

### **Additional Air Quality Works Undertaken by Lewes District Council and Eastbourne Borough Council During 2023**

Due to staff shortages, progression on the development of the Lewes Town AQAP was temporarily inhibited and is currently at Draft stage. Progress will continue to be made throughout the next year.

EBC has not completed any additional works within the reporting year of 2023.

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

The Ambient, Indoor, Workplace Air and Stack Emissions Proficiency Testing Scheme (AIR PT) is an independent analytical proficiency-testing scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the AIR PT scheme. AIR NO<sub>2</sub> PT forms an integral part of the UK NO<sub>2</sub> Network's QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM).

During 2023, Gradko participated in the AIR PT programme, and obtained 100% ratings for AIR-PT AR055 (January – February 2023), AIR-PT AR056 (May – June 2023), AIR-PT AR058 (July – August 2023) and AIR-PT AR059 (September – October 2023). Results can be found at: <https://laqm.defra.gov.uk/wp-content/uploads/2021/02/AIR-PT-Rounds-50-to-63-June-2022-to-June-2024.pdf>.

The diffusion tubes are supplied and analysed by Gradko utilising the 20% triethanolamine (TEA) in water preparation method. Diffusion tube monitoring during 2023 was undertaken

in line with the Diffusion Tube Monitoring Calendar and recommended exposure period (5 weeks (+/- 4 days)) for most exposure periods. The exceptions were when the January tube changeover was done on 29/12/2022 instead of 04/01/2023 and the August tube changeover was done on 11/08/2023 instead of 02/08/2023. The changeover dates were adjusted accordingly in the diffusion tube processing tool.

### Diffusion Tube Annualisation

**Table C.1 – Annualisation Summary (concentrations presented in  $\mu\text{g}/\text{m}^3$ ) in LDC**

Site ID	Annualisation Factor Brighton Preston Park	Annualisation Factor Lullington Heath	Annualisation Factor Portsmouth	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
18	0.9867	1.0485	0.9665	1.0006	21.0	21.0
20	0.8972	0.8964	0.8741	0.8892	45.3	40.3
40	0.9241	1.0417	0.8681	0.9446	44.6	42.1
51	0.9375	1.0082	0.9387	0.9615	32.1	30.8

**Table C.2 – Annualisation Summary (concentrations presented in  $\mu\text{g}/\text{m}^3$ ) in EBC**

Site ID	Annualisation Factor Brighton Preston Park	Annualisation Factor Lullington Heath	Annualisation Factor Portsmouth	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
11	0.9988	0.9469	1.0187	0.9881	22.0	21.7

### Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2023 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  $\text{NO}_x/\text{NO}_2$  continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method. Figure C.1 shows a screenshot of the National Diffusion Tube Bias Adjustment Factor Spreadsheet (September 2024) used in this report.

A local bias adjustment factor of 0.68 was calculated via Diffusion Tube Processing Tool based on automatic monitoring site LS8 and its colocation triplicate monitoring sites 54a, 54b and 54c. The national bias adjustment factor for Gradko 20% TEA in water is 0.81.

There is only one local colocation site for local bias adjustment factor calculation and the local factor is much lower than the national bias adjustment factor. As a conservative approach, the higher national bias adjustment factor of 0.81 has been applied to LDC and EBC 2023 monitoring data.

A summary of bias adjustment factors used by LDC and EBC over the past five years is presented in Table C.3.

**Table C.3 – Bias Adjustment Factor**

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	09/24	0.81
2022	National	03/23	0.83
2021	National	06/22	0.84
2020	National	09/21	0.81
2019	National	03/20	0.93

**Table C.4 – Local Bias Adjustment Calculation**

	Local Bias Adjustment Input 1
<b>Periods used to calculate bias</b>	11
<b>Bias Factor A</b>	0.68 (0.58 - 0.82)
<b>Bias Factor B</b>	47% (22% - 72%)
<b>Diffusion Tube Mean (<math>\mu\text{g}/\text{m}^3</math>)</b>	19.1
<b>Mean CV (Precision)</b>	2.2%
<b>Automatic Mean (<math>\mu\text{g}/\text{m}^3</math>)</b>	13.0
<b>Data Capture</b>	99%
<b>Adjusted Tube Mean (<math>\mu\text{g}/\text{m}^3</math>)</b>	13 (11 - 16)

**Notes:**

National bias adjustment factor has been used to bias adjust the 2023 diffusion tube results.



Figure C.1 National Diffusion Tube Bias Adjustment Spreadsheet (September 2024)

National Diffusion Tube Bias Adjustment Factor Spreadsheet							Spreadsheet Version Number: 09/24			
Follow the steps below <b>in the correct order</b> to show the results of <b>relevant</b> co-location studies 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.							This spreadsheet will be updated at the end of March 2025 <a href="#">LAQM Helpdesk Website</a>			
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 Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor shown in blue at the foot of the final column.							
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data.	If you have your own co-location study then see footnote <sup>4</sup> . If uncertain what to do then contact the Local Air Quality Management Helpdesk at <a href="mailto:LAQMHelpdesk@bureauveritas.com">LAQMHelpdesk@bureauveritas.com</a> or 0800 0327953							
Analysed By <sup>1</sup>	Method <sup>2</sup> To undo your selection, choose (All) from the pop-up list.	Year <sup>3</sup> To undo your selection, choose (All)	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m <sup>3</sup> )	Automatic Monitor Mean Conc. (Cm) (µg/m <sup>3</sup> )	Bias (B)	Tube Precision <sup>5</sup>	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in Water	2023	R	Monmouthshire County Council	11	33	26	26.5%	G	0.79
Gradko	20% TEA in water	2023	R	Blackburn With Darwen Etc	12	23	16	43.8%	G	0.70
Gradko	20% TEA in water	2023	R	Lancaster City Council	10	35	27	26.6%	G	0.78
Gradko	20% TEA in water	2023	R	Eastleigh Borough Council	12	33	26	26.4%	G	0.79
Gradko	20% TEA in water	2023	R	Eastleigh Borough Council	12	22	19	12.5%	G	0.89
Gradko	20% TEA in water	2023	R	Plymouth City Council	12	35	26	38.3%	S	0.72
Gradko	20% TEA in water	2023	R	Plymouth City Council	10	39	31	24.2%	S	0.80
Gradko	20% TEA in water	2023	UC	Belfast City Council	10	26	19	38.3%	G	0.72
Gradko	20% TEA in water	2023	R	Cheshire West And Chester	12	35	32	10.0%	G	0.91
Gradko	20% TEA in water	2023	R	Cheshire West And Chester	10	32	28	14.6%	G	0.87
Gradko	20% TEA in water	2023	R	Dudley Mbc	12	27	23	17.1%	G	0.85
Gradko	20% TEA in water	2023	UB	Dudley Mbc	12	19	13	45.4%	G	0.69
Gradko	20% TEA in water	2023	R	Dudley Mbc	12	40	37	7.7%	G	0.93
Gradko	20% TEA in water	2023	R	Gateshead Council	12	23	20	17.7%	G	0.85
Gradko	20% TEA in water	2023	R	Gateshead Council	11	23	18	26.9%	G	0.79
Gradko	20% TEA in water	2023	R	Gateshead Council	12	27	22	20.7%	G	0.83
Gradko	20% TEA in water	2023	R	Gateshead Council	12	29	23	26.9%	G	0.79
Gradko	20% TEA in water	2023	R	Gateshead Council	12	30	33	-7.8%	G	1.08
Gradko	20% TEA in water	2023	KS	Marylebone Road Intercomparison	11	45	38	20.3%	G	0.83
Gradko	20% TEA in water	2023	B	South Holland District Council	10	8	7	12.4%	G	0.89
Gradko	20% TEA in water	2023	R	Worcestershire	12	12	12	3.3%	G	0.97
Gradko	20% TEA in Water	2023	R	Ards And North Down Borough Council	12	33	21	60.2%	G	0.62
Gradko	20% TEA in Water	2023	R	Lisburn & Castlereagh City Council	11	24	20	22.1%	G	0.82
Gradko	20% TEA in water	2023	R	Nottingham City Council	11	30	21	41.8%	G	0.71
Gradko	20% TEA in water	2023	R	Belfast City Council	12	46	35	29.3%	G	0.77
Gradko	20% TEA in water	2023	R	Belfast City Council	12	25	21	18.6%	G	0.84
Gradko	20% TEA in water	2023	R	Belfast City Council	12	37	28	30.2%	G	0.77
Gradko	20% TEA in water	2023		Overall Factor <sup>6</sup> (27 studies)					Use	0.81

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

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. During 2023, no non-automatic annual mean NO<sub>2</sub> concentrations need distance correction.

### QA/QC of Automatic Monitoring

The continuous monitoring station in Lewes District Council is managed by the Sussex Air Quality Partnership (<https://www.sussex-air.net>). The continuous monitoring site LS8 in LDC and EB1 in EBC are managed by the Sussex Air Quality Partnership. The third continuous monitoring site, EB3, is managed by the AURN.

All continuous monitoring activities are subject to the same quality assurance/quality control objectives set out in the AURN local site operator’s manual. These procedures are:

- Overnight 24-hour IZS calibration checks (NO<sub>x</sub> analyser);

- Fortnightly manual zero/span calibration using certified cylinders (carried out by Council employees fully trained in LSO duties);
- Full data analysis and ratification by Bureau Veritas for Devonshire Park.

Six monthly service visits are undertaken. Full site audits are not undertaken.

### PM<sub>10</sub> and PM<sub>2.5</sub> Monitoring Adjustment

No adjustment of particulate data was undertaken as the data is measured and reported as Gravimetric Equivalent from Lewes Little East Street, Eastbourne Devonshire Park and AURN Eastbourne Holly Place.

### Automatic Monitoring Annualisation

**Table C.5 – Annualisation Summary (concentrations presented in µg/m<sup>3</sup>)**

Site ID	Annualisation Factor Brighton Preston Park	Annualisation Factor Lullington Heath	Annualisation Factor Canterbury	Annualisation Factor Rochester Stoke	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
EB3 NO <sub>2</sub>	1.02	0.95	1.05	1.07	1.024	7.3	7.4
EB3 PM <sub>10</sub>	-	0.93	0.95	0.97	0.949	12.4	11.8
EB3 PM <sub>2.5</sub>	-	0.902	0.935	0.952	0.930	7.8	7.3

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

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website.

No automatic NO<sub>2</sub> monitoring locations within Lewes District Council or Eastbourne Borough Council required distance correction during 2023.

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

Figure D.1 – Map of Monitoring Sites in LDC: Northern Lewes and Lewes Town Centre AQMA

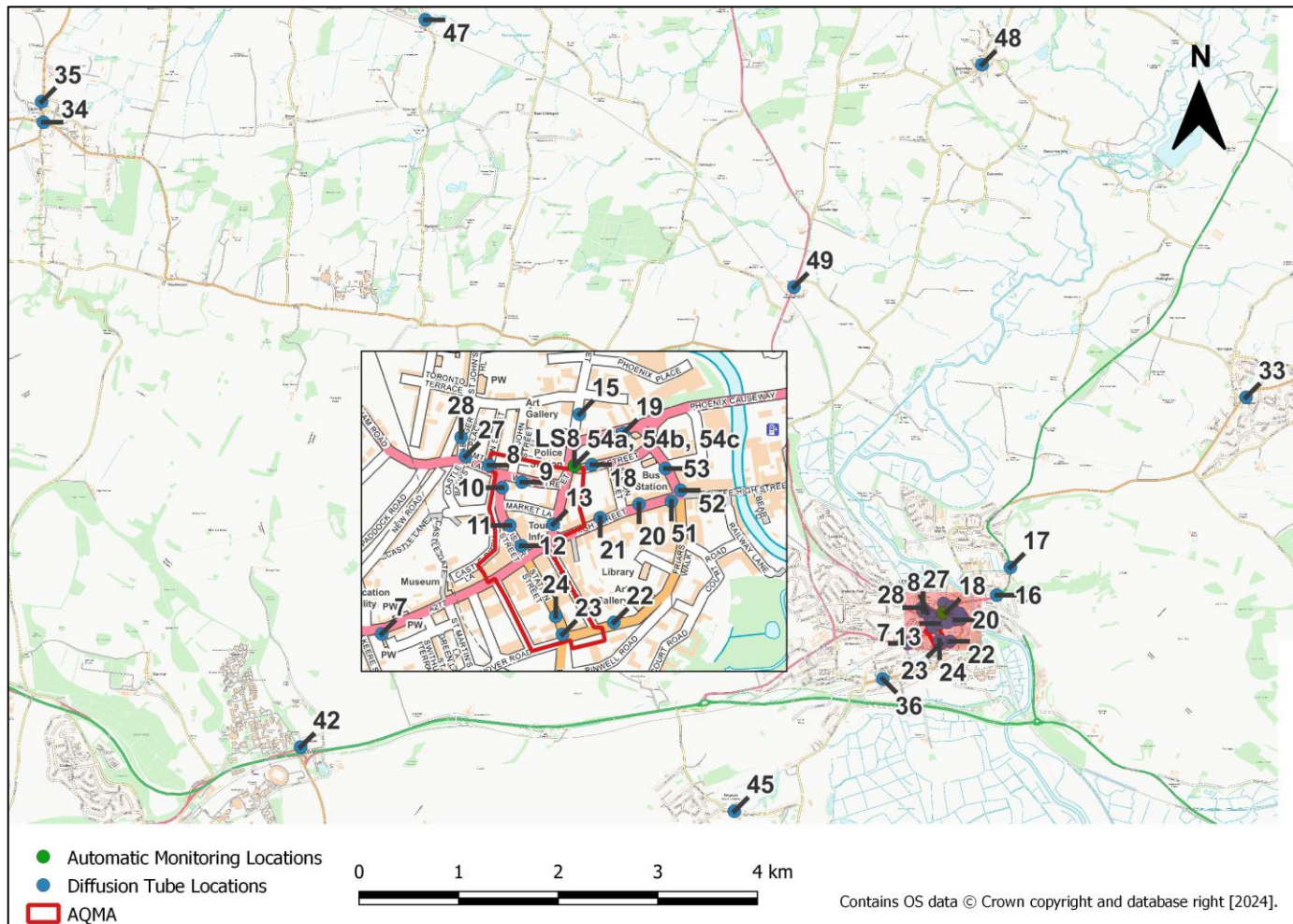




Figure D.2 – Map of Monitoring Site in LDC: Southern Lewes with Newhaven Ring Road AQMA

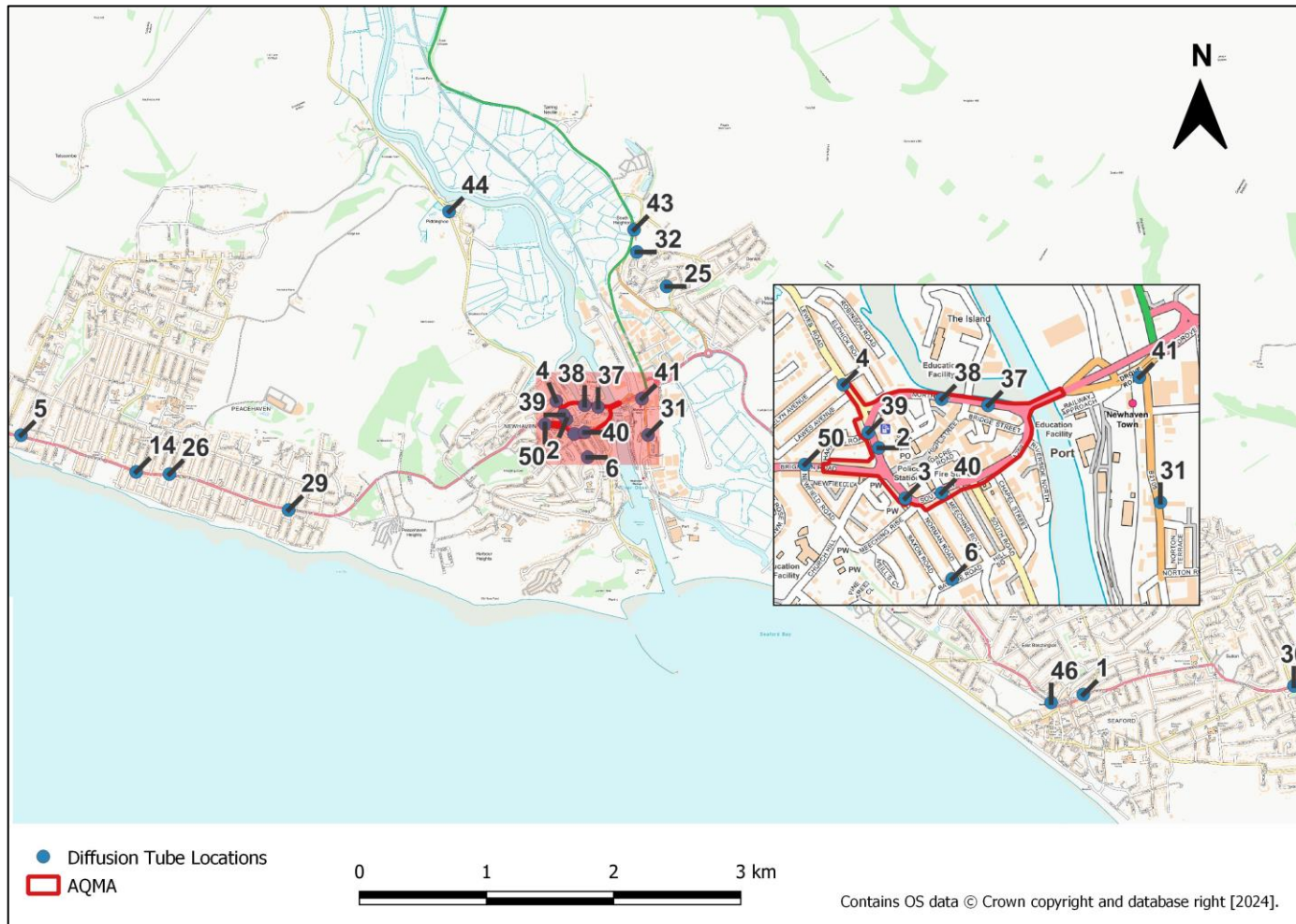
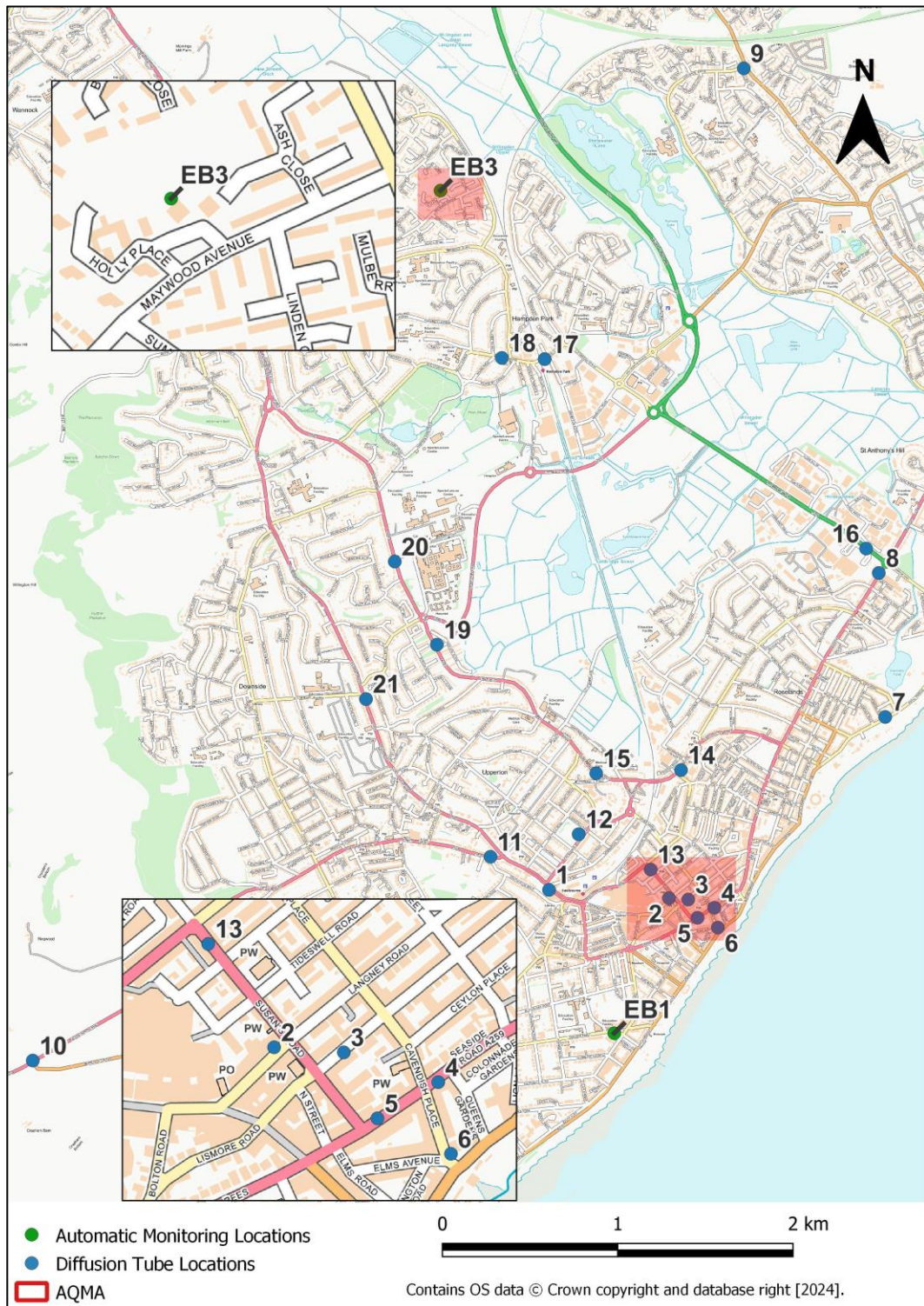


Figure D.3 – Map of Monitoring Site in EBC



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

**Table E.1 – Air Quality Objectives in England<sup>8</sup>**

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO <sub>2</sub> )	40µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM <sub>10</sub> )	40µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean
Ozone (O <sub>3</sub> )	100 µg/m <sup>3</sup> , not to be exceeded more than 10 times a year	24-hour mean

<sup>8</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).



## Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EBC	Eastbourne Borough Council
ESCC	East Sussex County Council
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
LDC	Lewes District Council
NH	National Highways
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## References

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