2025 Air Quality Annual Status Report (ASR)

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

Date: June, 2025

Information	Swale Borough Council details
Local Authority Officer	Clare Lydon
Department	Environmental Health
Address	Swale Borough Council, Swale House, East Street Sittingbourne, Kent, ME10 3HT
Telephone	01622 602450
E-mail	ehadmin@midkent.gov.uk
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Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Swale Borough Council with the support and agreement of the following officers and departments: SBC Mid Kent GIS; SBC Mid Kent Environmental Health Team; SBC Planning Policy Team; SBC Active Travel and Climate Officers

This ASR has been approved by:

Clare Lydon - Mid Kent Environmental Protection Team Leader for Swale

Duncan Haynes – Mid Kent Environmental Services Department Manager

Timings preclude the approval of the ASR by Councillors prior to submission to DEFRA.

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

Details	Signature
KCC Public Health - Dr Anjan Ghosh, Director of Public Health	

If you have any comments on this ASR please send them to the Environmental Health Team at:

Address: Swale Borough Council

Swale House East,

Street Sittingbourne

Kent

ME10 3HT

Telephone: 01622 602450

Email: ehadmin@midkent.gov.uk

Executive Summary: Air Quality in Our Area

Air Quality in Swale

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

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

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

Table ES 1 - Description of Key Pollutants

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

Swale district is located on the centre of the North Kent Coastline, with the western side of the Borough linking to the Thames Gateway and on the eastern side with Canterbury and the Port of Dover. Census 2021 shows in Swale, the population size has increased by 11.7%, from around 135,800 in 2011 to 151,700 in 2021.

The Borough is predominately rural, with three main urban areas: Sittingbourne, Faversham and Sheerness. The Isle of Sheppey is isolated from the mainland by the Swale and linked by the A249 bridge. The port at Sheerness provides a gateway to mainland Europe for freight trade with both international and national markets. Canterbury, Ashford, Maidstone and the Medway Towns surround Swale creating a high demand on transport infrastructure. Central London is just 40 miles away with good access for commuting.

Swale is directly connected to the motorway network at junctions 5 in the west & 6 in the east of the M2, with the M20, M25 and M26 a short distance away. The historically built Roman road renowned for its straightness, the A2 was a major road in south-east England connecting London with the English Channel, through the Port of Dover. The M2 now replaces part of the A2 as the most strategic route. The primary road links west and east of the borough rely predominantly on the A2 corridor or the M2.

The A2 corridor through the Borough suffers from heavy traffic and congestion which has led to the declaration of five Air Quality Management Areas (AQMAs) along the A2 (AQMA's 1, 2/6, 3, 5 and 7) and another along the B2006 road, located within Sittingbourne's urban and industrial areas (AQMA 4).

Swale Borough Council has a comprehensive nitrogen dioxide (NO_2) monitoring network including measurements by automatic analysers at two locations and an extensive volume of passive diffusion tube devices distributed around the district. We currently have one automatic analyser station located in Ospringe monitoring NO_2 and two automatic analyser stations, with one located in Newington and one at St Paul's Street monitoring NO_2, PM_{10} and $PM_{2.5}$ (particulates less than 10 and 2.5 microns in diameter).

The Council has progressively adapted the air quality monitoring strategy in accordance with air quality issues specific to our area. We have extended the monitoring network to identify potential hot spots, whilst a number of sites have been relocated to more relevant

areas or have been discontinued as part of our annual tube audit, in areas where data has shown that compliance is achieved.

Air quality trends

There has been a steady improvement in NO_2 concentrations locally, and over the past 6 to 7 years, which also reflects national trends currently being observed[1]. As advised by DEFRA these air quality improvements are predominantly due to the replacement of older vehicles in the vehicle fleet with newer vehicles that meet stricter emissions standards, and more recently, the uptake of electric vehicles[2].

Most of the diffusion tube monitoring sites show a slight increase in the NO_2 annual mean concentrations during the years 2021 and 2022. However, this will be due to the unprecedented impact of the Covid pandemic prior to those years, where concentrations were untypically lower. A long-term decreasing trend is identified at most passive monitoring sites shown in figures A.2 to A.12 from 2023 to 2024. All diffusion tube monitoring sites were below 60 µg/m3, indicating that an exceedance of the 1- hour mean objective is unlikely.

The latest monitoring has shown all three automatic stations, and 67 diffusion tubes did not exceed the National Air Quality Objective for NO_2. Both ZW3 and ZW8 automatic sites displayed a slight continuous decrease over the last five years and ZW10 over the last three years since monitoring started at the site. Since 2023 ZW3 (Ospringe) decreased by 4.8% from 21 to 20 µg/m³, ZW8 (St Paul's Street) decreased by 3.7% from 27 to 26 µg/m³ and ZW10 (Newington) decreased by 10% from 20 to 18µg/m³. Further to this, there were no exceedances of the hourly mean AQS objective at the three sites in 2024.

[1] https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox

[2] https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox

Monitoring undertaken during 2024 has shown there were no exceedances of the annual mean PM_{10} objective at all three automatic monitoring sites. All automatic sites show a varying trend over the five years with a drop in PM_{10} concentrations during 2023 and increase in 2024. Site ZM8 at St Paul's Street recorded 36.6 µg/m^3 during 2024, therefore is within 10% of the AQO for the PM_{10} annual mean.

The highest recorded number exceedances of the PM_{10} 24-hour mean (50 µg/m^3 not to be exceeded more than 35 times a year) occured at ZW8 (St Paul's Street) during 2024 with 85 exceedances being recorded. ZW8 (St Paul's Street) site over the last five years has continued to exceed the PM_{10} 24-hour mean. There has been an increasing trend observed in PM_{10} 24-hour mean results, subject a lower number of exceedances observed in 2023. No exceedances PM_{10} 24-hour mean are observed at ZW10 (Newington).

The latest monitoring undertaken during 2024 has shown there were no exceedances of the annual mean $PM_{2.5}$ (20 µg/m^3) at both ZW10 (10.8 µg/ m³) and ZM10 (9.5 µg/ m³). The trend varies over the last five years at both sites, with a decrease at both sites from 2023 to 2024.

Summary information on AQMAs and AQAPs

Previous air quality monitoring has identified six locations within the district that have exceeded the annual Air Quality Objective (AQO) level for NO_2 and one of these locations includes a PM_{10} declaration. Subsequently this has led to the declaration of six AQMAs within Swale Borough. AQMAs 1, 2/6, 3, 5 and 7 are situated on the A2 which is a major transport corridor through Swale, with AQMA 4 located within Sittingbourne urban centre.

Since declaring the AQMAs and as part of our statutory duties required by the Local Air Quality Management framework an Air Quality Action Plan (AQAP) has been in place in pursuit of in improving air quality within the AQMAs and the district.

The AQAP includes thirteen measures and various actions on these have been taken during the reporting year of 2024 in pursuit of improving local air quality, for example; Progressing on the completion of Swale's Local Cycling and Walking Infrastructure Plans (LCWIP); developing a digital training resource for Health Care Practitioners across Kent

and Medway to enable practitioners to advise patients with cardio-vascular disease or respiratory diseases on how to reduce their exposure to air pollution; anti-idling campaign and patrols taking place at various hotspot locations within the district.

Regarding AQMAs, diffusion tube monitoring during 2024 recorded concentrations below air quality target value of 40 µg/m^3 at all monitoring sites within district and all AQMAs. Over the five years most monitoring sites within the AQMAs show a slight increase during 2022 and then decrease in 2023 and 2024. Some monitoring sites show a slight increase in concentrations from 2023 to 2024.

Newington AQMA has been compliant for five consecutive years (figure A.3). Ospringe AQMA has been compliant for five consecutive years (figure A.10). East Street AQMA has been compliant for six consecutive years with one of those years within 10% of the Air Quality Objective (figure A.7). St Pauls Street has been compliant for five consecutive years (figure A.4). Teynham AQMA has been compliant for seven consecutive years with one of those years within 10% of the Air Quality Objective (figure A.8) and the Keycol Hill AQMA has been compliant for two consecutive years (figure A.6).

In line with Local Air Quality and Management guidance (LAQM), the Environmental Health team will be recommending the revocation of Teynham and East Street AQMAs. As part of the revocation process the AQAP will be updated and an air quality strategy will be created to ensure air quality remains a high-profile issue and to ensure it is able to respond quickly should there be any deterioration in condition of the revoked AQMAs.

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 Councils Air Quality Action Plan 2023 -2028 (AQAP)[3] outlines the strategic and local actions we will undertake to improve air quality in Swale between 2023 and 2028. This AQAP replaces the previous action plan which ran from 2018 to 2022. The action plan includes thirteen measures in pursuit of improving local air quality over the next five years. The type of measure and the progress Swale Borough Council have made during the reporting year of 2023 are presented in table 2.2.

Swale Borough Council is committed to improving air quality, specifically to reduce exposure to its residents to improve and protect the health and amenity of current and future generations. We have developed actions and measures which can be categorised under the following topics:

- Air Quality standards within new Local Plan and Guidance;
- Encourage alternative modes to car use to reduce congestion and pollution;
- Initiatives that inform and protect local residents;
- Review infrastructure improvements to encourage active travel;
- Anti-idling enforcement.

To improve air quality in our six air quality management areas (AQMAs) and across the whole borough, various actions have continued through 2024:

- Defra funded digital training resource ‘Clean Air Academy’ launched in 2024. It is accessible to Health Care Practitioners across Kent and Medway to enable practitioners to advise patients with cardio-vascular disease or respiratory diseases on how to reduce their exposure to air pollution. We have received a total of 37 registrations: 23 from the Kent & Medway area and 14 from elsewhere in the UK.

[3] https://swale.gov.uk/__data/assets/pdf_file/0019/451432/AQAP-2023-to-2028_-FINAL_05_09_23-AA.pdf

The majority of registrants are professionals in Sustainability and Air Quality, we also have a couple of registrations from GPs and Health Visitors.

- The Defra funded digital education package 'Pollution Patrol'[4] aimed at children aged 5-11 (and their parents). Uptake of the resource amongst schools has continued to be disappointing over the last few years. At the end of 2023, a visibility campaign was devised to connect with the target audience. This comprised two key components: a Google Ads PPC (pay-per-click) campaign and a LinkedIn advertising campaign. These went live on 5th January 2024 and remained live for the whole of the first quarter, however, their impact was very limited in generating additional sign ups. The website has a high engagement rate of 54% and a substantial number of page views relative to users, indicating effective content.
- Swale Borough Council continues to develop the Local Cycling and Walking Infrastructure Plans (LCWIP). This will provide a vital resource for developing active travel and infrastructure improvements within the district.
- The Council also continues to promote and raise awareness of KentAir alert messaging, air quality impacts and solutions through Clean Air Day and the Green Schools Forum.
- Dust Management Project to maximise remedial mitigation measures is being prepared. Implementation of a deep clean, additional monitoring and road sweeping along St Paul's Street AQMA will start early 2025. This project aims to reduce PM_{10} concentrations caused by the build-up and recirculation of mud and dust on the highway.
- The Council has continued to have an active anti idling campaign which includes idling patrols and signage in hotspot areas within the district. Below shows our informal and formal anti idling signage.

[4] https://pollutionpatrol.org.uk/about-us/

Conclusions and Priorities

All monitoring sites within the district reported compliance against the NO_2 Air Quality Standard objectives during 2024. The over-all long-term trend over the last five years shows air quality is improving in the AQMAs.

The Council has been cautious when reviewing results given the potential COVID – 19 pandemic impacts on traffic movements during 2020, whereby there was a significant decrease in road and vehicle use nationally, especially in urban areas. The year 2021 and future years may have also been affected due a behaviour changes in response to the pandemic, for example, more people working from home and shopping online. However, a steady downward trend is observed in NO_2 concentrations at most monitoring sites (passive and automatic). These results reflect current national trends.

No exceedances of the annual mean PM_{10} or $PM_{2.5}$ Air Quality Objective were observed during 2024. However, concentrations are still high along St Paul's Street (AQMA 5). The Council is undertaking actions to improve PM_{10} concentrations to reduce the number exceedances of the PM_{10} 24-hour mean along St Paul's Street. The outcome results from these actions will be evaluated and reported on in the next ASR (2025).

In response to the NO_2 annual results and in line with Defra guidance the Environmental Protection team will be recommending the revocation of AQMAs at East Street (AQMA 3) and Teynham (AQMA 5). The AQAP will be amended in response to the revocations and an air quality strategy will be created to ensure air quality remains a high-profile issue and to ensure it is able to respond quickly should there be any deterioration in condition of the revoked AQMAs.

The priorities for the Swale Borough Council in addressing air quality for the coming year will be to revoke AQMAs that meet the requirement for revocation and complete various measures included in the AQAP for example; to complete the Councils Local Cycling and Walking Infrastructure Plans (LCWIP); ensure the anti-idling campaign continues with patrols and signage; complete the dust management project to reduce particulates at St

Paul's Street; promote and further distribute 'Clean Air Academy' to health care practitioners with support from KCC public health and NHS communication teams; and engage with members to consider next steps in a lobbying role to improve bus infrastructure and services.

There are current challenges in reducing car use within the Borough through improving public transport service and infrastructure. Our AQAP includes a measure to support public transport providers in a lobbing role for improvements to infrastructure and services. This measure is highly reliant on political support and favourability, therefore will require persistent and continuous pursuit as part of the Councils AQAP steering group to ensure it is achieved. Other challenges anticipated will be funding for anti-idling patrols and actioning measures recommended by LCWIP, as these will be highly dependent on funding bids and grants.

How to get Involved

Swale Borough Council cannot achieve air quality improvements alone. There was a continuation of work with all stakeholders throughout 2023, to provide information to the general public. The following provides more information:

- Residents can stay informed by visiting the Kent Air website (http://www.kentair.org.uk/) to learn more about air pollution and local air quality or contact the Environmental Protection Team on 01622 602460 or ehadmin@midkent.gov.uk or https://swale.gov.uk/bins-littering-and-the-environment/air-quality
- Canterbury City Council and the Mid Kent Environmental Health Partnership have created the free interactive website called 'Pollution Patrol' through 2021 Defra funding.
    - Sign up https://pollutionpatrol.org.uk/ - Pollution Patrol is a free interactive website for primary schools, children and their families developed to help raise awareness of air pollution, the damage it can cause and ways that individuals can help to reduce their impact by changing behaviours. The website includes games, an immersive 360º story mode, curriculum-linked teaching resources and a school assembly plan amongst other elements.
- Sign up to the Green Schools Forum at climate@swale.gov.uk
    - The forum provides a platform for primary and secondary schools to discuss issues and projects such as air quality, tree planting and other ecological initiatives. The forum also provides a platform to engage with schools in relation to KCC Smarter Travel scheme which helps schools optimise their travel plans and promote active travel.
- Take action - Walk, wheel, or use public transport to reduce your exposure and contribution to air pollution. Check out Clean Air Day resources[5] to celebrate Clean Air Day.
- The digital training resource 'Clean Air Academy' is accessible for Health Care Practitioners across Kent and Medway. To use the Clean Air Academy, you must register at www.cleanairacademy.org.uk. The resource also provides additional

[5] https://www.actionforcleanair.org.uk/campaigns/clean-air-day

information that can be used by the public and students interested in air pollution and health.

Swale Borough Council continues to engage with stakeholders and working groups:

- SBC have continued to engage with schools, parish councils and members regarding anti idling hotspots, with idling patrols taking place during 2024.
- Kent and Medway Air Quality Partnership Group provides a platform to share information and provide updates on priorities. Partners includes Kent local authorities and KCC, with guests in academia and Public Health England. Kent local authorities and Medway Council have been working together to integrate air quality data and information exchange for many years, including the provision of a website http://www.kentair.org.uk/ to disseminate the data to all. The website can be used by many people for the purposes outlined below:
  - For use by local authority and County for local air quality management work;
  - For consultants to enable detailed air quality assessments and modelling to be undertaken; and
  - For educational institutions to support research and for public health including forecast and alerts.
  - For Swale residents Kentair website can be used for free air pollution alerts and information. Emails are issued whenever air quality is forecast to be Moderate or above for the following day. The email includes DEFRA's recommended actions and health advice.

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1 Local Air Quality Management

This report provides an overview of air quality in Swale Borough Council during 2024. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Swale Borough Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1. Air Quality Management Areas

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

A summary of AQMAs declared by Swale Borough Council can be found in Table 2.1. The table presents a description of the six AQMAs that are currently designated within Swale Borough Council. 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_2 annual mean;
- <PM_{10} 24-hour mean;

Table A3 (automatic monitoring) and table A4 (non-automatic) provides a review of the Annual Mean NO_2 Monitoring Results between years 2020 to 2024. It shows there has been compliance of the annual mean NO_2 concentrations being lower than 36µg/m^3 (i.e., lower than 10% of the annual mean NO_2 objective of 40 µg/m^3) at all AQMAs (AQMA 1:- Newington; AQMA 2/6 - Ospringe Street; AQMA 3 - East Street; AQMA 4 - St Paul's Street; AQMA 5 - Teynham; AQMA 7: Keycol Hill) during 2024.

Below outlines the NO_2 compliance achieved in each AQMA:

- Newington, Ospringe Street and St Paul's Street has been compliant for five consecutive years.
- East Street has been compliant for six consecutive years, with one of those years being within 10% of the annual mean NO_2 objective.

- Teynham has been compliant for the past seven consecutive years, with one of those years being within 10% of the annual mean NO_2 objective.
- Keycol Hill has been compliant for two years.

Based on data reported in the previous ASR and an additional detailed assessment, a report was taken to our Environment committee on the 13th of March 2024 where members voted against the revocation of both Teynham and East Street AQMAs due to various concerns. It was agreed to monitor NO_2 concentrations for another year and undertake additional monitoring in one of the AQMAs. Since then, we have monitored NO_2 concentrations another year and the results from this year's ASR strengthen the decision to revoke both AQMAs, as no exceedances have been reported and concentrations have continued to decrease. A second report will be submitted to the Environment Committee to recommend revocation of both AQMAs.

The AQAP will be amended in response to the revocations and an air quality strategy will be created to ensure air quality remains a high-profile issue going forward and to ensure it is able to respond quickly should there be any deterioration in condition of the revoked AQMAs.

St Paul's Street AQMA 4 continues to exceed the 24 – Hour PM_{10} AQS objective with 85 exceedances reported during 2024. Subject to a much lower number of 42 exceedances during year in 2023, the results show a continuous increase for the last six years.

The Councils Environmental Protection and Cleansing Teams are working together on various mitigation actions to reduce and monitor non-tail pipe emissions along St Paul's Street. We will be undertaking a 'deep clean' of the road, which will include completing a master schedule of cleaning and monitoring during 2025. The first deep clean will take place February 2025. In addition, a local cement batcher near St Paul's Street have now relocated to another area, so the effects from this might be positive. Another considered source is a preexisting local lorry park seeking planning approval. Through planning agreement, the applicant has proposed to hard surface the park area and will provide additional funding for road cleansing.

There are currently no new developments that may have an impact on air quality. As part of the planning process all air quality assessments are required to consider the cumulative impacts from all committed development.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
AQMA 1: Newington	Declared 2009	NO_2 Annual Mean	An area encompassing A2 and Newington High Street	NO	50 µg/m^3	No exceedance: 27.3 µg/m^3	Five	Strategic AQAP 2023	swale.gov.uk/aqap
AQMA 2/6: Ospringe Street	Declared as AQMA 2 in 2011, extended in 2016, consolidated as AQMA 6 in 2017	NO_2 Annual Mean	Area incorporating all of Ospringe Street near Faversham (A2/Ospringe)	NO	48 µg/m^3	No exceedance: 32.4 µg/m^3	Five	Strategic AQAP 2023	swale.gov.uk/aqap
AQMA 3: East Street, Sittingbourne	Declared 2013	NO_2 Annual Mean	Area incorporating East Street, Sittingbourne (A2/Canterbury Road)	NO	41 µg/m^3	No exceedance: 27.2 µg/m^3	Six	Strategic AQAP 2023	swale.gov.uk/aqap

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
AQMA 4: St Paul's Street, Milton, Sittingbourne	Declared 2013	NO_2 Annual Mean	Area incorporating St Paul's Street, Sittingbourne (B2006)	NO	62 µg/m^3	No exceedance: 27.5 µg/m^3	Five	Strategic AQAP 2023	swale.gov.uk/aqap
AQMA 4: St Paul's Street, Milton, Sittingbourne	Declared 2020	PM_{10} 24 Hour Mean	Area incorporating St Paul's Street, Sittingbourne (B2006)	NO	42 Exceedances of 50 µg/m^3	85 Exceedances of 50 µg/m^3	Zero	Strategic AQAP 2023	swale.gov.uk/aqap
AQMA 5: Teynham	Declared 2015	NO_2 Annual Mean	Area incorporating Teynham (A2/ London Road)	NO	39 µg/m^3	25.6 µg/m^3	Seven	Strategic AQAP 2023	swale.gov.uk/aqap

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
AQMA 7: Keycol Hill	Declared 2020	NO_2 Annual Mean	Area incorporating Keycol Hill, Sittingbourne (A2)	NO	36 µg/m^3	29.8 µg/m^3	Two	Strategic AQAP 2023	swale.gov.uk/aqap

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

☒ **Swale Borough Council confirm that all current AQAPs have been submitted to Defra.**

2.2. Progress and Impact of Measures to address Air Quality in Swale Borough Council

Defra's appraisal of last year's ASR concluded:

The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are designed to help inform future reports:

1. Formatting errors in the report need to be corrected prior to publication on the council's website.
    - Corrected.
2. It is understood that the Council are currently in the process of revoking AQMA No. 3 and 5. The outcome of this process is expected to be included in next year's ASR.
    - This has been included in this year's ASR.
3. The trends presented in Appendix A are formatted in a way that is clear and easy to understand, it is also helpful that figures have been grouped by location to allow for ease of comparison. The Council also provide discussion of trends for each separate figure to allow for more focused research into trends for each district.
4. SBC have included the Public Health Outcomes Framework D01 indicator within their report, as well as a comparison to England and the South-East region. This is an example of good practice and helps provide context for measures that tackle $PM_{2.5}$.

Swale Borough Council has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Thirteen measures are included in the Air Quality Action Plan are presented within Table 2.2, with the type of measure and the progress Swale Borough Council have made during the reporting year of 2024. 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 Air Quality Action Plan 2023 -2028[6]. Key completed measures are:

- **Clean Air Academy**: At the start of 2024, development of the digital platform for the Clean Air Academy was initiated. It originally encompassed six modules, with Module 7, related to maternity, to be added subsequently. Work also began on the patient and public resources. These are primarily posters to be found on the website, which can be accessed by the public and patients unlike the majority of the information which is only available to the medical profession.

  In February 2024 a workshop was held, during which a variety of stakeholders from the medical profession reviewed the content, in order to provide feedback, and contribute their expertise to ensure that the modules were meeting the highest standards of accuracy, relevance, and practicality. Feedback from this workshop has generally been very positive. The six modules were then uploaded to the digital platform for testing.

  The roll out of the resource essentially happened in three phases: -

  - The pilot phase - The pilot program aimed to engage various healthcare professionals (HCPs), including midwives and health visitors, to gather insights and feedback on the resources provided. This phase: -
    - Actively solicited feedback from participants during the pilot phase regarding the resources.
    - Gathered invaluable comments and suggestions.
    - Made several updates and enhancements to the resources based on feedback. Aligned resources more closely with the expectations and requirements of healthcare professionals (HCPs).
    - Implemented an iterative process of feedback collection and resource refinement.
    - Ensured that the final materials were comprehensive, relevant, and user-friendly.

[6] https://swale.gov.uk/bins-littering-and-the-environment/air-quality/monitoring

- Soft launch – occurred in July 2024 which tested the functionality and usability in a real-world setting with a limited audience, this: -
    - Tested the functionality and usability in a real-world setting with a limited audience.
    - Monitored user interactions during the soft launch.
    - Gathered additional feedback to inform improvements.
    - Made necessary adjustments before the wider rollout.

- Full launch
    - The Platform was officially launched to HCPs in the Kent & Medway region on 18th November 2024.
    - A comprehensive Communications Plan was distributed to all Air Quality Managers in the region, to promote on their social channels.
    - Press releases from TMC and GAP were also released.

We have received a total of **37 registrations**: **23 from the Kent & Medway** area and **14** from **elsewhere in the UK**. The majority of registrants are professionals in Sustainability and Air Quality, we also have a couple of registrations from GPs and Health Visitors.

- **Pollution Patrol:** Uptake of the resource amongst schools has continued to be disappointing. At the end of 2023, a visibility campaign was devised to connect with the target audience. This comprised two key components: a Google Ads PPC (pay-per-click) campaign and a LinkedIn advertising campaign. These went live on 5th January 2024 and remained live for the whole of the first quarter, however, their impact was very limited in generating additional sign ups.

  The Council and its partners also gave consideration to the longer term future of the project and have decided to try to identify and secure a suitable organisation(s) to sponsor the promotion and update and potentially, the expansion of the Pollution Patrol resource and to ensure that the resource has a future beyond the life of the initial Defra funding (post-2026).To this end, a tender specification for suitable candidate organisations was produced and a

procurement exercise was run via the Kent Business Portal between 2nd January and 16th February 2024, to see if a suitable sponsor could be found. A number of organisations expressed interest but ultimately there were no formal responses.

Due to budget constraints, there was no further promotional activity for Pollution Patrol in 2024, so registrations have remained static.

Total registrations to date stand at:

- 49 x Teachers/Schools
- 27 x parents

Extrapolating the figures, we can assume that over 2,010 pupils within the 49 schools in Kent & Medway have engaged with the Pollution Patrol website and education resources.

TMC Communications have provided us with the following statistics regarding website activity:

Overview

- File Downloads: 189
- Engagement Rate: 54%
- Page Views: 5,767
- Total Users: 1,500

Traffic Acquisition

- Direct Traffic: 812
- Organic Search: 249
- Organic Social: 214
- Referral Traffic: 86
- Display Ads: 71
- Email Campaigns: 55

The website has a high engagement rate of 54% and a substantial number of page views relative to users, indicating effective content. Direct traffic is the largest source of visitors, followed by organic search and social media.

- **Local Cycling and Walking Infrastructure Plans (LCWIP):** The current Sheppey Towns and Swale LCWIPs are both in draft form and are at stage 4 of 6. A Swale-wide LCWIP will be completed by merging the current drafts of the Swale LCWIP and Sheppey Towns LCWIP together. This will be submitted to Committee before going into the public consultation phase. The timescale for a completed Swale LCWIP will be July 2025.

- **Sittingbourne & Iwade Active Travel Connectivity Feasibility Study** is underway, with 17 routes identified across Sittingbourne (Newington through to Bapchild and Iwade). Planned to be completed for February 2025. This project is to provide town level detail to augment the LCWIP, complementing the Faversham LCWIP and Sheppey Towns Connectivity studies.

- **Anti-idling campaign**: Anti idling enforcement patrols at hotspot locations took place for 9 weeks in 2024, mainly around schools. Informal signage continues being installed in response to complaints.

- The Council continues to promote and raise awareness of **KentAir alert messaging**, air quality impacts and solutions through Clean Air Day messaging and the Green Schools Forum.

- Real time PM_{10} monitoring was undertaken using the Praxis Cube sensor in Teynham AQMA. Report for this will be completed in March 2025.

- Mitigation measures are being prepared through the Dust Management Project to maximise remedial and the reduction of PM_{10} exceedances at St Pauls Street (AQMA 4). Implementation of a deep clean, additional monitoring and road sweeping along St Paul's Street AQMA will start early 2025. This project aims to

reduce PM_{10} concentrations caused by local non tailpipe sources where mud and dust is being deposited and recirculated on the highway from operator vehicles.

Swale Borough Council expects the following measures to be completed over the course of the next reporting year:

- Local Cycling and Walking Infrastructure Plans (LCWIP)
- Continue anti-idling patrols, review signage within the district and install additional signage to raise awareness of the anti-idling campaign in hotspot locations.
- Complete dust management project to reduce particulates at St Paul's Street AQMA – deep clean scheduled for April 2025.
- Continue to liaise with Medway Council to discuss transboundary impacts and mitigation options. Working towards lowering NO_2 emissions in Newington and Keycol Hill AQMAs.
- Promote and further distribute 'Clean Air Academy' to health care practitioners with support from KCC public health and NHS communication teams to raise awareness of air quality information.
- Engage with members to consider next steps in lobbying role to improve bus infrastructure and service.

Swale Borough Council's priorities for the coming year are to ensure AQAP 'task and finish' groups continue to work on milestones for measures and to complete the above projects. To also review the revocation of AQMAs that fall below the national air quality objectives.

Swale Borough Council worked to implement these measures in partnership with the following stakeholders during 2024:

- Kent County Council (KCC)
- Neighbouring local authorities

The principal challenges and barriers to implementation that Swale Borough Council anticipates facing are, for example, promoting the Clean Air Academy and uptake usage of the education tool; funding for the anti-idling patrols and actioning measures recommended by LCWIP, as these will be highly dependent on funding bids and grants;

public transport improvements to bus infrastructure/service measure is highly reliant on political support and favourability. Therefore, requires persistent and continuous drive from the Councils AQAP steering group to ensure it is achieved.

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

- LCWIP for the district – officer recruitment changes
- Swale's Green School Forum – funding opportunities to support school projects.
- Clean Air Academy – delays have occurred in promoting the education tool through KCC Public Health.
- Public transport improvements to bus infrastructure/service – No current actions have happened. This measure will be prioritised for action during 2025.

Swale Borough Council anticipates that the measures stated above and in Table 2.2 will achieve compliance for NO_2 annual exceedance in all AQMAs.

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance, Swale Borough Council anticipates that further additional measures not yet prescribed might be required in subsequent years to achieve compliance and enable the revocation of St Paul's Street AQMA 4 for particulates (PM_{10}).

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Continue to develop Air Quality standards within Local Plan. Review and KCC development control policies	Policy Guidance and Development Control	Local Plan Review; Air Quality Policy and other policies; Air Quality Planning and Policy Guidance; Low Emissions Strategy	2023	2028	SBC and KCC planning policy	Staff costs	NO	Funded	< £10k	Implementation	Lower NOx and PM_{10} emissions - Air Quality standards to reduce district-wide emissions	Implementation of policy and planning responses	. Air Quality and Planning Technical Guidance document (2021) will be updated as policies and guidance evolve	Air Quality is considered in the site selection for allocations. The emerging Local Plan will include a policy on Air Quality. Air Quality policy (DM 33) LP Regulation 18 consultation – commencing in quarter 4 of 2025 LP Regulation 19 consultation – commencing in quarter 2 of 2026
2	Complete a Local Cycling and Walking Infrastructure Plan (LCWIP) for the district and work with KCC to improve of Swale's walking and cycling infrastructure	Transport Planning and Infrastructure	Cycle network	2023	2034	SBC (Active Travel; GIS and Planning) and KCC (PRW, Highways)	Developers & highway infrastructure funding.	NO	Partially Funded	£10k - 50k	Implementation	Lower NOx and PM_{10} emissions	Completion of improved walking and cycling routes	Managed by the Active Travel Co-ordinator. The current Sheppey Towns and Swale LCWIPs are both in draft form and are at stage 4 of 6. A proposal is going forward to merge these two LCWIPs into one wide Swale LCWIP (whilst incorporating the already agreed Faversham LCWIP)	Various processes are required to complete this project which can take time to complete
3	Air pollution alerts, information to raise awareness on impacts and solutions	Public Information	Via the Internet, leaflets and other mechanisms	2016	Ongoing	MidKent Partnership and Kent and Medway Authorities	SBC budget for website and data management	NO	Funded	< £10k	Completed and ongoing	Lower NOx and PM_{10} emissions	Number of people using the alert service in Swale	Kentair website has free air pollution alerts and information – currently 362 users. Emails are issued whenever air quality is forecast to be moderate or above for the following day. The email includes Defra's recommended actions and health advice. Green School Forum is still active with several schools attending.	Lack of funding opportunities to support school projects
4	To apply for Defra Air Quality Grant scheme to facilitate funding for the most suitable AQAP measures	Other	Other	2023	2025	SBC	Defra and SBC match funding	NO	Partially Funded	< £10k	Completed	Lower NOx and PM_{10} emissions in AQMA(s) and public health benefits	Number of successful Defra bids	Successful Defra bids through match funding: **1. Digital education package 'Pollution Patrol'** Total registrations to date stand at: 49 x Teachers/Schools 27 x parents Over 2,010 pupils within the 49 schools in Kent & Medway	Defra AQ grants have stopped.

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
														have engaged with the Pollution Patrol website and education resources. and 2. 2. **Online tool for health professionals to use to assist patients with CHD/COPD in navigating air quality information.** Clean Air Academy launched in November 2024 We have received a total of 37 registrations: 23 from the Kent & Medway area and 14 from elsewhere in the UK. Additional progress details are provided in section 2.2. Progress and Impact of Measures	Direct promotion is limited for EH as we are not in contact directly with GP surgeries and large numbers of health professionals. The health care project is reliant on support from KCC public health and NHS contacts. Some support issues have occurred which are hoped to be resolved in 2025.
5	To reduce emissions from activities with Environmental Permits	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	2023	2026	SBC	SBC staff cost	NO	Funded	< £10k	Completed and ongoing	Lower NOx and PM_{10} emissions in AQMA(s)	Number of measures and performance monitoring data	A permitted process near St Paul's Street is relocating to a different site, so will no longer be contributing to the PM_{10} levels at St Paul's Street. Planning obligations and mitigation measures are agreed for new lorry park nearby. Funding for additional road sweeping was agreed through S106 agreement. SBC have liaised with the EA in relation to updating a dust management plan for a nearby permitted site.	Tricky to pinpoint the main PM source(s) as various operators use the B2006. The identified permitted processes have been reviewed to ensure dust is managed appropriately and they are meeting the agreed conditions within their permit. Future costs and funding available for additional road sweeping could be a barrier.
6	"20 is plenty" zones - to be monitored and reviewed for AQMAs	Traffic Management	Reduction of speed limits, 20mph zones	2022	2024	KCC and SBC	SBC staff costs	NO	Funded	< £10k	Implementation	Lower NOx and PM10 emissions - impact unknown - being viewed	Smoothing Traffic flow to reduce emissions plus encourage more people to walk and cycle	Faversham town centre and Newington (including A2 - AQMA) now has 20 mph speed limit	Difficult to measure the direct impact since there are always a range of factors at work. However, if you want to increase Active Travel, then 20mph is a key component.
7	Continue to improve and develop the EV infrastructure within the district	Promoting Low Emission Transport	Other	2022	2030	SBC and KCC Network Innovations	OZEV (ORCS & LEVI); SBC; Private Investment	NO	Partially Funded	£50k - £100k	Implementation	Lower NOx and PM_{10} emissions	No. charge points/ No. charge points per population	There is steady growth of EV ownership in Swale, but demand for our chargers is not	Difference in strategy between SBC & KCC could be a barrier. DNO costs and grid

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
														necessarily increasing to the point where further installations of EV chargers in council owned car parks would be considered.	capacity also is a barrier
8	Explore AQMA specific traffic management options	Traffic Management	Strategic highway improvements	2023	2028	SBC and KCC highways	S106 available for St Paul's Street.	NO	Partially Funded	£50k - £100k	Completed	Lower NOx and PM10 emissions in AQMA(s)	Number of measures and performance monitoring data	SBC scoping transport assessment concluded that chosen traffic management options would not improve the flow of traffic or reduce particulates along St Paul's Street AQMA. The assessment provided additional evidence on the localised sources i.e., particulates being transported from nearby industrial sites and being recirculated within the AQMA St Paul's Street (AQMA 4) deep clean will take place in April 2025. Additional cleaning and monitoring schedule will be agreed with our cleansing team.	
9	Continue anti-idling enforcement, signage and educational campaign	Other	Anti-idling enforcement	2022	2028	Environmental Response Team (SBC)	SBC budget and S106	NO	Partially Funded	< £10k	Completed and ongoing	Lower NOx and PM_{10} emissions at hotspot areas	Monitoring complaints and idling patrols feedback	Anti idling enforcement patrols at hotspot locations took place for 9 weeks in 2024. Mainly around schools. Working with schools to engage with parents. 42 weeks of patrols will start from January 2025. Informal signage continues to be installed in response to complaints.	Uncertainty for future funding
10	Car clubs and EV bike hire schemes on development and public spaces in line with SBC EV Strategy, CEE plan.	Alternatives to private vehicle use	Public car and cycle hire	2022	2025	SBC	SBC (e.g., I&R); S106; new Active Travel Fund?	NO	Partially Funded	£10k - 50k	Completed	Lower NOx and PM_{10} emissions	Scheme utilisation and statistics from KCC through the Kent and Medway Energy and Low Emissions Strategy (ELES)	Hiyacar will be coming to an end – Main focus is implementation will be through development.	The two car clubs were fully funded through S106 contributions and I & R funding. Future funding uncertain. Reliant on developer contributions and popularity relative to location
11	Work in partnership with Medway Council and KCC to agree mitigation and mechanism to	Policy Guidance and Development Control	Other policy	2023	2028	SBC, Medway District Council and KCC highways	S106 contributions and SBC staff costs	NO	Partially Funded	< £10k	Implementation	Lower NOx and PM_{10} emissions in Newington and Keycol Hill AQMAs	Implementation of actions	Officers are in correspondence with equivalent officers at Medway Council and have continued to	

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
	manage transboundary impacts from development on air quality between Newington and Rainham.													undertake Duty to Co-operate meetings on Air Quality and Transport.	
12	Explore opportunities for EV charge points at AQMA's: Newington (Village Hall), Ospringe (SBC car park), East Street (Tesco car park or nearby schools) St Paul's Street (businesses nearby)	Promoting Low Emission Transport	EV recharging	2023	2028	SBC	OZEV (ORCS & LEVI); SBC; Private Investment; S106 contributions	NO	Partially Funded	£50k - £100k	On hold	Lower NOx and PM_{10} emissions	No. charge points/ No. charge points per population	No additional charge points were installed during 2024 A roadmap is being developed for Swale's energy plan and impacts. KCC are planning to roll out EV charge points across Kent through the Local Electric Vehicle Infrastructure Fund (LEVI). Swale will be liaising with KCC for EV charge points in Swale	Difference in strategy between SBC & KCC. DNO costs and grid capacity.
13	Public transport improvements to bus infrastructure/service	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	2025	2028	SBC and KCC	No current funding sources. SBC revenue for staff costs	NO	Not Funded	£500k - £1 million	Planning	Lower NOx and PM_{10} emissions	Greater uptake of usage	Recommendations made with planning responses and S106 contributions to improve bus services. Engagement with members considering next steps in lobbying role	This measure is highly reliant on political support and favourability, therefore will require persistent and continuous pursuit as part of the Councils AQAP steering group to ensure it is achieved. Measure will be made priority for actions during 2025

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

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[7], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$). There is clear evidence that $PM_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

The Public Health Outcomes Framework (PHOF) data tool compiled by Public Health England (DO1)[8] shows the estimated fraction of mortality attributable to particulate air pollution in 2023 (reporting on the year before) for Swale as 5.1% which is slightly lower than the year before which was 5.6% and is lower than the 2023 national estimated percentage of 5.2%

It is recognised that measures to reduce NO_2 and PM_{10} should also have a beneficial effect on $PM_{2.5}$ concentrations. LAQM Table A.1 – Action Toolbox provides a summary of measures and their effect on reducing NO_x and PM_{10} emissions, including if they also reduce $PM_{2.5}$. The toolbox has been used as a guide in selecting the current AQAP measures to ensure a reduction in $PM_{2.5}$ emissions.

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

[8] https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000043/pat/15/par/E92000001/ati/501/are/E07000113/yrr/1/cid/4/tbm/1/page-options/car-do-0

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

This section sets out the monitoring undertaken within 2024 by Swale Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Swale Borough Council undertook automatic (continuous) monitoring at ZW3 (Ospringe), ZW8 (St Paul's Street) and ZW10 (Newington) sites during 2024. Table A.1 in Appendix A shows the details of the automatic monitoring sites.

The Kentair website[9] presents automatic monitoring results for Swale Borough Council, which is also available through the UK-Air website[10].

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

NB. Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem.

3.1.2 Non-Automatic Monitoring Sites

Swale Borough Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 67 sites during 2024. Table A.2 in Appendix A presents the details of the non-automatic sites.

[9] https://www.kentair.org.uk/data

[10] https://uk-air.defra.gov.uk/data/data_selector_service?q=7979067&s=st&l=1#mid

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

The following 29 sites were closed:

1. SW165 Lamp Post o/s Post Office, Main Road, Queenborough
2. SW37 A2 Newington O/S 32/34 High Street, Newington3
3. SW42 A2 Newington opposite Church Lane
4. SW42 A2 Newington opposite Church Lane
5. SW45 64/66 High Street, Newington
6. SW142 Lamp post opposite Stumble Inn, St Pauls Street, Sittingbourne
7. SW62 Lamppost 13 Key Street, Sittingbourne
8. SW112 56 Key Street, Sittingbourne
9. SW122 13 Keystreet, Sittingbourne façade
10. SW123 12 Keystreet, Sittingbourne
11. SW130 31/33 Keycol Hill, Sittingbourne
12. SW131 31/33 Keycol Hill, Sittingbourne
13. SW143 Lamp post 49 Key Street, Sittingbourne
14. SW145 Lamp post 40 Keycol Hill, Sittingbourne
15. SW146 Fox Cottage, Chestnut Street, Borden
16. SW156 Lamp post o/s 96 Grovehurst Road, Sittingbourne
17. SW157 Lamp post o/s 139 Grovehurst Road, Sittingbourne
18. SW160 Lamp post o/s 41/43 Saffron Way, Sittingbourne B2005
19. SW161 Lamp post Garnet House Flats, B2006 Staplehurst Link Road
20. SW132 Fountain Street, Sittingbourne
21. SW77 Kemsley Fields, Swale Way, Kemsley, Sittingbourne
22. SW148 158/160 London Road, Sittingbourne

23. SW76 155 Canterbury Road, Sittingbourne
24. SW126 16/18 The Street, Bapchild
25. SW32 11 Ospringe Street, Faversham
26. SW98 Canterbury Road Preston Faversham (Lavender Cottage)
27. SW136 A2 Junction Preston Grove, Faversham
28. SW137 A251 Fire Station, Ashford Road
29. SW138 17 East Street, Faversham

The following 10 new monitoring sites were deployed:

1. SW177 o/s Hemspted House, A2 London Road, Bapchild
2. SW176 34 Bell Road, Sittingbourne
3. SW179 26 London Road, Faversham
4. SW180 Boughton Bypass Forge Cottage, London Road Dunkirk
5. SW181 Boughton Bypass Hillside Gate, Gate House Slip, Dunkirk
6. SW183 27 London Road, Teynham
7. SW184 144 London Road Teynham
8. SW178 Abbey House, 20 East Street, Faversham
9. SW186 143 London Road Teynham
10. SW187 52 London Road Teynham
11. SW185 2 The Street, Iwade
12. SW182 40 London Road Teynham

Sites (except Isle of Sheppey) are removed if they are below 32 µg/m^3 for (more than) > 2 years. The Isle of Sheppey sites are removed if they are below 20 µg/m^3 for (more than) > 2 years. This is because it is a developing area, and all sites are currently low. Short term research sites are only added for one year and are removed if below 20 µg/m^3. Relocation of sites was considered and included in the audit.

In line with Local Air Quality Management Technical Guidance (TG22) the deployment of new monitoring sites is usually evidence-based relative to traffic congestion data outlined in Swale Transport model with predicted congested areas and where future development is planned. Each site is also reviewed relative to topography and relevant receptors. Additonal tubes were deployed in Teynham due to concerns highlighted about monitoring spatial coverage and the potential revocation of the AQMA.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 (automatic) and Table A.4 (non-automatic -diffusion tubes) in appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2024 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

There are no passive monitoring sites where the NO_2 annual mean is greater than 60µg/m3, therefore in accordance with DEFRA LAQM.TG (22) there are no sites likely to be at risk of exceeding the 1-hour mean AQS objective.

Table A.3 shows there has been compliance of the annual mean NO_2 concentrations (40µg/m^3) at all automatic monitoring stations during 2024. Measured concentrations at both automatic stations were below the annual NO_2 mean Air Quality Objective/ target value during 2024. ZW8 (St Paul's Street – AQMA 4) recorded the NO_2 annual mean

concentration as 26 µg/m^3 and has been compliant 5 years. Installed in 2021, ZW10 (Newington – AQMA 1) automatic station recorded the NO_2 annual mean concentration as 18 µg/m^3 and has been compliant for 4 years. There were also no measured exceedances of the 1-hour Air Quality Objective during 2024 by either of the automatic monitoring sites.

Table A.4 shows during 2024 all 67 diffusion tube monitoring sites recorded annual mean NO_2 concentrations below air quality target value of 40 µg/m^3, with SW181 tube site within 10% of the air quality objective/ target value. Most of the diffusion tube monitoring sites show a slight increase from the NO_2 annual mean concentrations recorded during the years 2021 and 2022. However, this will be due to the unprecedented impact of the Covid pandemic, where concentrations were untypically lower. A long-term slight decreasing trend is identified at most passive monitoring sites shown in figures A.2 to A.12 from 2023 to 2024. However, we are not seeing the drops we have seen in previous years. This may be still the rippling effects of the Covid pandemic and changes in vehicle fleets over the last 5 years might be flattening out. All diffusion tube monitoring sites were below 60 µg/m^3, indicating that an exceedance of the 1- hour mean objective is unlikely.

There were a few slight increases in NO_2 concentrations located around the Sittingbourne and Ospringe area when comparing data between 2023 and 2024. For example, a slight increase was observed from 23.7 µg/m³ to 25.6 µg/m³ at site SW147 located at Flats 1-20 St Michaels Road, Sittingbourne and site SW96 from 25.4 µg/m³ to 28 µg/m³ between 2023 and 2024 located at Maison Dieu, Ospringe Street. The increase could be due to additional traffic on the A2 caused by the M2 and A249 road closures and it could also be due to other environmental factors such as weather.

During 2024, the highest non-automatic NO_2 annual mean concentration recorded was at a new monitoring location at Boughton Bypass Hillside Gate, Gate House Slip, Dunkirk, with tube site SW181 recording the NO_2 annual mean concentration of 36.1µg/m³. A tube was deployed at this site because there is a nearby receptor located along the Boughton bypass.

Regarding AQMAs, diffusion tube monitoring during 2024 recorded NO_2 annual mean concentrations below air quality target value of 40 µg/m^3 at all sites SW19 (24.8 µg/ m³),

SW42 (27.3 µg/ m³), SW66 (20.2 µg/ m³), SW78 (22.4 µg/ m³), SW167 triplicate (16.2 µg/ m³) within Newington (AQMA 1). Figure A.3 shows subject to 2022 peak there is a slight downward trend among most sites with a couple increases observed in 2024. Newington AQMA has been compliant for five consecutive years.

Diffusion tube monitoring during 2024 recorded NO_2 annual mean concentrations below air quality target value of 40 µg/m^3 at all sites SW28 (32.4 µg/ m³), SW29 (29.1 µg/ m³), SW30 triplicate (22.2 µg/ m³), SW31 (25.5 µg/ m³), SW96 (28 µg/ m³), SW171 (8.8 µg/ m³), SW120 (28.2 µg/ m³), SW135 (31.1 µg/ m³) within Ospringe (AQMA 2/6). Subject to the higher concentration in 2022 most sites shown in figure A.10 present a varying trend over the last five years with a slight increase in 2022 and 2024. Ospringe AQMA has been compliant for five consecutive years.

Diffusion tube monitoring during 2024 recorded NO_2 annual mean concentrations below air quality target value of 40 µg/m^3 at all sites SW56 (27.2 µg/ m³) SW151 (20.0 µg/ m³) and SW152 (21.6 µg/ m³) within East Street (AQMA 3). Most sites shown in figure A.7 show a decreasing trend from 2022. East Street AQMA has been compliant for five consecutive years with one of those years within 10% of the Air Quality Objective.

Diffusion tube monitoring during 2024 recorded NO_2 annual mean concentrations below air quality target value of 40 µg/m^3 at all sites SW51 (27.5 µg/ m³) and SW89 (27.1 µg/ m³) triplicate within St Pauls Street (AQMA 4). All sites shown in figure A.4 have decreased since 2022. St Pauls Street has been compliant for five consecutive years.

Additional monitoring sites were deployed in Teynham to increase confidence in the revocation of the AQMA. Diffusion tube monitoring during 2024 recorded NO_2 annual mean concentrations below air quality target value of 40 µg/m^3 at all sites SW153 (21.1 µg/m³), SW184 (15.5 µg/m³), SW80 (23.2 µg/m³), SW91 (25.6 µg/m³), SW182 (12.4 µg/m³), SW183 (23.7 µg/m³), SW186 (17.8 µg/m³) and SW187 (18 µg/m³) within Teynham (AQMA 5). Most sites shown in figure A.8 show a decreasing trend since 2022. A couple of tubes (SW80 and SW91) show a slight peak in 2024. Teynham AQMA has been compliant for seven consecutive years with one of those years within 10% of the Air Quality Objective.

Diffusion tube monitoring during 2024 recorded NO_2 annual mean concentrations below air quality target value of 40 µg/m^3 at all sites SW121 (28.9 µg/m³), SW124 (29.8 µg/m³), SW144 (26.5 µg/m³) and SW154 (28.1 µg/m³) within the Keycol Hill (AQMA 7) and all sites shown in figure A.6 show a decreasing trend since 2022. The Keycol Hill AQMA has been compliant for two consecutive years.

3.2.2 Particulate Matter (PM_{10})

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the air quality objective of 40µg/m^3.

Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

During 2024 there were no exceedances of the annual mean PM_{10} objective at all three automatic monitoring sites. Recorded concentrations were 37 µg/m^3 at ZW8 (St Paul's Street – AQMA 4) and 17 µg/m^3 at ZW10 (Newington – AQMA 1). The lowest annual mean PM_{10} concentration at ZM8 (St Paul's Street) was observed in 2020 (31.5 µg/ m³), and 2023 (33 µg/ m³), followed by an increase in 2024 (36.6 µg/ m³). Figure 13 shows an decrease in annual mean PM_{10} concentrations during 2023 (16.1 µg/ m³) is also observed in site ZM10 (Newington) with a slight increase in 2024 (17.3 µg/ m ³).

Since 2019 ZW8 (St Paul's Street - AQMA 4), subject to a slight decrease in 2023, the number of exceedances has increased continuously with 85 exceedances during 2024 (figure A.14). ZW8 has been non-compliant for the 24 – Hour PM_{10} AQS objective for six consecutive years. As discussed in section 2.1 the Councils Environmental Protection and Cleansing Teams are working together on various mitigation actions to reduce and monitor non-tail pipe emissions along St Paul's Street i.e., a 'deep clean' of the road, additional monitoring regime and road sweeping.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.8 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years. Monitoring for $PM_{2.5}$ was undertaken at existing sites ZW8 (St Paul's Street) and ZW10 (Newington). The 2024 recorded $PM_{2.5}$ concentrations at site ZW8 was 11 µg/m^3 and 9 µg/m^3 at ZW10. Shown in figure A.15 both sites have recorded a decreasing trend, within 5 years for ZW8 and 4 years for ZW10 when recording started in 2021.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Which AQMA? (1)	Monitoring Technique	Distance to Relevant Exposure (m) (2)	Distance to kerb of nearest road (m) (1)	Inlet Height (m)
ZW3	Swale Ospringe	Roadside	600360	160869	NO_2	Yes	AQMA 2/6	Chemiluminescent	0.5	1.7	2
0	St Paul's Street	Roadside	590264	164396	NO_2, PM_{10}, $PM_{2.5}$	Yes	AQMA 4	Chemiluminescent BAM x 2	9	2.5	3.2
ZW10	Newington	Roadside	585970	164787	NO_2, PM_{10}, $PM_{2.5}$	Yes	AQMA 1	Chemiluminescent BAM x 2	2.6	3.3	2.1

Notes:

(1) N/A if not applicable

(2) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
Isle of Sheppey										
SW86	Swale Foyer, Bridge Road, Sheerness	Roadside	591726	175018	NO_2	No		2.4	No	2.1
SW127	Lamp post o/s 14 Halfway, Halfway	Roadside	593151	172962	NO_2	No	9.0	2.5	No	2.1
SW128	Lamppost o/s 12a Queenborough Road, Halfway	Roadside	593092	172870	NO_2	No	3.0	1.5	No	2.1
SW133	159/161 High Street, Sheerness	Roadside	592208	174596	NO_2	No	0.5	1.5	No	2.0
SW164	Lamp post o/s 45 Minster Road, Halfway	Roadside	593292	172897	NO_2	No	4.0	1.1	No	1.9
SW166	Lower Road, Minster Nr Barton Hill Roundabout	Roadside	594021	171626	NO_2	No	20.0	1.5	No	2.0
SW170	Minster Road (132) Minster	Roadside	593822	172812	NO_2	No	1.6	2.0	No	2.0
SW169	Nettle Way, Thistle Hill Estate, Minster	Roadside	594599	171996	NO_2	No	1.9	2.0	No	1.9
Newington										

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SW19	5 High Street, Newington	Roadside	585904	164794	NO_2	Yes - AQMA 1	5.0	1.0	No	2.1
SW42	A2 Newington opposite Church Lane	Roadside	585935	164787	NO_2	Yes - AQMA 1	0.0	1.3	No	2.1
SW66	A2 Newington O/S 94 High Street, Newington	Roadside	586080	164746	NO_2	Yes - AQMA 1	0.0	1.1	No	2.3
SW78	55-57 High Street, Newington	Roadside	585951	164792	NO_2	Yes - AQMA 1	0.0	2.2	No	1.9
SW167.1, SW167.2, SW167.3	Newington Air Quality Station	Roadside	585970	164788	NO_2	Yes - AQMA 1	4.0	3.2	Yes	1.0
St Pauls Street										
SW51	O/S 14/16 St Pauls Street, Sittingbourne	Roadside	590236	164408	NO_2	Yes - AQMA 4	0.5	2.0	No	2.0
SW89.1, SW89.2, SW89.3	St Pauls AQ Station, St Pauls Street, Milton	Roadside	590252	164397	NO_2	Yes - AQMA 4	11.1	1.9	Yes	2.3
Sittingbourne and Iwade										
SW185	Lamp post 2 The Street, Iwade	Roadside	590090	167912	NO_2	No	4.0	2.4	No	2.0
SW71	O/S 8 Staple Close, Staplehurst Road, Sittingbourne	Roadside	590098	164455	NO_2	No	4.4	3.3	No	1.8

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SW140	Lamp post 36/38 Chalkwell Road, Sittingbourne	Roadside	590079	164367	NO_2	No	0.0	1.1	No	2.0
SW141	Drainpipe 37/39 Chalkwell Road, Sittingbourne	Roadside	590071	164375	NO_2	No	0.0	1.6	No	2.1
SW162	Lamp post 1 Staplehurst Road, Sittingbourne B2006 Staplehurst Link Road	Roadside	590093	164438	NO_2	No	20.0	1.6	No	2.1
Keycol Hill										
SW121	Squirrel Cottage, Keycol Hill façade	Roadside	587936	164267	NO_2	Yes - AQMA 7	0.0	9.3	No	2.1
SW124	31/33 Keycol Hill, Sittingbourne	Roadside	587775	164320	NO_2	Yes - AQMA 7	0.0	1.5	No	1.8
SW144	3/5 Keycol Hill, Sittingbourne	Roadside	587917	164277	NO_2	Yes - AQMA 7	0.0	4.8	No	2.0
SW154	Bus stop o/s 9/11 Keycol Hill, Sittingbourne	Roadside	587874	164292	NO_2	No	9.0	1.5	No	2.2
Sittingbourne, Murston and Tunstall										
SW158	Lamp post Mill Way o/s Sanctuary Homes (Milton Pipes)	Roadside	590494	164416	NO_2	No	12.0	2.9	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	Site , Sittingbourne									
SW159	Lamp post junction Gas Road & Mill Way, Sittingbourne	Roadside	590567	164439	NO_2	No	40.0	1.8	No	2.0
SW163	Lamp post Opp Regent Park, Eurolink Way, Sittingbourne	Roadside	590850	163852	NO_2	No	30.0	2.2	No	2.1
SW147	Flats 1-20 St Michaels Road, Sittingbourne	Roadside	590370	163877	NO_2	No	1.0	4.0	No	2.0
SW176	Lamp post BB013 o/s 34 Bell Road, Sittingbourne	Roadside	590892	163297	NO_2	No	12.0	1.7	No	2.0
SW172	Murston Road (25) Murston, Sittingbourne	Roadside	591800	163523	NO_2	No	7.0	2.9	No	2.1
SW173	Tonge Road (Homeview) Murston, Sittingbourne	Roadside	591878	163841	NO_2	No	3.0	1.1	No	2.0
SW174	Ruins Barn Road, Tunstall, Sittingbourne	Roadside	590257	161893	NO_2	No	6.2	1.7	No	2.0
SW177	Lamp post ETCU111 o/s Hemspted House, A2 London Road, Bapchild	Roadside	593295	163037	NO_2	No	1.0	0.9	No	2.5

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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
East Street and Bapchild										
SW56	126 East Street, Sittingbourne	Roadside	591453	163465	NO_2	Yes - AQMA 3	0.0	3.1	No	2.0
SW151	Lamp post outside Beatrice Lodge, London Road, Sittingbourne	Roadside	591515	163451	NO_2	No	6.0	1.6	No	2.0
SW152	Lamp post o/s 157/159 East Street, Sittingbourne	Roadside	591423	163484	NO_2	Yes - AQMA 3	4.0	1.8	No	2.0
Teynham										
SW153	Lamp post o/s 190/192 London Road, Teynham	Roadside	594748	162602	NO_2	No	1.5	1.5	No	1.9
SW184	144 London Road, Teynham	Roadside	594869	162559	NO_2	No	1.0	1.5	No	2.1
SW80	LTR Supplies, 107, London Road, Teynham	Roadside	595155	162472	NO_2	Yes - AQMA 5	0.6	1.5	No	1.8
SW91	Adjacent to 72 London Road, Teynham	Roadside	595150	162461	NO_2	Yes - AQMA 5	0.0	2.4	No	1.8
SW182	40 London Road, Teynham	Roadside	595274	162421	NO_2	No	1.0	4.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SW183	27 London Road, Teynham	Roadside	595447	162383	NO_2	No	0.7	1.0	No	2.0
SW186	Lamp post ELDI015 143 London Road, Teynham	Roadside	594993	162525	NO_2	No	1.0	1.5	No	2.0
SW187	Lamp post 52 London Road, Teynham	Roadside	595234	162435	NO_2	No	1.0	2.8	No	2.0
Ospringe										
SW28	Mayors Arms, Ospringe Street, Faversham	Roadside	600225	160887	NO_2	Yes - AQMA 2/6	0.0	1.5	No	2.4
SW29	43 Ospringe Street, Faversham	Roadside	600286	160868	NO_2	Yes - AQMA 2/6	0.0	2.4	No	2.1
SW30.1, SW30.2, SW30.3	Ospringe AQ Station	Roadside	600363	160869	NO_2	Yes - AQMA 2/6	1.7	2.5	Yes	2.1
SW31	4 Ospringe Street, Faversham	Roadside	600444	160848	NO_2	Yes - AQMA 2/6	0.0	1.5	No	2.5
SW96	Maison Dieu, Ospringe Street	Roadside	600358	160859	NO_2	Yes - AQMA 2/6	0.0	1.5	No	2.3
SW171	Water Lane, Ospringe	Roadside	600338	160805	NO_2	No	1.7	2.0	No	2.3
SW120	1-3 Ospringe Street, Ospringe, Faversham	Roadside	600456	160836	NO_2	Yes - AQMA 2/6	0.0	1.4	No	2.3

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) [1]	Distance to kerb of nearest road (m) [2]	Tube Co-located with a Continuous Analyser?	Tube Height (m)
SW135	Lamp post outside 31/33 Ospringe Street, Ospringe	Roadside	600326	160860	NO_2	No	0.5	2.5	No	2.0
Faversham and Boughton										
SW178	Lamp post Abbey House, 20 East Street, Faversham	Roadside	601837	161287	NO_2	No	1.4	1.5	No	1.9
SW179	Lamp post LC004 26 London Road, Faversham	Roadside	601246	160624	NO_2	No	6.0	1.0	No	2.0
SW139	14 Crescent Road, Faversham	Roadside	601706	161338	NO_2	No	10.0	1.1	No	2.2
SW168	Western Link Road - Davington Fields Roundabout	Roadside	600001	161622	NO_2	No	8.0	1.7	No	2.0
SW180	Lamp post ECGW5 Boughton Bypass Forge Cottage, London Road Dunkirk (Canterbury Bound)	Roadside	608781	158807	NO_2	No	11.0	1.0	No	1.9
SW181	Lamp post Boughton Bypass Hillside Gate, Gate House Slip,	Roadside	609178	158730	NO_2	No	12.0	1.7	No	1.9

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	Dunkirk (Faversham Bound)									
Rural and Urban Background										
SW07	Capel Hill Farm, Harty	Rural	600758	169576	NO_2	No	5.0		No	1.7
SW34	Hernhill Village Hall, Hernhill	Rural	606624	161108	NO_2	No	0.0	0.0	No	2.1
SW07	Capel Hill Farm, Harty	Rural	600758	169576	NO_2	No	5.0		No	1.7
SW88	Sonora Way, Sittingbourne	Urban Background	589318	165045	NO_2	No	5.8	1.8	No	2.0

Notes:

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

(2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ZW3 (Ospringe)	600363	160869	Roadside	100	100	25.1	23.5	24.8	20.9	20.3
ZW8 (St Paul's Street)	590252	164397	Roadside	92	92	31.6	30.6	30.4	26.5	26.4
ZW10 (Newington)	585970	164788	Roadside	99	99	-	22.6	21.9	20.3	17.6

☒ **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_2 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 2024.**

Notes:

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

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

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

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

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

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

Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
Isle of Sheppey										
SW86	591726	175018	Roadside	91	91	21.5	23.1	24.0	21.1	19.7
SW127	593151	172962	Roadside	91	91	22.4	23.4	23.7	22.7	18.8
SW128	593092	172870	Roadside	83	83	27.0	27.4	25.2	23.4	20.8
SW133	592208	174596	Roadside	100	100	22.5	25.0	25.2	21.6	20.9
SW164	593292	172897	Roadside	100	100		21.6	19.2	19.5	18.4
SW166	594021	171626	Roadside	100	100			23.1	20.4	20.3
SW170	593822	172812	Roadside	66	66				20.7	19.5
SW169	594599	171996	Roadside	100	100				13.7	12.4
Newington										
SW19	585904	164794	Roadside	100	100	27.0	27.9	29.3	27.1	24.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
SW42	585935	164787	Roadside	100	100	31.5	33.1	35.8	30.6	27.3
SW66	586080	164746	Roadside	100	100	26.9	26.4	26.9	25.3	20.2
SW78	585951	164792	Roadside	100	100	25.4	26.9	30.1	24.3	22.4
SW167.1, SW167.2, SW167.3	585970	164788	Roadside	100	100			19.9	17.8	16.2
St Paul's Street										
SW51	590236	164408	Roadside	100	100	32.4	34.4	32.7	29.3	27.5
SW89.1, SW89.2, SW89.3	590252	164397	Roadside	100	100	32.3	31.9	31.7	26.6	27.1
Sittingbourne and Iwade										
SW185	590090	167912	Roadside	83	83					16.4
SW71	590098	164455	Roadside	100	100	27.6	28.9	29.4	25.8	26.0
SW140	590079	164367	Roadside	93	93	26.1	31.8	31.6	28.9	27.3
SW141	590071	164375	Roadside	100	100	27.0	27.9	29.9	30.0	25.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
SW162	590093	164438	Roadside	91	91		29.4	27.1	26.4	24.9
Keycol Hill										
SW121	587936	164267	Roadside	100	100	33.9	34.6	34.4	30.0	28.9
SW124	587775	164320	Roadside	100	100	34.8	36.9	39.1	32.8	29.8
SW144	587917	164277	Roadside	100	100	32.9	33.7	34.6	28.1	26.5
SW154	587874	164292	Roadside	100	100	34.0	34.7	36.5	32.9	28.1
Sittingbourne, Murston and Tunstall										
SW158	590494	164416	Roadside	100	100		33.8	34.1	31.3	30.2
SW159	590567	164439	Roadside	100	100		30.3	30.6	27.5	25.6
SW163	590850	163852	Roadside	100	100		27.1	26.7	24.7	22.7
SW147	590370	163877	Roadside	100	100	26.4	27.7	26.8	23.7	25.6
SW176	590892	163297	Roadside	100	100					16.2
SW172	591800	163523	Roadside	100	100				17.7	17.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
SW173	591878	163841	Roadside	75	75				19.0	17.8
SW174	590257	161893	Roadside	100	100				12.2	11.7
SW177	593295	163037	Roadside	100	100					24.5
East Street										
SW56	591453	163465	Roadside	100	100	27.6	30.0	30.8	27.9	27.2
SW151	591515	163451	Roadside	75	75	19.0	20.9	23.9	17.9	20.0
SW152	591423	163484	Roadside	100	100	23.9	25.6	23.3	21.3	21.6
Teynham										
SW153	594748	162602	Roadside	100	100	23.8	21.5	23.9	21.7	21.1
SW184	594869	162559	Roadside	100	100					15.5
SW80	595155	162472	Roadside	93	93	26.1	25.3	26.7	20.3	23.2
SW91	595150	162461	Roadside	70	70	23.7	24.7	28.3	23.3	25.6
SW182	595274	162421	Roadside	93	93					12.4

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
SW183	595447	162383	Roadside	59	59					23.7
SW186	594993	162525	Roadside	66	66					17.8
SW187	595234	162435	Roadside	83	83					18.0
Ospringe										
SW28	600225	160887	Roadside	100	100	34.0	34.3	38.1	31.0	32.4
SW29	600286	160868	Roadside	100	100	30.4	29.0	32.7	28.6	29.1
SW30.1, SW30.2, SW30.3	600363	160869	Roadside	100	100	22.3	23.0	25.7	23.0	22.2
SW31	600444	160848	Roadside	100	100	27.8	30.0	32.4	26.6	25.5
SW96	600358	160859	Roadside	100	100	27.9	26.7	32.8	25.4	28.0
SW171	600338	160805	Roadside	100	100				9.3	8.8
SW120	600456	160836	Roadside	91	91	29.9	29.4	32.8	27.4	28.2
SW135	600326	160860	Roadside	100	100	31.6	30.6	35.3	30.4	31.1
Faversham and Boughton										

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
SW178	601837	161287	Roadside	75	75					17.8
SW179	601246	160624	Roadside	81	81					21.5
SW139	601706	161338	Roadside	100	100	21.5	23.8	24.1	21.3	18.8
SW168	600001	161622	Roadside	75	75			23.7	19.0	17.7
SW180	608781	158807	Roadside	91	91					27.9
SW181	609178	158730	Roadside	100	100					36.1
Rural and Urban rural										
SW34	606624	161108	Rural	91	91	8.0	7.3	8.5	7.5	6.7
SW88	589318	165045	Urban Background	75	75	14.6	16.3	16.5	14.3	13.9
SW07	600758	169576	Rural	100	100	8.3	7.7	8.0	7.3	7.2

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

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

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

Notes:

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

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

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

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

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

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations at the automatic monitoring sites

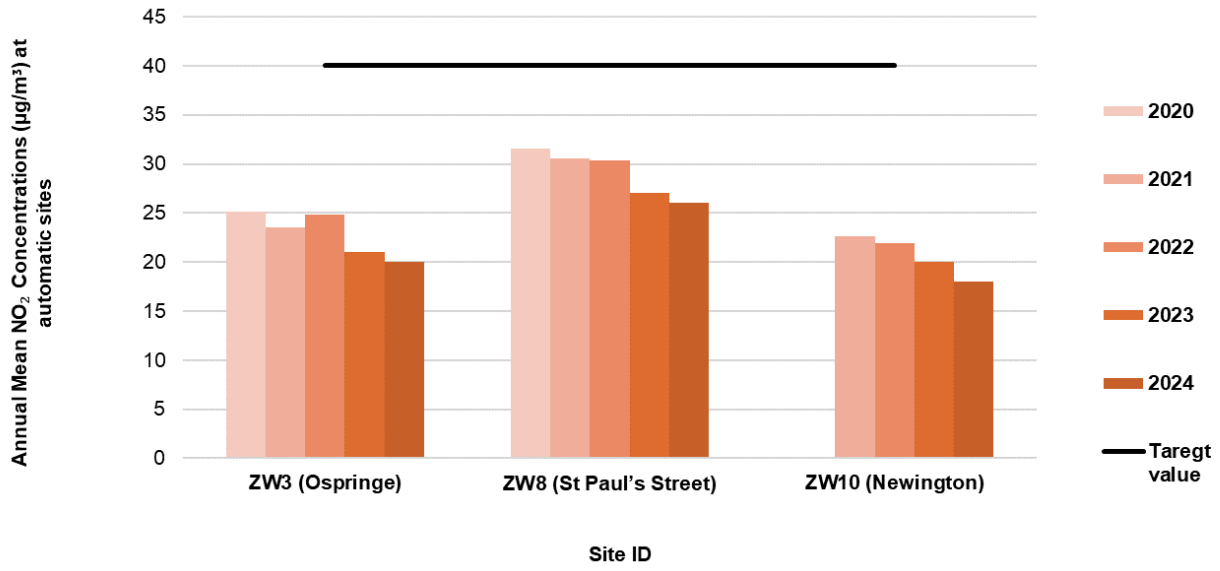


Figure A.1 presents NO_2 annual mean concentrations for sites ZW3, ZW8 and ZW10 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced across the sites.

Figure A.2 – Trends in Annual Mean NO_2 Concentrations within the Isle of Sheppey

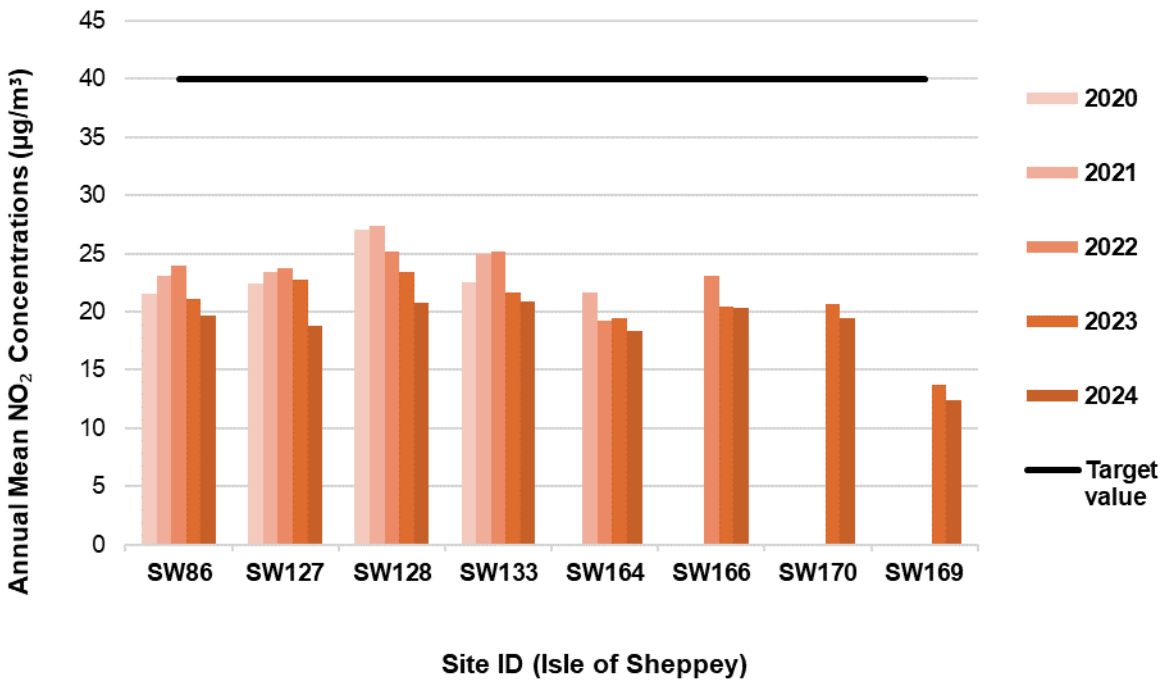


Figure A.2 presents the NO_2 annual mean concentrations for sites SW86, SW127, SW128, SW133, SW164, SW165, SW166, SW170 and SW169 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced across most sites.

Figure A.3 – Trends in Annual Mean NO_2 Concentrations within Newington (AQMA1)

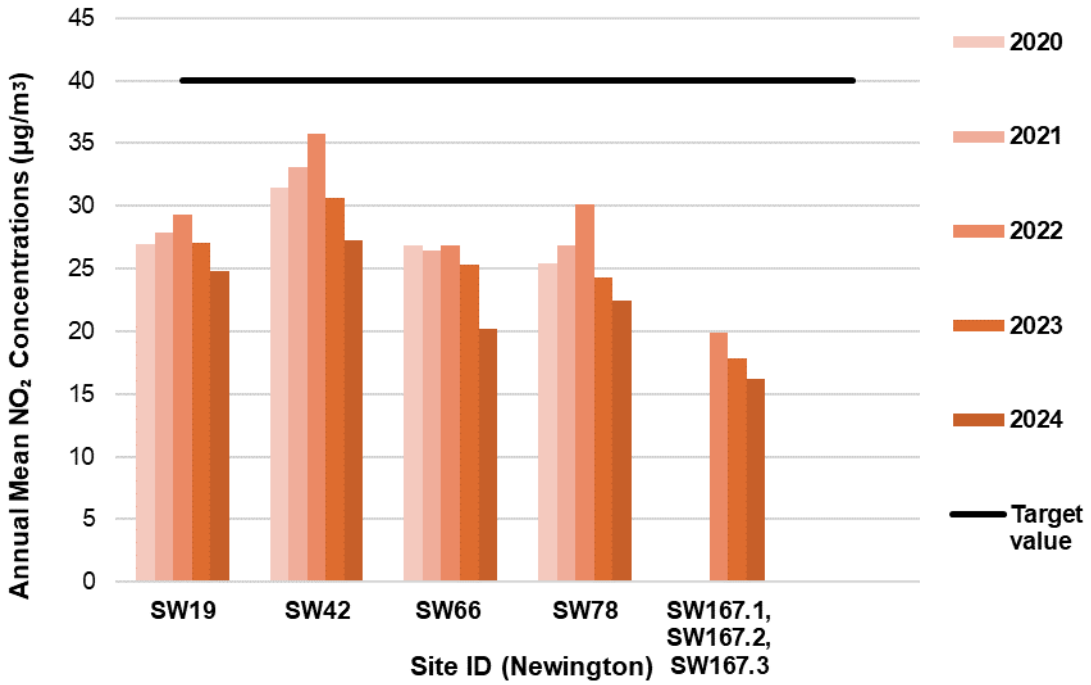


Figure A.3 presents the NO_2 annual mean concentrations for sites SW19, SW42, SW66, SW78 and SW167 triplicates between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there. present a varying trend over the last five years with a slight increase in 2022 and 2024.

Figure A.4 – Trends in Annual Mean NO_2 Concentrations within St Paul's Street (AQMA 4)

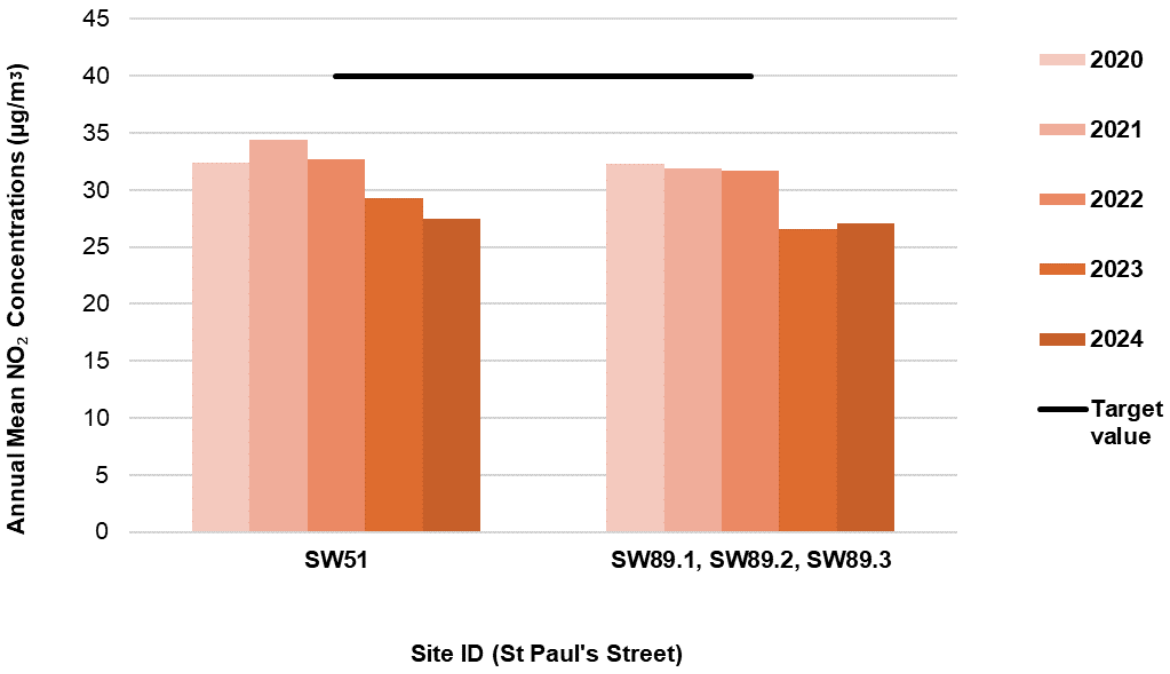


Figure A.4 presents the NO_2 annual mean concentrations for sites SW51 and SW89 (1,2, and 3) triplicates between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced across the sites.

Figure A.5 – Trends in Annual Mean NO_2 Concentrations within Sittingbourne and Iwade

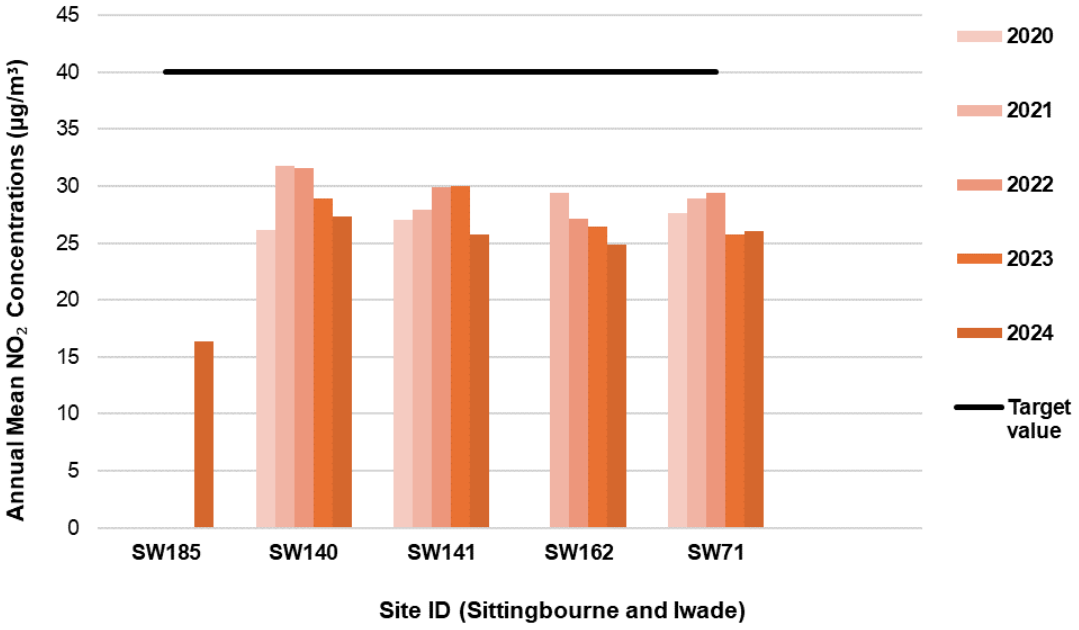


Figure A.5 presents the NO_2 annual mean concentrations for sites SW185, SW140, SW141, SW162 and SW71 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a varying trend with some increases occurring during 2021 and 2022 at site SW140 and SW71. Site SW162 shows a downward trend over the five years. SW141 sites shows a slight increase in 2022 and 2023 followed by a decrease in 2024.

Figure A.6 – Trends in Annual Mean NO_2 Concentrations within Keycol Hill (AQMA 7)

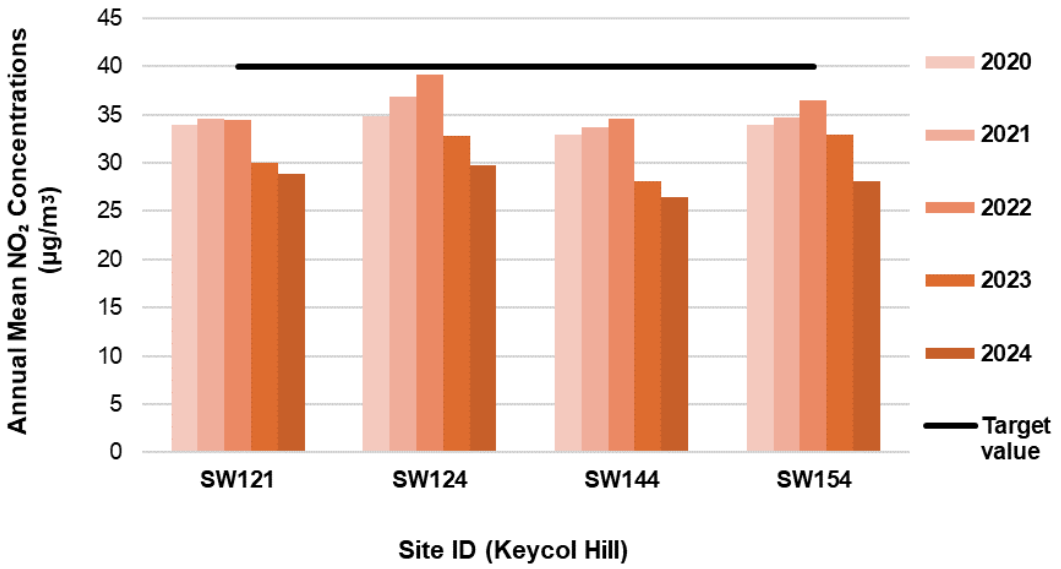


Figure A.6 presents the NO_2 annual mean concentrations for sites SW121, SW124, SW144, and SW154 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced across most sites. An increase is observed during 2022 in sites SW124, SW144 and SW154.

Figure A.7 – Trends in Annual Mean NO_2 Concentrations within East Street (AQMA 3)

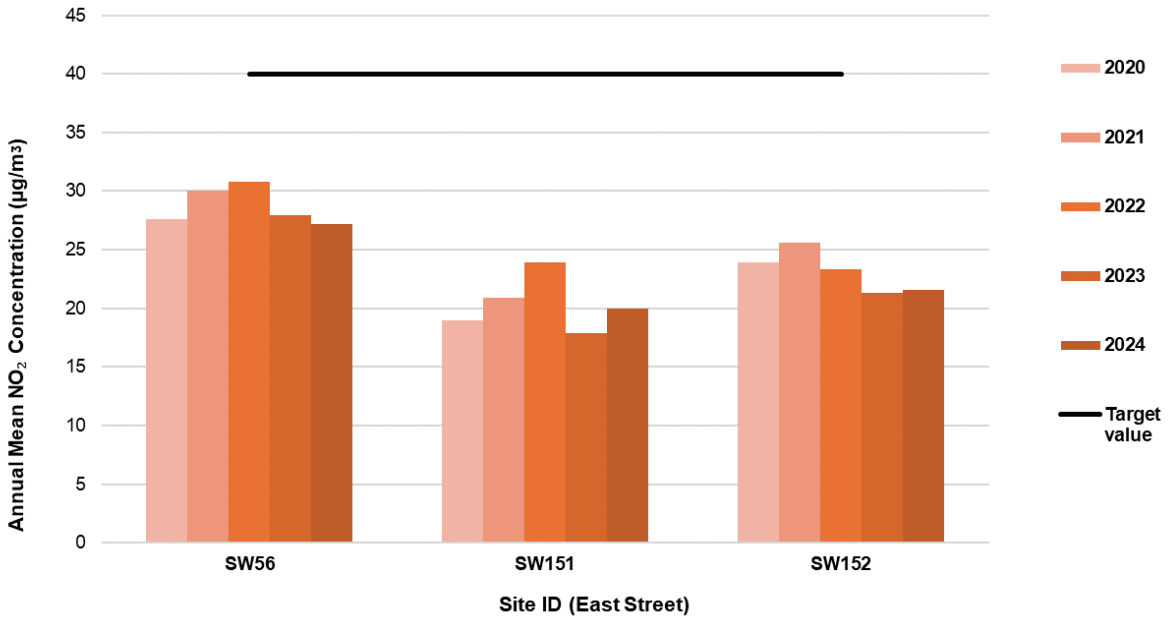


Figure A.7 presents the NO_2 annual mean concentrations for sites SW56, SW151 and SW152 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced across sites since 2022 with a slight increase in site SW151 and SW152 during 2024.

Figure A.8 – Trends in Annual Mean NO_2 Concentrations within Teynham (AQMA 5)

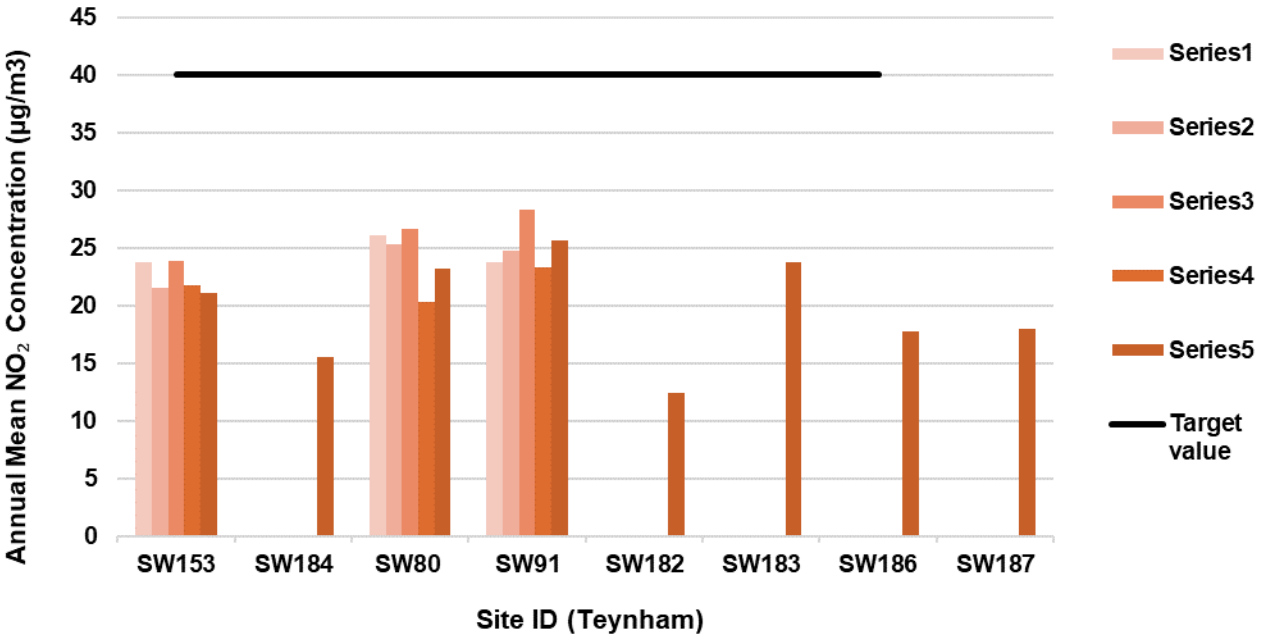


Figure A.8 presents the NO_2 annual mean concentrations for sites SW153, SW184, SW80, SW91, SW182, SW183, SW186 and SW187 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced since 2022 across sites. A slight increase is observed at sites SW80 and SW91.

Figure A.9 – Trends in Annual Mean NO_2 Concentrations within Sittingbourne, Murston and Tunstall

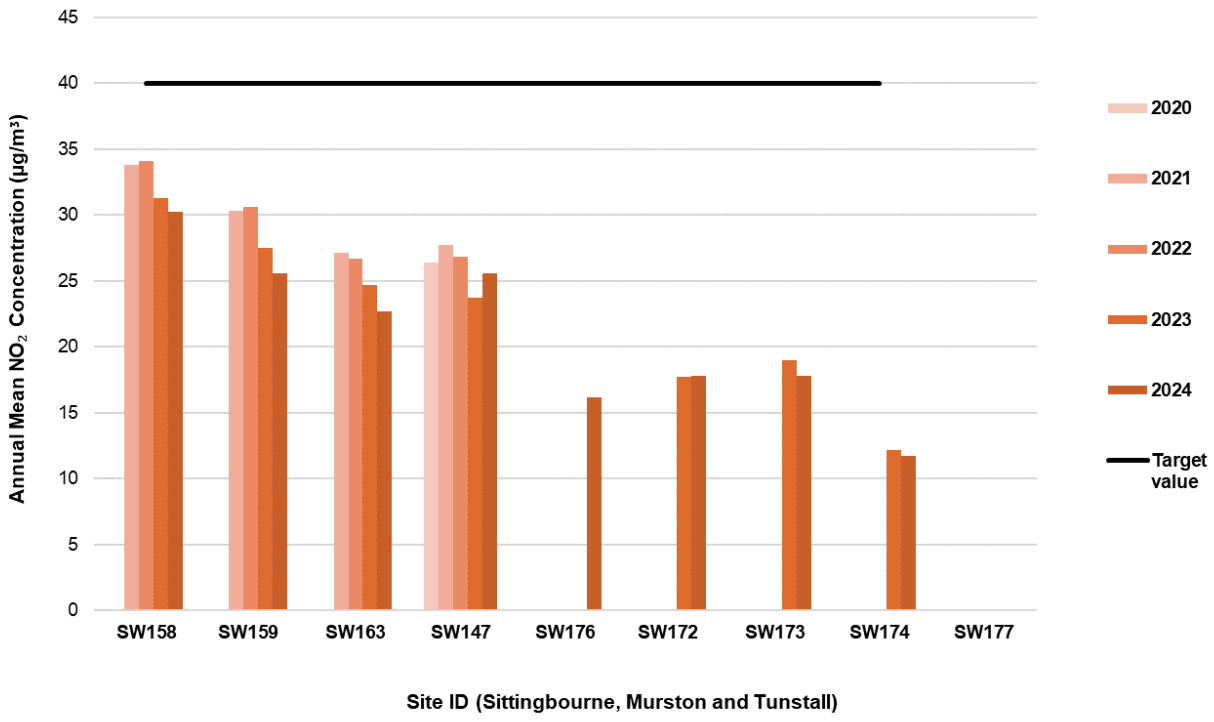


Figure A.9 presents the NO_2 annual mean concentrations for sites SW158, SW159, SW163, SW147, SW176, SW172, SW173, SW174, and SW177 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is a general trend of reduction experienced across sites from previous years. A slight increase is observed in site SW147.

Figure A.10 – Trends in Annual Mean NO_2 Concentrations within Ospringe (AQMA 2/6)

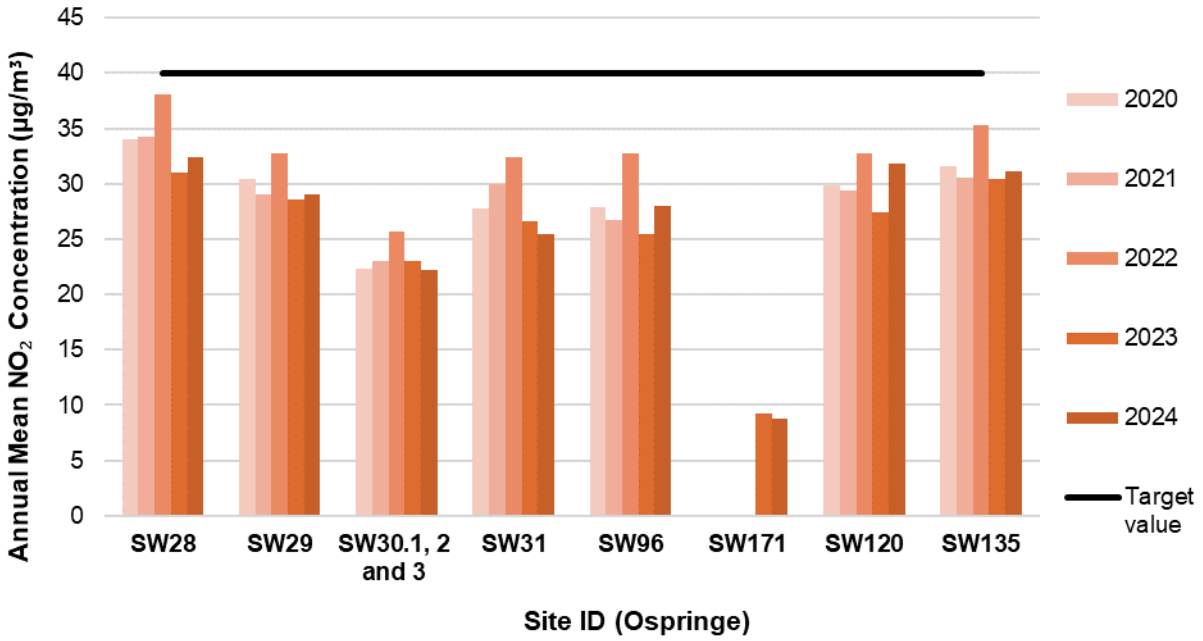


Figure A.10 presents the NO_2 annual mean concentrations for sites SW28, SW29, SW30.1, 2 and 3, SW31, SW96, SW171, SW120 and SW135 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024. There is a slight increase in five sites (SW28, SW29, SW96, SW120 and SW35) though a general trend of reduction from 2022 is experienced across sites.

Figure A.11– Trends in Annual Mean NO_2 Concentrations within Faversham and Boughton

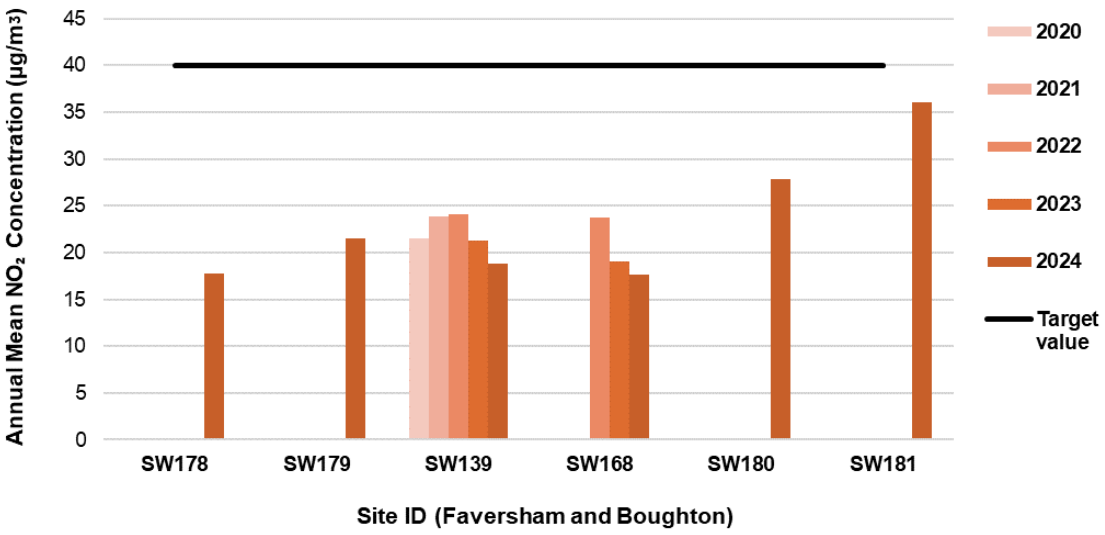


Figure A.11 presents the NO_2 annual mean concentrations for sites SW178, SW179, SW139, SW168, SW180 and SW181 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024. Site SW181 concentration of 36.1µg/m3 is within 10% of the annual mean NO_2 objective. There is a general trend of reduction experienced across SW139 and SW168 sites.

Figure A.12 – Trends in Annual Mean NO_2 Concentrations within Rural and Urban Rural sites

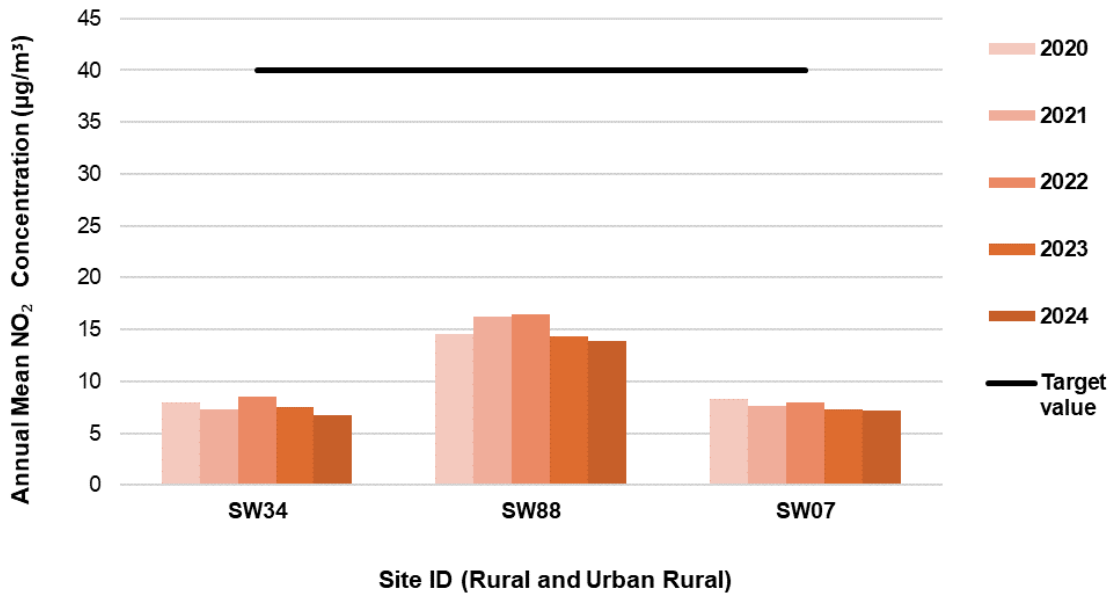


Figure A.12 presents the NO_2 annual mean concentrations for sites SW34, SW88 and SW07 between years 2020 to 2024. There are no exceedances of the annual mean objective in 2024 and there is general trend of a slight reduction experienced across sites since 2022.

Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ZW3 (Ospringe)	600363	160869	Roadside	100.0	100.0	0	1	0	0	0
ZW8 (St Paul's Street)	590252	164397	Roadside	92.0	92.0	0	0	0	0	0
ZW10 (Newington)	585970	164788	Roadside	99.0	99.0	-	0	0	0	0

Notes:

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

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 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%).

Table A.6 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ZM8 (St Paul's Street)	590252	164397	Roadside	98.0	98.0	31.5	37.1	37.5	32.2	36.6
ZM10 (Newington)	585970	164788	Roadside	97.0	97.0	-	17.1	18.2	16.1	17.3

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

Notes:

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

Exceedances of the PM_{10} annual mean objective of 40$\mu g/m^3$ 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.13 – Trends in Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

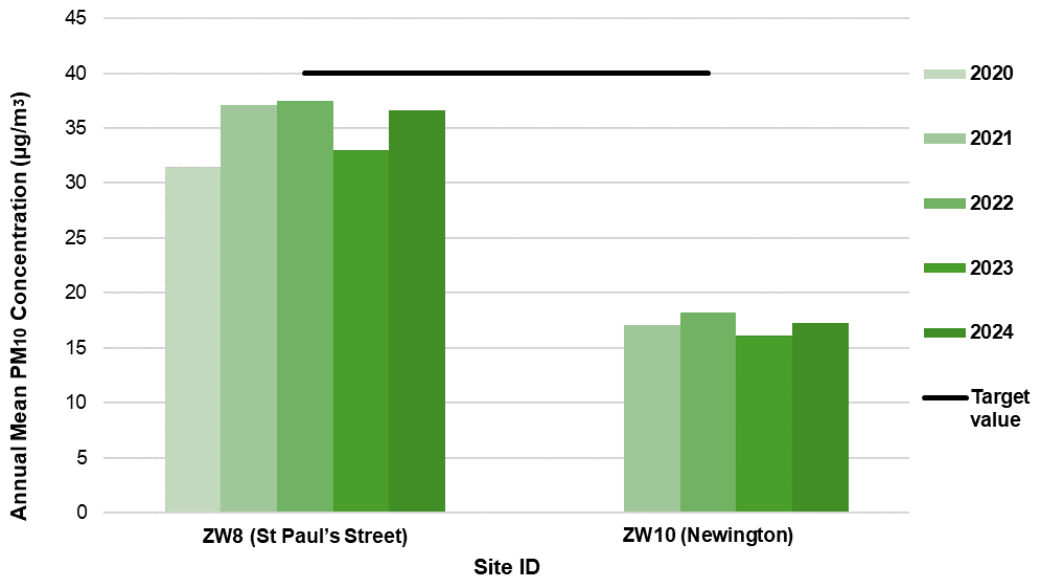


Figure A.13 presents the PM_{10} annual mean concentrations for sites ZW8 and ZW10 between years 2020 to 2024. There are no exceedances of the PM_{10} annual mean objective during 2024. Site ZM8 shows an increase from 33 to 36.6 $\mu g/m^3$ from 2023 and 2024, and within the five years there is an overall increasing trend. With a slight increase in years 2022 and 2024, there is no significant change in concentrations at site ZW10.

Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ZW8 (St Paul's Street)	590252	164397	Roadside	98	98	**59**	**59**	**62**	**42**	**85**
ZW10 (Newington)	585970	164788	Roadside	97	97	-	0	5	0	2

Notes:

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

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 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.14 – Trends in Number of 24-Hour Mean PM_{10} Results > 50 µg/m^3

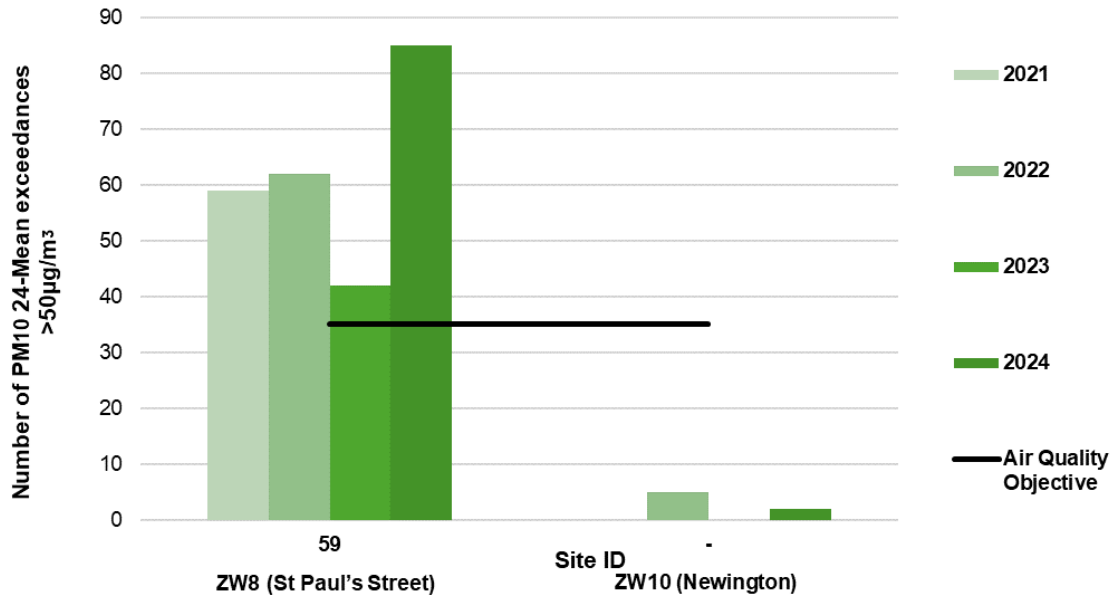


Figure A.14 presents the PM_{10} 24-Hour Means above 50µg/m^3 for sites ZW8 and ZW10 between years 2020 to 2024. Over the five years ZW8 at St Paul's Street (AQMA 4) has continued to exceed the air quality objective PM_{10} 24-Hour Means above 50µg/m^3, with the highest concentration recorded in 2024. At ZW8 site an overall increasing trend is observed subject to a lower concentration recorded in 2023. Over the two years of monitoring at ZW10 there has been a decrease in concentrations and no exceedances at the site.

Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
ZM8 (St Paul's Street)	590252	164397	Roadside	92.0	92.0	13.1	11.3	11.5	11.6	10.11
ZM10 (Newington)	585970	164787	Roadside	95.0	95.0	-	11.8	12.4	12.1	9.5

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

Notes:

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

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.15 – Trends in Annual Mean $PM_{2.5}$ Concentrations

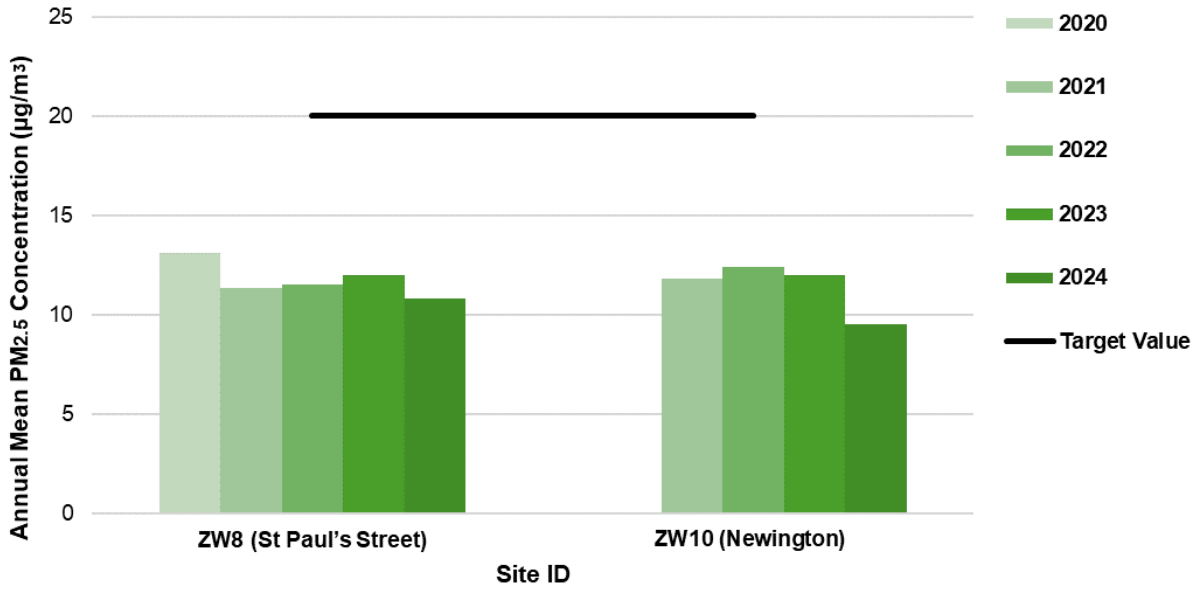


Figure A 15 presents the trends in Annual Mean $PM_{2.5}$ concentrations. Both sites have recorded a slight downward trend over the 5 years for ZW8 subject to a slight increase in 2023 and 4 years with a slight increase 2022 for ZW10 when recording started in 2021.

Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.79)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
Isle of Sheppey																		
SW86	591726	175018	28.7	24.2	24.9	24.7	27.0	23.4	24.2		29.6	19.5	29.7	18.0	24.9	19.7	-	
SW127	593151	172962	15.4	32.8	26.1	27.4	27.8	23.0	21.4	23.4	24.4		22.4	17.3	23.8	18.8	-	
SW128	593092	172870	32.3	24.2	25.2		32.9	25.2	22.6	22.9	26.8		30.8	20.2	26.3	20.8	-	
SW133	592208	174596	33.5	28.7	23.7	25.8	25.3	25.4	21.3	21.5	23.6	28.8	35.5	24.6	26.5	20.9	-	
SW164	593292	172897	28.7	27.9	27.4	25.8	21.9	21.1	18.2	22.7	19.0	23.8	24.7	18.7	23.3	18.4	-	
SW166	594021	171626	29.5	27.1	29.5	22.0	25.8	24.2	26.0	25.9	27.1	24.8	28.5	18.7	25.8	20.3	-	
SW170	593822	172812	31.0		29.0	22.9	25.5	18.4	18.4	18.8		24.8			23.6	19.5	-	
SW169	594599	171996	18.7	18.3	19.1	14.0	16.9	14.1	13.7	11.1	14.1	15.1	21.9	11.7	15.7	12.4	-	
Newington																		
SW19	585904	164794	36.3	35.8	36.3	21.9	32.6	31.3	28.8	29.5	28.0	35.2	38.2	22.7	31.4	24.8	-	
SW42	585935	164787	34.3	35.0	30.2	30.8	38.3	37.4	33.6	31.6	32.9	41.0	43.2	27.2	34.6	27.3	-	
SW66	586080	164746	31.5	25.8	30.2	23.1	26.3	25.6	26.6	26.0	22.1	24.0	21.5	24.7	25.6	20.2	-	
SW78	585951	164792	32.4	25.5	29.6	23.5	36.0	29.5	24.9	23.3	23.8	31.4	36.6	23.9	28.4	22.4	-	
SW167.1	585970	164788	26.3		23.3	18.3	22.1	19.3	17.8	17.8	11.1	22.8	26.9	13.6	-	-	-	Triplicate Site with SW167.1, SW167.2 and SW167.3 - Annual data provided for SW167.3 only
SW167.2	585970	164788	26.3	24.3	20.4	17.9	20.9	20.1	18.2	16.2	18.0	22.9	25.5	14.6	-	-	-	Triplicate Site with SW167.1, SW167.2 and SW167.3 - Annual data provided for SW167.3 only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.79)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SW167.3	585970	164788	26.4		23.6	17.2	22.0	21.3	17.8	18.0	18.8	22.1	23.6	12.6	20.5	16.2	-	Triplicate Site with SW167.1, SW167.2 and SW167.3 - Annual data provided for SW167.3 only
St Paul's Street																		
SW51	590236	164408	44.5	35.9	36.0	30.7	27.1	35.9	31.0	28.9	40.6	39.1	46.5	21.7	34.8	27.5	-	
SW89.1	590252	164397	35.7	37.3	41.1	27.4	38.4	32.3		35.6	35.2	28.3	38.6	22.2	-	-	-	Triplicate Site with SW89.1, SW89.2 and SW89.3 - Annual data provided for SW89.3 only
SW89.2	590252	164397	39.1	37.8	23.5	27.7	41.2	35.1	28.8	33.7	34.5	35.6	39.9	25.5	-	-	-	Triplicate Site with SW89.1, SW89.2 and SW89.3 - Annual data provided for SW89.3 only
SW89.3	590252	164397	37.4	40.0	41.9	28.0	40.6	34.9	34.4	32.7	36.6	40.2	40.2	20.6	34.3	27.1	-	Triplicate Site with SW89.1, SW89.2 and SW89.3 - Annual data provided for SW89.3 only
Sittingbourne and Iwade																		
SW185	590090	167912	24.8	21.2	28.0	17.6	22.7	16.9	15.7			19.4	26.3	14.8	20.7	16.4	-	
SW71	590098	164455	40.5	25.6	30.6	28.6	35.6	32.1	28.0	30.1	32.9	40.3	42.9	27.8	32.9	26.0		
SW140	590079	164367		49.6	42.7	24.7	42.1	32.3	26.3	29.3	35.7	38.8	40.9	17.4	34.5	27.3	-	
SW141	590071	164375	38.2	33.1	34.1	29.2	39.3	32.2	26.8	26.2	35.6	34.8	42.9	20.1	32.7	25.8	-	
SW162	590093	164438	34.1	34.0	36.4	25.3	24.3	31.8	27.6		33.0	30.0	38.5	31.6	31.5	24.9	-	
Keycol Hill																		
SW121	587936	164267	38.7	41.6	36.1	33.1	38.7	41.7	33.9	38.7	34.4	34.3	37.9	30.0	36.6	28.9	-	
SW124	587775	164320	38.6	39.4	43.7	34.5	42.3	40.4	37.6	37.2	20.3	42.4	52.1	24.8	37.8	29.8	-	
SW144	587917	164277	36.3	39.9	39.7	29.5	36.8	35.9	34.1	35.2	23.3	30.5	38.5	22.5	33.5	26.5	-	
SW154	587874	164292	34.2	36.4	40.1	28.1	41.1	34.9	29.0	29.7	41.2	44.8	45.5	22.5	35.6	28.1	-	
Sittingbourne, Murston and Tunstall																		
SW158	590494	164416	40.5	41.2	42.3	26.2	42.7	37.0	34.9	33.6	39.3	44.1	44.3	32.5	38.2	30.2	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(0.79)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
SW159	590567	164439	39.8	35.2	35.4	26.1	35.6	30.9	25.8	30.7	23.8	36.2	43.9	25.5	32.4	25.6	-	
SW163	590850	163852	27.0	26.6	34.6	22.2	23.5	32.1	31.5	30.7	29.2	34.4	36.5	17.2	28.8	22.7	-	
SW147	590370	163877	38.2	38.0	39.2	23.2	32.9	30.6	32.1	30.3	29.0	31.3	41.1	23.3	32.4	25.6	-	
SW176	590892	163297	29.7	21.5	21.9	20.7	15.0	17.3	17.3	15.7	21.8	21.7	24.2	19.5	20.5	16.2	-	
SW172	591800	163523	29.0	22.3	22.2	19.5	22.0	19.7	19.1	18.9	22.8	22.8	33.7	18.8	22.6	17.8	-	
SW173	591878	163841	28.3	25.1		16.5	15.2	19.6	19.3		24.0		33.2	22.2	22.6	17.8	-	
SW174	590257	161893	18.6	15.0	16.9	11.0	10.9	11.1	12.3	12.0	14.2	15.6	22.0	18.4	14.8	11.7	-	
SW177	593295	163037	34.0	31.7	40.3	24.9	36.5	28.9	24.5	25.0	30.1	37.4	37.2	22.6	31.1	24.5	-	
East Street																		
SW56	591453	163465	32.9	39.2	41.4	31.1	37.6	33.5	34.0	31.8	35.6	40.1	33.9	22.0	34.4	27.2	-	
SW151	591515	163451	28.6	24.3	24.3	17.6	25.6	19.3			22.8	30.3	35.2		25.3	20.0	-	
SW152	591423	163484	35.3	26.6	24.0	24.6	33.8	26.6	23.0	22.0	29.1	31.4	34.4	17.8	27.4	21.6	-	
Teynham																		
SW153	594748	162602	31.1	27.6	33.6	18.2	28.6	23.4	23.0	22.6	26.8	30.9	33.2	21.4	26.7	21.1	-	
SW184	594869	162559	23.3	15.3	25.1	17.2	19.4	20.9	14.2	17.6	18.3	18.7	27.0	18.1	19.6	15.5	-	
SW80	595155	162472		27.7	35.9	28.5	35.5	27.0	25.1	21.5	29.1	30.0	37.3	25.3	29.4	23.2	-	
SW91	595150	162461		34.4	41.9	24.3	25.8		29.1	26.7		36.2		26.6	30.6	25.6	-	
SW182	595274	162421	18.3	15.4	22.4	14.1	18.1		13.7	13.1	15.7	18.4	15.7	7.6	15.7	12.4	-	
SW183	595447	162383	33.0			26.3	34.8			29.2	32.2		38.1	19.5	30.4	23.7	-	
SW186	594993	162525			32.6	18.0	15.9	21.1	19.3			27.3	30.7	16.6	22.7	17.8	-	
SW187	595234	162435			27.9	20.6	18.2	22.8	16.7	21.1	24.7	25.5	27.4	22.6	22.8	18.0	-	

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 <(0.79)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
Ospringe																		
SW28	600225	160887	42.1	38.6	51.6	36.8	52.9	44.8	29.1	37.6	43.2	45.6	38.2	32.0	41.0	32.4	-	
SW29	600286	160868	42.3	36.7	48.6	30.3	39.6	37.3	41.8	35.9	22.0	39.4	48.3	20.6	36.9	29.1	-	
SW30.1	600363	160869	38.6	24.1	37.0	24.9	35.1	27.4	24.2	29.3	26.9	31.4	39.2	4.1	-	-	-	Triplicate Site with SW30.1, SW30.2 and SW30.3 - Annual data provided for SW30.3 only
SW30.2	600363	160869	34.6	26.4	32.7	23.6	31.7	26.4	23.6	24.8	29.2	31.0	40.6	3.3	-	-	-	Triplicate Site with SW30.1, SW30.2 and SW30.3 - Annual data provided for SW30.3 only
SW30.3	600363	160869		24.2	35.2	24.8	35.7	30.2	25.4	25.7	30.2	31.2	39.8	2.8	28.1	22.2	-	Triplicate Site with SW30.1, SW30.2 and SW30.3 - Annual data provided for SW30.3 only
SW31	600444	160848	36.0	28.8	38.3	25.8	40.5	33.2	29.1	29.3	38.0	38.1	42.6	7.6	32.3	25.5	-	
SW96	600358	160859	40.6	38.4	45.5	28.4	36.6	36.6	31.2	32.0	33.2	35.1	36.0	31.4	35.4	28.0	-	
SW171	600338	160805	10.5	10.7	15.7	8.3	12.4	8.8	8.6	9.9	8.2	12.0	19.5	9.6	11.2	8.8	-	
SW120	600456	160836	40.3	34.7	42.5	30.2	40.4	34.1	35.1			35.7	37.4	26.7	35.7	28.2	-	
SW135	600326	160860	42.2	41.2	52.9	33.8	39.0	38.5	39.5	38.2	37.9	42.8	41.0	25.9	39.4	31.1	-	
Faversham and Boughton																		
SW178	601837	161287	23.1		23.8	19.3	23.2			18.1	23.1	24.9	33.4	14.0	22.5	17.8	-	
SW179	601246	160624	28.9		34.7	23.0	32.3	25.4	24.2		28.2	32.3	21.5	22.1	27.3	21.5	-	
SW139	601706	161338	11.2	27.4	22.9	21.4	28.0	22.7	23.0	20.4	23.8	27.5	32.6	24.7	23.8	18.8	-	
SW168	600001	161622	17.7			23.0	24.6	21.6	21.1	19.7	24.2		30.2	19.2	22.4	17.7	-	
SW180	608781	158807	30.1	37.4	41.4	27.6	34.8	29.6	34.0	33.2	35.4	42.7	42.3		35.3	27.9	-	
SW181	609178	158730	50.1	29.9	48.6	40.6	56.2	44.6	44.8	47.7	42.7	62.2	41.2	39.6	45.7	36.1	22.5	
Rural and Urban rural																		
SW34	606624	161108	10.4		10.3	6.3	9.7	6.3	6.8	6.7	6.8	10.0	14.0	6.6	8.5	6.7	-	
SW07	600758	169576	9.9	6.6	10.0	7.5	10.5	6.7	7.5	7.6	8.8	11.8	14.3	8.9	9.2	7.2	-	
SW88	589318	165045	23.8	17.3		13.6	18.2		15.1	16.3	17.5		24.9	11.8	17.6	13.9	-	

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

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

☒ **Local bias adjustment factor used.**

☐ **National bias adjustment factor used.**

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

☒ **Swale Borough Council confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Swale Borough Council During 2024

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

Additional Air Quality Works Undertaken by Swale Borough Council During 2024

In line with Swale Borough Councils ASR 2023 report and Defra guidance, officers prepared a report for Swale's Environment Committee on 13th March 2024 recommending the revocation of AQMA 3 (East Street, Sittingbourne) and AQMA 5 (Teynham) for Nitrogen Dioxide, based on data from the previous four and five years which demonstrated compliance with the Air Quality Standard. The recommendation was supported by a detailed assessment prepared by Ricardo. Officers' recommendations were not approved by the Committee by a vote of 8 to 7. Consequently, the AQMAs still stand with no revocation being made.

Various arguments were made by members against revocation based on the following concerns

- Such a decision was premature. That air quality in these areas would deteriorate over time without the declaration, and we might need to declare an AQMA again. This stems from concerns that two of the years were impacted by the Covid pandemic with reduce traffic movements during that period and that we should consider reviewing the data for another year or two, as concentrations have slightly increased from 2019/20.
- The Council's Local Plan is under review and that there is uncertainty in what further housing developments will come out of the review and that this has not been considered in the detailed assessment.

- The accuracy of using diffusion tubes, annualization process and AQO standards when compared with WHO guidelines.
- The health impacts have not been reviewed as part of the reduced concentrations nor the consideration for revocation.

All concerns were countered during the debate to reassure members that these concerns are addressed in the current approved Air Quality Action Plan 2023. We also stressed that revoked areas would be treated the same as an AQMA when considering planning applications, following the same IAQM for planning when considering the need of an air quality assessment.

Monitoring continued for another year and due to concerns raised about particulates Swale Borough Council used indicative technology to monitor particulates at Teynham during in 2024. All results showed no exceedances or concerns in relation to NO_2 or PM (10 and 2.5) concentrations.

Following this, the annual mean concentrations of nitrogen dioxide (NO_2) at East Street and Teynham Air Quality Management Areas (AQMA) continue to be below the government Air Quality Objective (AQO) for now five and seven years respectively (with one of those years within 10% of the objective). Therefore, officers have prepared another report for Swale's Environment Committee in July 2025 to inform that a revocation is required and request approval. The outcome of this will be provided in the ASR 2026

QA/QC of Diffusion Tube Monitoring

All diffusion tubes deployed in Swale Borough during 2024 were supplied by Socotec (Didcot). Socotec is a UKAS accredited laboratory and participates in the in the new AIR-PT (Proficiency Test) Scheme previously known as the Workplace Analysis Scheme for Proficiency (WASP)) for NO_2 tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre.

The lab follows the procedures set out in the Harmonisation Practical Guidance. In the latest available results, Socotec Didcot scored as follows: AIR-PT AR062 (Jan to Feb 2024) 100%, AIR-PT AR063, (Apr to June 2024) 100%, AIR-PT AR065 (July to August 2024) 100% and AIR-PT AR066 (September to October 2024) 100%. The percentage score reflects the results deemed to be satisfactory based upon the z-score of < ± 2. Based on 33 studies,

90.91% of all local Authority co-location studies in 2024, using the 50% TEA in acetone preparation method, were rated as ‘good’ (tubes are considered to have "good" precision where the coefficient of variation of duplicate or triplicate diffusion tubes for eight or more periods during the year is less than 20%). All diffusion tubes were deployed in accordance with the 2024 diffusion tube calendar.

Diffusion Tube Annualisation

Table C.1 – Annualisation Summary (concentrations presented in µg/m^3)

Diffusion Tube ID	Annualisation Factor Thurrock	Annualisation Factor Rochester Stoke	Average Annualisation Factor	Raw Data Simple Annual Mean (µg/m^3)	Annualised Data Simple Annual Mean (µg/m3)
SW170	1.1	1.0	1.0	23.6	24.7
SW91	1.1	1.1	1.1	30.6	32.5
SW183	1.0	1.0	1.0	30.4	30.0
SW186	1.0	1.0	1.0	22.7	22.6

Annualisation is required for any site with data capture less than 75% but greater than 25%. Annualisation was required at sites listed in table C.1

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2024 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Swale Borough Council have applied a local bias adjustment factor of 0.79 to the 2024 monitoring data. A summary of bias adjustment factors used by Swale Borough Council over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	Local		0.79
2023	Local		0.76
2022	Local		0.77
2021	Local		0.77
2020	Local		0.78

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	10	11	12		
Bias Factor A	0.91 (0.77 - 1.11)	0.76 (0.68 - 0.85)	0.73 (0.61 - 0.89)		
Bias Factor B	10% (-10% - 30%)	32% (17% - 47%)	38% (12% - 64%)		
Diffusion Tube Mean (µg/m^3)	20.5	34.2	28.1		
Mean CV (Precision)	4.2%	6.2%	6.3%		
Automatic Mean (µg/m^3)	18.6	25.8	20.4		
Data Capture	98%	98%	98%		
Adjusted Tube Mean (µg/m^3)	19 (16 - 23)	26 (23 - 29)	21 (17 - 25)		

Notes:

A single local bias adjustment factor of 0.79 has been used to bias adjust the 2024 diffusion tube results.

Regarding the application of a bias adjustment factor for the diffusion tubes, the technical guidance LAQM.TG 22 recommends the use of a local bias adjustment factor as a preference, where available as they are more representative of the local air quality monitoring.

As the local bias adjustment factor is representative of Swale's local monitoring network with a good data capture, the preferred local adjustment factor was used. On this occasion it would not make a significant different to use the national bias adjustment (0.78) factor.

DEFRA's Diffusion Tube Data Processing Tool has been used to calculate the local bias correction.

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

Distance correction should be considered at any monitoring site where the annual mean concentration is greater than 36µg/m3 and the monitoring site is not located at a point of relevant exposure.

Table C.4 – Non-Automatic NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
SW181	1.7	13.7	36.1	7.2	22.5	Lamp post Boughton Bypass Hillside Gate, Gate House Slip, Dunkirk

QA/QC of Automatic Monitoring

In 2024 the QA/QC of the automatic data were managed by Air Quality Management, Ricardo Energy & Environment.

The instrumentation was calibrated every two weeks with two services this year. Live and historic data are available through the Kent Air Website: https://kentair.org.uk/

All automatic monitoring locations within Swale Borough Council recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data or use percentiles.

Datasets are ratified following AURN standard QA/QC and ratification processes, within TG (22) guidelines, on a quarterly basis. Data will be processed and scaled using all available manual and automatic calibrations. Data for 2024 are ratified.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

The PM_{10}: Smart Heated BAMs at Newington and St. Pauls correction of the slope was used by dividing the data by 1.035, as advised in LAQM.TG22 Chapter 7: Particulate Matter Monitoring.

$PM_{2.5}$: No correction was used

Automatic Monitoring Annualisation

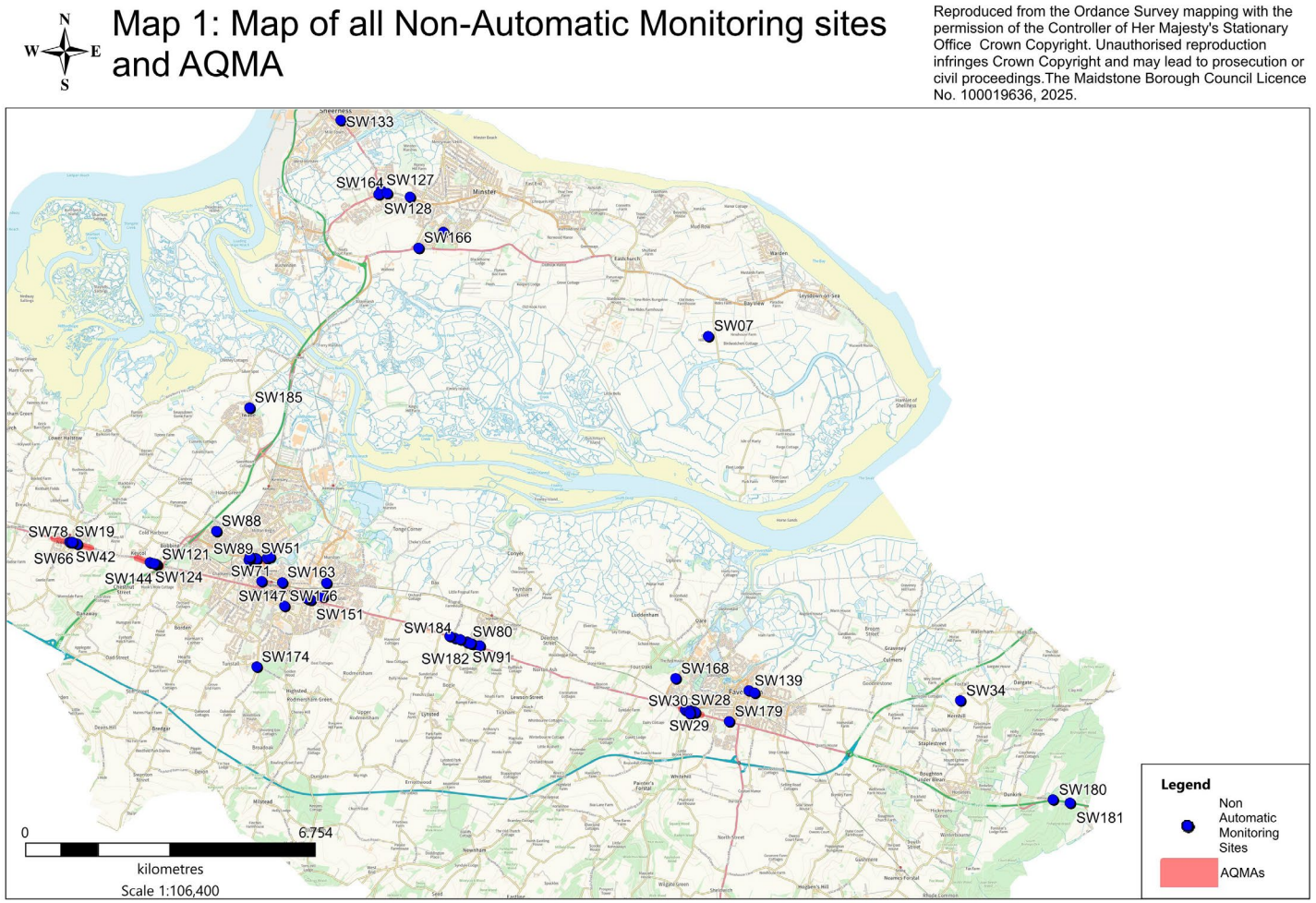
All automatic monitoring locations within Swale Borough Council recorded data capture of greater than 75%, therefore it was not required to annualise any monitoring data.

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website. No automatic NO2 monitoring locations within Swale Borough Council required distance correction during 2024.

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

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



Map 2 : Map of Non-Automatic Monitoring in Newington (AQMA 1)

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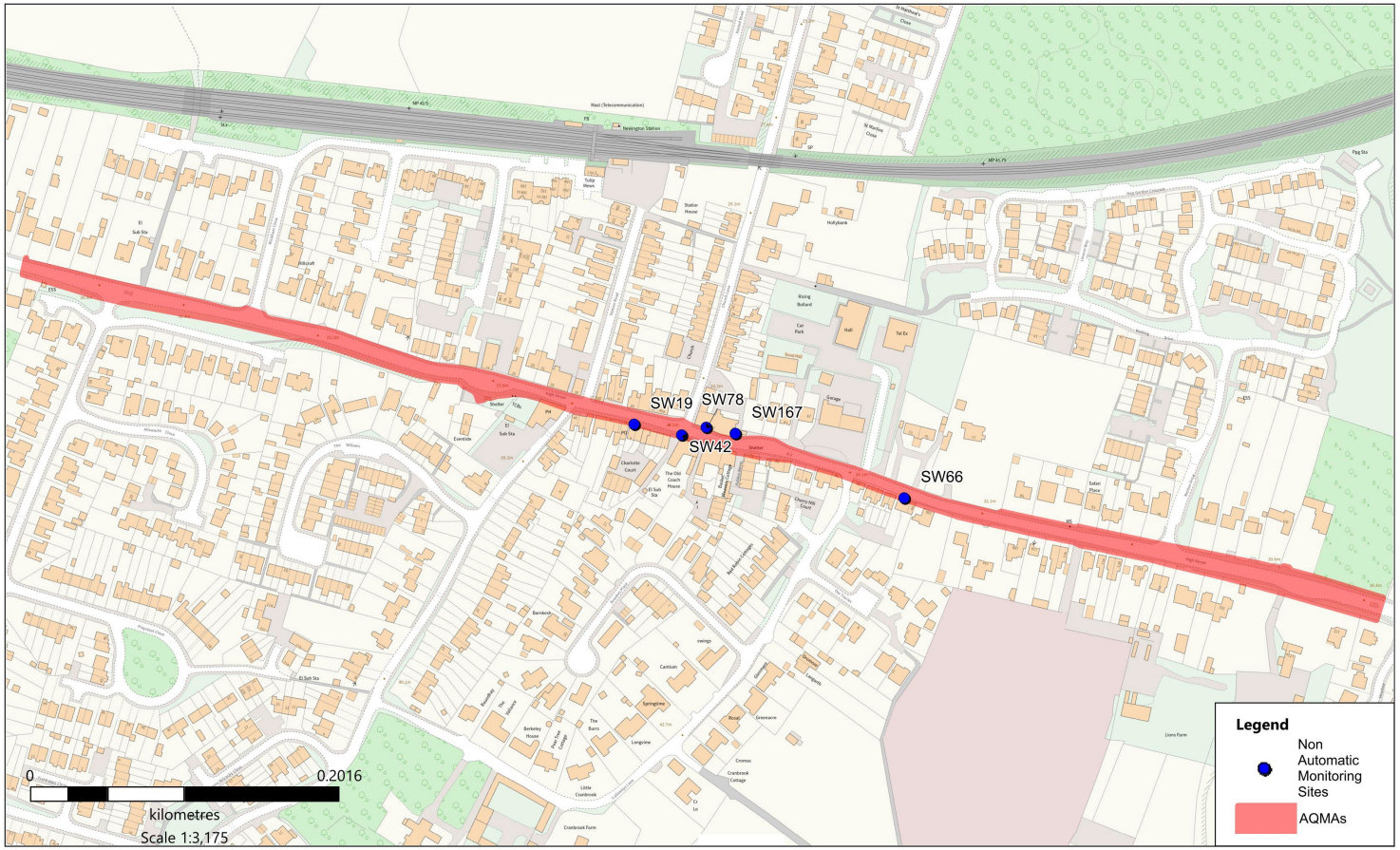

Map 3: Map of Non-Automatic Monitoring Sites in Ospringe (AQMA 2/6)

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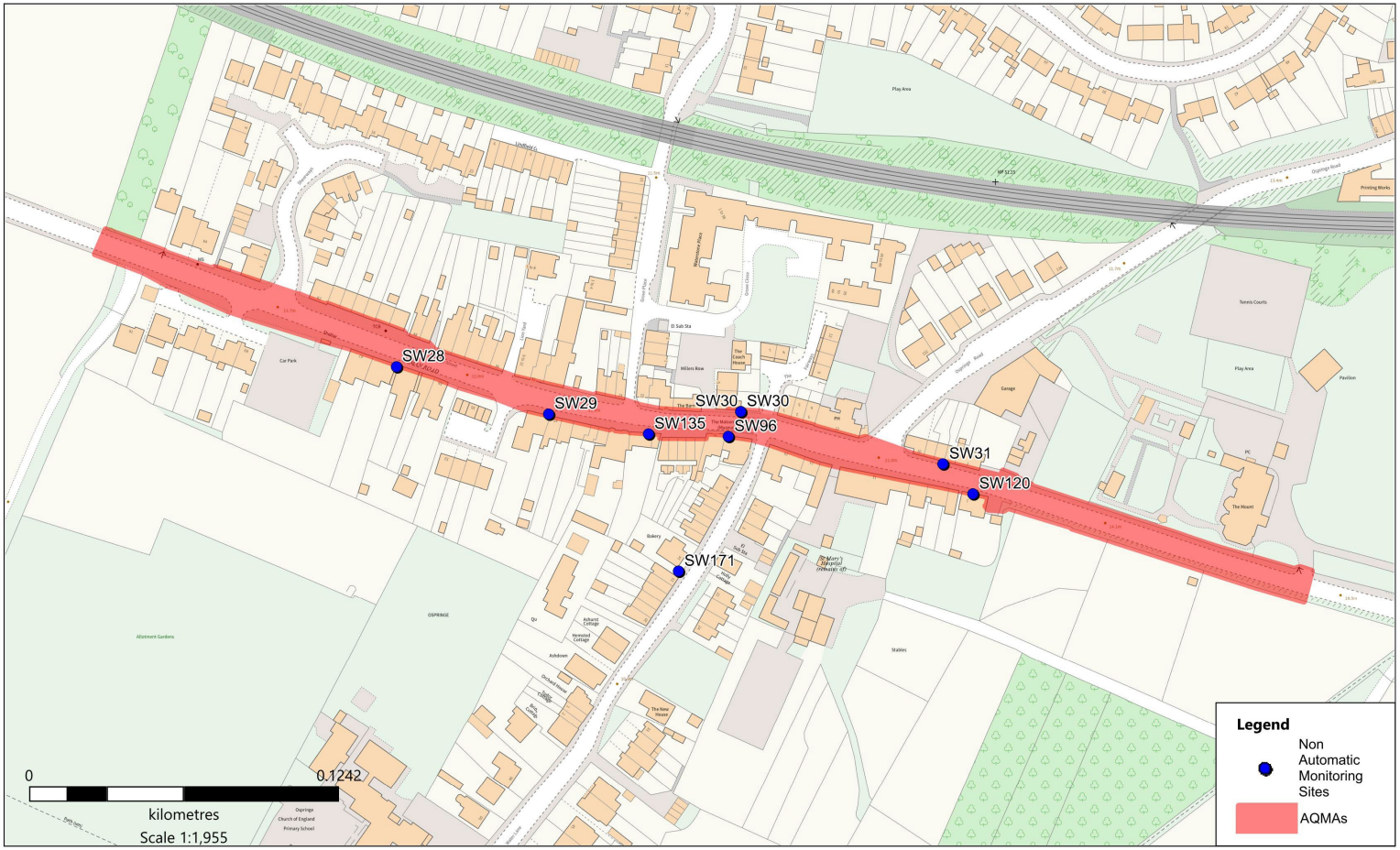

Map 4: Map of Non-Automatic Monitoring Sites in East Street (AQMA 3)

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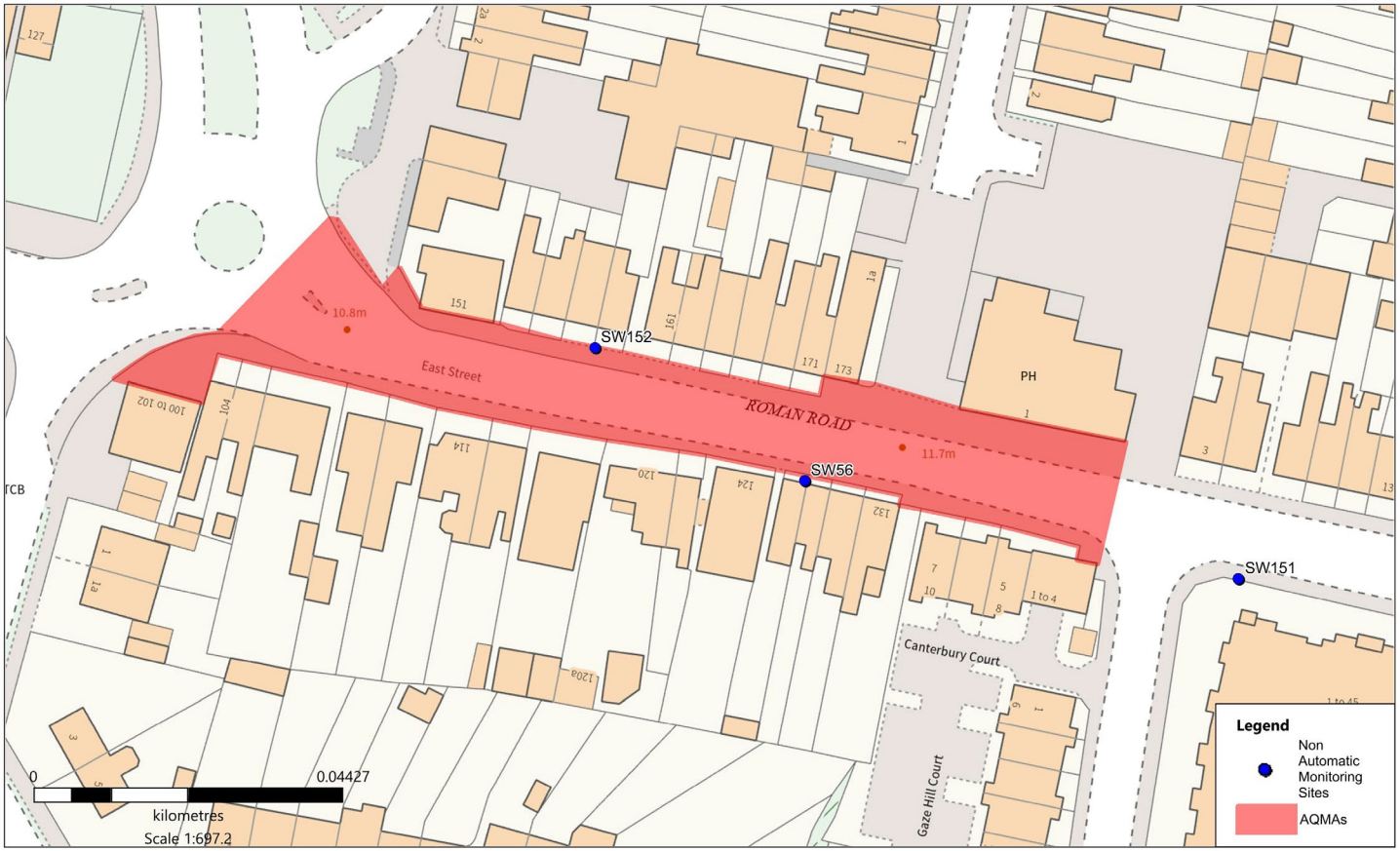

Map 5: Map of Non-Automatic Monitoring in St Pauls Street (AQMA 4)

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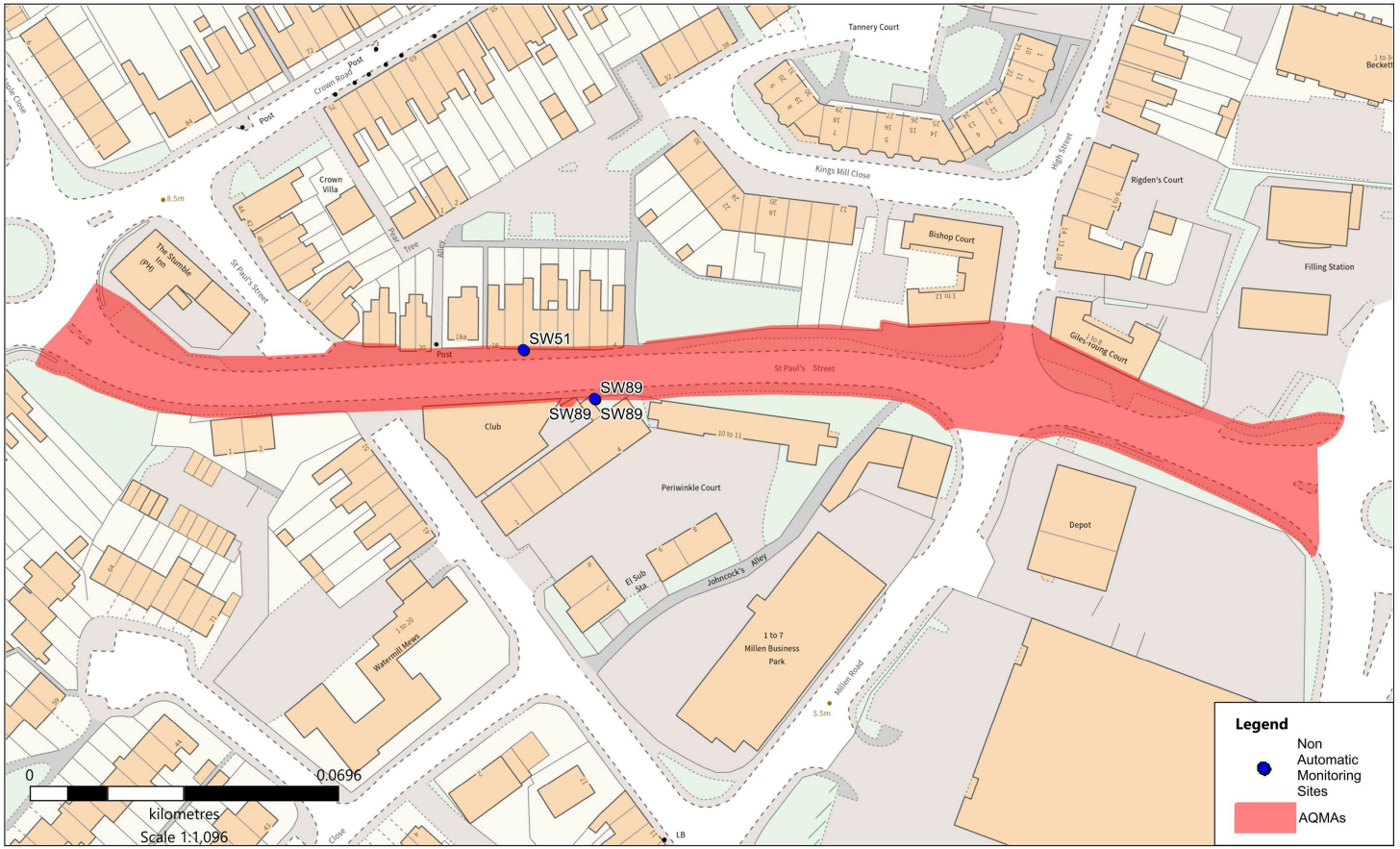

Map 6: Map of Non- Automatic Monitoring Sites in Teynham (AQMA 5)

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Map 7: Map of Non-Automatic Monitoring Sites in Keycol Hill (AQMA 7)

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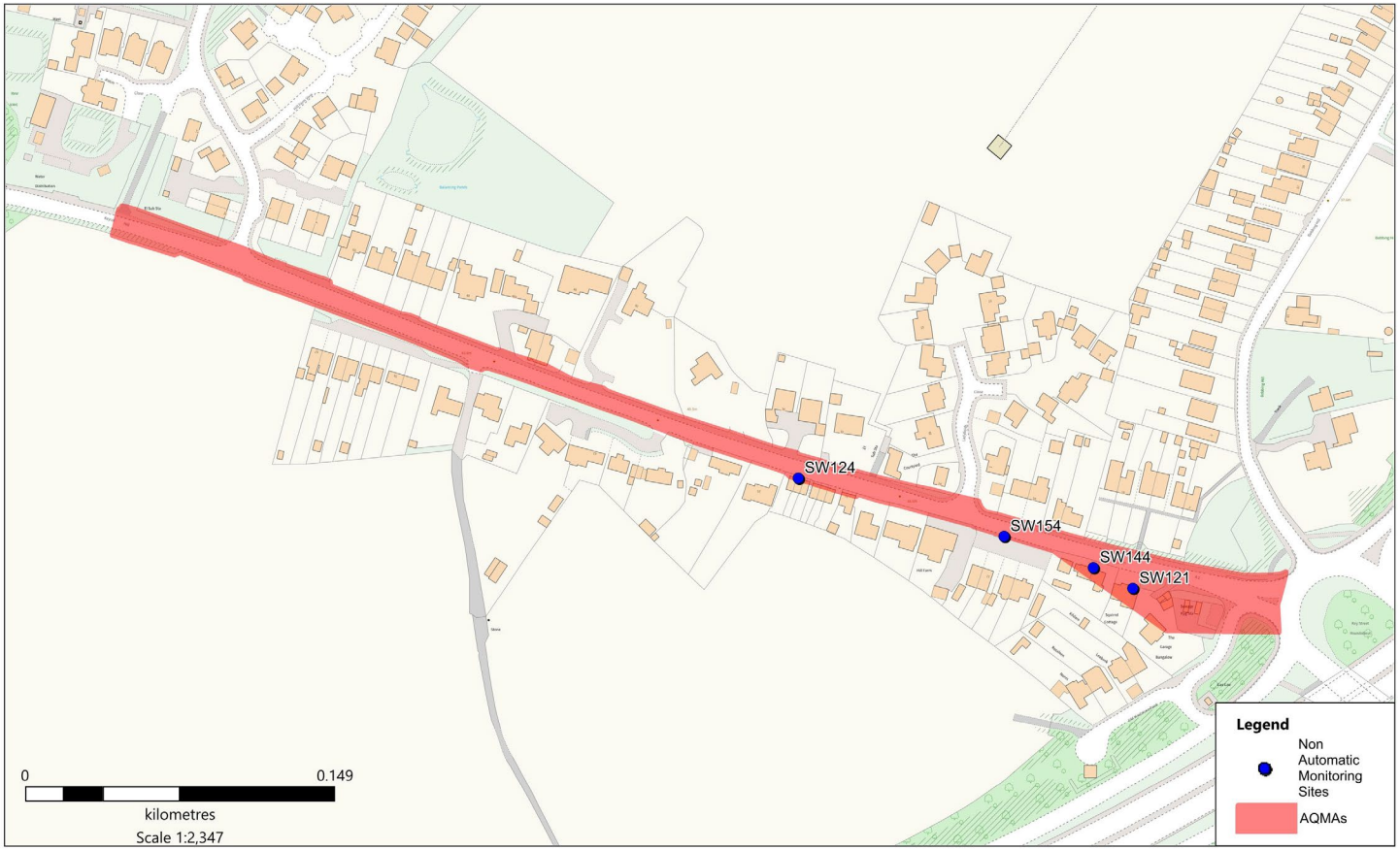

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[11]

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

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

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.
- AQAP – Air Quality Action Plan can be found on the Swale Borough Council website: https://swale.gov.uk/bins-littering-and-the-environment/air-quality/monitoring