



2026 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 2026

Information	Tunbridge Wells Borough Council Details
Local Authority Officer	Delaine Curry Dr. Stuart Maxwell
Department	Environmental Protection
Address	Town Hall Mount Pleasant Road Tunbridge Wells TN1 1RS
Telephone	01892 526121
E-mail	delaine Curry@midkent.gov.uk
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Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Tunbridge Wells Borough Council with the support and agreement of the following officers and departments:

Delaine Curry – Mid Kent Environmental Services

Dr. Stuart Maxwell – Mid Kent Environmental Services

This ASR has been approved by:

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

This ASR has been signed off by the Deputy Director of Public Health in Kent, Ellen Schwartz.



If you have any comments on this ASR, please send them to Delainey Curry at:

Town Hall

Mount Pleasant Road

Tunbridge Wells

TN1 1RS

01892 526 121

delainey.curry@midkent.gov.uk

Executive Summary: Air Quality in Our Area

Air Quality in Tunbridge Wells

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. PM₁₀ refers to particles under 10 micrometres. Fine particulate matter or PM_{2.5} are particles under 2.5 micrometres.

Tunbridge Wells is a borough in Kent, located in the Southeast of England. The population of Kent was approximately 1.64 million in 2024 ¹with Tunbridge Wells accounting for around 7.3% of the population (119,700 residents). This represents an increase of 1.0% in residents from the previous year in Tunbridge Wells Borough (2700 additional residents). The population is expected to increase to 121,000 by 2030 and 124,000 by 2040.

Tunbridge Wells borough is largely rural in character and comprises the namesake town, Royal Tunbridge Wells and several smaller towns and village settlements such as Paddock Wood, Cranbrook, Hawkhurst, Goudhurst etc... There are several major A roads that traverse the borough including the A21, A26, A264 and A267 providing through routes for vehicles.

The town of Royal Tunbridge Wells continues to experience traffic congestion on key approaches to the town centre. There are also a number of commercial, industrial, and domestic sources which could affect air quality across the borough.

The Hawkhurst AQMA has demonstrated compliance with air quality objectives for three years. However, it remains in place to ensure that the downward trend in NO₂ concentrations is sustained. Upgrades have recently been implemented to the Microprocessor Optimised Vehicle Actuation (MOVA) system at the Hawkhurst Crossroads (Figure ES 1, blue marker indicating the Hawkhurst Crossroads location) and these works involved enhancing traffic signal control to better regulate vehicle flows and reduce delays and queuing, particularly along Cranbrook road (Figure ES 2, red line denoting approximate location of the AQMA and blue marker denoting the crossroads location), where several properties are located within the AQMA.

¹ 2024 Mid-year population estimates: Total population in Kent, August 2025

Figure ES 1 – Location of Hawkhurst Crossroads

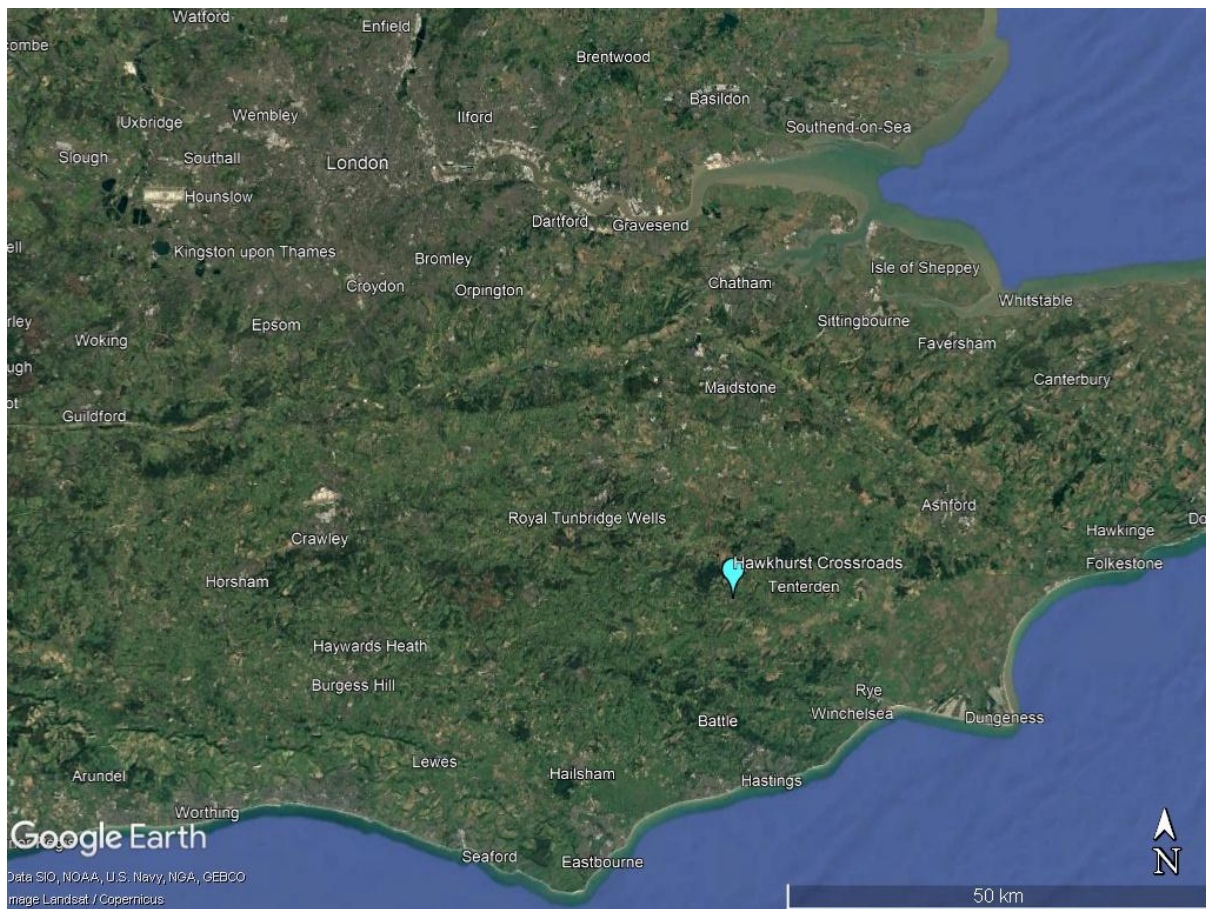


Figure ES 2 – Location of Cranbrook Road Relative to Hawkhurst AQMA

Three sites were monitored in the Hawkhurst area in 2025. Two monitoring sites are positioned adjacent to or within the Hawkhurst AQMA and one monitoring site is positioned outside of the AQMA but within the Hawkhurst area. All monitoring sites in the Hawkhurst area demonstrated decreases in NO₂ concentrations compared to the previous year.

Outside of the Hawkhurst area, a further 15 sites were monitored. Of these

- Five sites recorded a decrease in annual mean NO₂ concentrations
- Six sites recorded an increase in annual mean NO₂ concentration
- Five sites remained broadly unchanged (within 1 µgm⁻³ of 2024 levels)

The highest annual mean NO₂ concentration recorded in 2025 was at monitoring site TW82, located at the roadside beside Dorin Court on Pembury Road (A264) near the Bayhall Road junction. Pembury Road is a key route into the town centre from the east and is known for significant congestion during peak hours. The route also serves several educational institutions such as Skinners' Kent Academy, Beechwood School, and Oakley School. Monitoring site TW82 was first established in 2021 and was measured to be in exceedance of annual air quality objectives until 2024, where annual NO₂ concentrations

measured $34.8 \mu\text{gm}^{-3}$. In 2025 this remained broadly unchanged, with NO_2 concentrations slightly increasing to $35.2 \mu\text{gm}^{-3}$. It is noted that this monitoring site would be subject to distance correction should the levels be in exceedance of annual objectives as the site is 7.5m from the point of relevant exposure receptors. NO_2 levels at the nearest relevant receptor are predicted to be $24.3 \mu\text{gm}^{-3}$.

Slight increases in NO_2 concentrations were observed at the following sites, though none exceeded annual objectives:

- TW23 (Nevill Ground Background Site)
- TW25 (Hospice in the Weald, Southborough)
- TW55 (Badsell Road, Paddock Wood)
- TW72 (Southborough Civic Centre)
- TW73 (Summervale Road)
- TW75 (Bayhall Road)

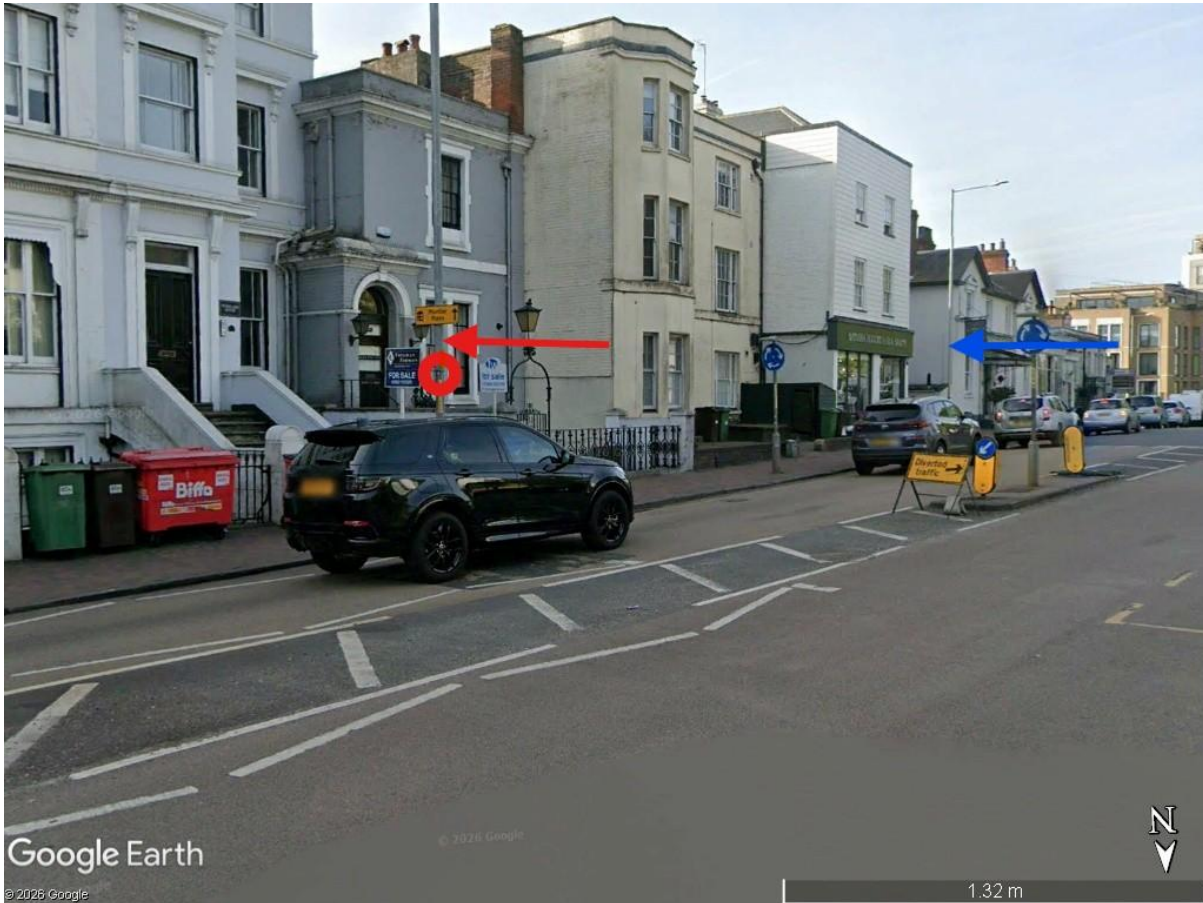
Ten sites required annualization due to insufficient data capture primarily from missing or removed diffusion tubes. As many monitoring locations are situated in publicly accessible areas, maintaining full data capture throughout the year can be challenging. These site included:

- TW20 (Mount Ephraim Tunbridge Wells)
- TW23 (Nevill Gate Urban Background)
- TW41 (The Pantiles Roundabout)
- TW55 (Badsell Road, Paddock Wood)
- TW58 (The Pantiles Car Park)
- TW70HH (8-9 Cranbrook Road, Hawkhurst)
- TW73 (Summervale Road, Tunbridge Wells)
- TW74 (Southborough Papa John's)
- TW82 (Bayhall Road Junction with Pembury Road)
- TW83 (Carr's Corner Roundabout)

Site TW41 continues to experience limited data capture. The red circle on Figure ES 3 indicates the current monitoring position of TW41, which is located on a Kent County Council lighting column (KCC reference LEAN 006, depicted on Figure ES 3 and Figure ES 4 with a red arrow). Although TW41 has been established at a height of 2.2m, this site is easily reachable to the public via the nearby staircase to residential flats at Winslade

House. Officers consider that the accessibility of this site allows passers-by to easily reach and remove the diffusion tubes associated with monitoring.

Figure ES 3 – Photo of Monitoring Site TW41



Officers assessed the area in 2025 with a view to determine whether nearby lighting columns would be suitable for monitoring and to improve data capture concerns in future years. Several KCC lighting columns were considered, including LEAN 007 (as depicted on Figure ES 3 with a blue arrow), LEAN 005A, LEAN 004, and LEAN306 (all depicted on Figure ES 4 with a blue arrow).

Figure ES 4 – Current and Considered Siting for TW41 Monitoring Site

While LEAN 005A is set back at a similar distance from the road to the current site, it holds several attachments including primary route traffic signage which could affect pollutant dispersal potentially resulting in higher measured levels than actually experienced at this location. LEAN 007 is set back further from the road than the current site and is adjacent to an alleyway which is subject to higher than usual turbulence and has several commercial extractor units surrounding it. LEAN 306 and LEAN 004 are sited across the road from the current monitoring site and are not considered to be suitable due to the prominent green space, lack of nearby long-term receptors and potential fall-off from distance experienced at this site.

Considering all of the above factors, a decision has been made to install a new site on the existing lamppost LEAN 006 at a slightly higher elevation of 3.0m to reduce accessibility of the diffusion tube at this site to passers-by. Officers will continue to monitor the data capture at TW41 in future years and adjust this strategy accordingly.

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.

Hawkhurst Planning Position Statement

The Planning Policy Statement as written in 2020 continues to be applied to development within and around the Hawkhurst area to ensure new developments do not lead to significant increases in air pollution or lead to exceedances of annual air quality objectives within the AQMA. Impact descriptors have been adopted as outlined in the Institute of Air Quality Management and Environmental Protection UK's guidance on Land-Use Planning and Development Control: Planning for Air Quality (2017)

Hawkhurst Crossroads Highway Improvements

Kent County Council has completed enhancement works at the Hawkhurst crossroads (junction of High Street, Cranbrook Road, Rye Road, and Highgate Hill) under Section 278 of the Highways Act 1980. The main construction phase was completed in summer of 2025; however, further works are still required as the enhancements has reportedly resulted in increased stop-start driving conditions along Cranbrook Road compared to pre-construction conditions. As the majority of AQMA receptors are located along Cranbrook Road, this remains a key area of focus. Further updates are anticipated in 2026.

Health Professionals Resource (DEFRA Funded Project)

The Mid-Kent Environmental Services have secured funding from the Department of Environment, Food and Rural Affairs (DEFRA) to develop a digital training platform and resource for healthcare practitioners across Kent and Medway. The initiative aims to support clinicians in advising patients with cardiovascular and respiratory conditions on reducing exposure to air pollution, integrating this guidance into routine care. The platform also facilitates collaboration among general practitioners and other healthcare professionals on air quality and health related issues. Seven online modules were developed including one focused on the intersection of air quality and maternity. Promotion of this resource was initially expected to be supported by Kent County Council. However, following a change in priorities, this has not progressed promotion at the county level in 2025. Instead, promotion was undertaken through Mid Kent Environmental Services, the shared environmental health services covering Tunbridge Wells, Maidstone, and Swale boroughs. This approach enables coordination across several district areas; however, the

scale of promotion remains more limited than what would have been possible through a county-wide approach. Nevertheless, the programme was presented at the Respiratory Network Conference, hosted by the Kent and Medway Primary Care Training Hub, on 6th September 2025. The resource has also since been promoted in the Royal College of [Pediatrics and Child Health key knowledge section](#). The modules are currently undergoing certification process for CPD accreditation for Healthcare professionals. Looking ahead, approval has now been granted to officers at the County Council to resume promotion in 2026, which is expected to expand reach beyond the levels achieved in 2025.

Conclusions and Priorities

In 2025, slight increases in NO₂ concentrations were observed at six passive monitoring sites across Tunbridge Wells' area. The remaining sites demonstrated either stable or declining trends, indicating a general improvement of air quality in the area. No exceedances of the annual mean air quality objective were recorded.

The highest NO₂ concentrations were recorded at sites TW82 and TW41. TW82, which also had the highest reading in 2024, is located near a busy road but is not representative of residential exposure due to the setback nature of nearby properties. TW41 is adjacent to a busy roundabout and pedestrian crossing but achieved only 25% data capture and required annualisation. Residential receptors near TW41 are set back from the road and primarily located on upper floors, reducing exposure. To improve data reliability, the monitoring site will be re-positioned at a slightly higher elevation to improve data reliability.

Air quality in the Hawkhurst area continues to demonstrate improvements. Monitoring site TW63HH (Smuggler's Rest, Cranbrook Road) and others within the AQMA have demonstrated compliance with the annual objectives for three consecutive years. Due to the area's varied topography and receptor locations, updated dispersion modelling has been undertaken to better assess exposure levels based on these recent measurements.

At the St John's Road Automatic Monitoring Station, annual NO₂ concentrations slightly increased from 20.3 µgm⁻³ in 2024 to 21.4 µgm⁻³ in 2025 but remained well below the national objective of 40 µgm⁻³. Similar trends were observed in PM₁₀ which slightly increased from 17.6 µgm⁻³ to 19.8 µgm⁻³ but remain below the national objective of 40 µgm⁻³. PM_{2.5} levels increased slightly from 7.8 µgm⁻³ to 9.3 µgm⁻³ but remain under both the future targets of 12 µgm⁻³ by 2028 and 10 µgm⁻³ by 2040. It is noted that St John's Road was subject to significant queuing traffic, construction work vehicles, and general

dust due to emergency gasworks enacted by SGN. No exceedances of 24-hour mean objectives were recorded for any pollutants in 2024.

Priorities for 2026 will remain aligned with those of 2025. The primary focus will be continued delivery of the Hawkhurst Air Quality Action Plan 2023. If compliance is determined to be sustained at relevant exposure points, officers will consider whether the revocation of the AQMA would be suitable, subject to confirmation from relevant stakeholders. Opportunities to retain and host the Pollution Patrol resource will be reviewed to support its ongoing use and promotion. Additionally, the Clean Air Academy health resource will continue to be delivered with support from the Mid-Kent Environmental Health department and TMC Communications Ltd.

How to get Involved

Tunbridge Wells Borough Council operates several advisory boards that meet in public to provide formal recommendations to decision-making committees. The Communities Housing and Environment Cabinet Advisory Board advises on policy within their remit which includes air quality. Environmental Protection Officers will attend these meetings upon request or when the topic of air quality is on the agenda. Members of the public are encouraged to participate. Anyone wishing to comment on an agenda item must register with the Democratic Services department in advance. Registration opens when the agenda item is published and closes at 4pm on the last working day before the meeting. A full calendar of upcoming meetings can be found at the Council's website and are also displayed at the Council offices during business hours.

Tunbridge Wells Borough Council is an active member of the Kent and Medway Air Quality Partnership. Residents can sign up for air pollution alerts through the KentAir website, which also offers educational resources on air quality including monitored pollutants, health impacts, relevant UK legislation, policies, and standards.

The main source of air pollution in Tunbridge Wells Borough originates from road transport. The easiest ways for members of the public to get involved in improving air quality is to make changes to the methods in which they travel. The following are suggested alternatives to the use of combustion engines for private travel.

- Use public transport where available which reduces the number of private vehicles on the road thus reducing congestion and air pollution levels

- Walk or cycle if your journey allows which reduces the number of combustion engine vehicles on the road. Regular exercise also helps to keep people fit and healthy.
- Car-lifts and journey sharing where a few individuals are making similar journeys such as commuting to workplaces or schools. Car sharing reduces the number of vehicles on the road and therefore the number of emissions being released.
- Choosing efficient vehicles/alternative fuel which have diverse levels of benefits in reducing the number of emissions being released. Changes have been made in 2022 to Approved Document S of the Building Regulations 2010 and now at least one EV charging point must be installed in almost all new and retrofit properties.
- Turn off the engine if your car is not moving. An idling engine burns fuel less efficiently than when the vehicle is moving.

The burning of wood, coal and other solid fuels in the domestic sector may also impact local air quality as point sources in dwellings. Residents may wish to consider the following measures to reduce these emissions:

- Consider using an Eco-design compliant or DEFRA exempt stove
- Only use the right fuel. For wood burning stoves this is dry wood containing less than 20% moisture content
- Store wood in a dry area
- Do not burn treated wood, such as painted, stained, or chemically treated wood
- Ensure stoves are installed by a suitably qualified and experienced engineer
- Ensure stoves and chimneys are regularly maintained.

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1 Local Air Quality Management

This report provides an overview of air quality in Tunbridge Wells Borough during 2025. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be conducted. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Tunbridge Wells 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 (AQMA) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

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

- NO₂ annual mean

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?	Highest Concentration: Declaration	Highest Concentration: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
Hawkhurst AQMA	Declared 2021	NO ₂ Annual Mean	Residential properties in the southern part of Cranbrook Road in the center of Hawkhurst	NO	56.7	40	3	Tunbridge Wells Borough Council - Hawkhurst Air Quality Action Plan 2023	Visit the AQAP for Hawkhurst AQMA

- ☒ Tunbridge Wells Borough Council confirm the information on UK-Air regarding their AQMA(s) is up to date.
- ☒ Tunbridge Wells Borough Council confirm that all current AQAPs have been submitted to Defra.

2.2 Progress and Impact of Measured to address Air Quality in Tunbridge Wells Borough

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

1. The Council has demonstrated a good understanding of QA/QC procedures, particularly with the discussion of bias adjustment factors. The Council's decision to use the national bias adjustment factor in this instance is supported.

TWBC Response: Noted.

2. The heading numbers within the document do not align with those in the Table of Contents. For example, the "Local Air Quality Management" section is marked in the Table of Contents as section 1 but is marked as section 2 within the document. Headings and subsequent table and figure numbers should align between the document and Table of Contents.

TWBC Response: This is recognised; however, this arises from formatting constraints within the DEFRA reporting template. The current version of the template restricts modifications to the table of contents, meaning that attempts to update or align heading styles can result in incorrect or conflicting titles. As the use of this template is mandatory for ASR submission, these inconsistencies cannot be fully resolved within the existing format and are therefore a limitation of the template rather than the document formatting. In particular, the most up-to-date templates do not allow for modification of the table of contents to accurately reflect updated heading styles. In this year's ASR the formatting of the document was re-built from scratch which took considerable time and effort from officers who have additional responsibilities outside of LAQM reporting requirements which placed additional constraints on other team members during an already busy time of year.

3. The Council have provided a good discussion on measures to improve PM_{2.5} concentrations within the borough. This is commended and should be continued in future reports.

TWBC Response: Noted.

4. Comments from the appraisal of the previous ASR have been included. This is commended and should be included in future reports.

TWBC Response: Noted.

5. The following discrepancies in table formatting are noted:

- a. In Table A.3, Table A.6., and Table A.8., the 2024 concentrations have been provided to one decimal place however concentrations for 2023 and earlier have been provided as whole numbers. Where possible, the same number of decimal places should be reported. If this is not possible, a note at the bottom of the table would be beneficial highlighting this.

TWBC Response: The most recent version of the Local Air Quality Management Technical Guidance for UK Regions excluding London (LAQM.TG22 dated May 2025) notes under section 1.19 (page 12) that concentrations should be reported to 1 decimal place. We will continue to follow the most up-to-date version of this technical guidance moving forward.

- b. In Table A.8, missing concentrations are noted with an "N/A," however in other tables missing concentrations are noted by a blank cell. For consistency, missing concentrations should be denoted the same.

TWBC Response: Noted.

6. Distance correction calculations have been provided for some diffusion tube sites and for CM1. However, as reported concentrations are below $36 \mu\text{g}/\text{m}^3$, distance correction was not required. This is outlined in LAQM.TG(22) paragraph 7.84.

TWBC Response: It was considered appropriate to provide additional context for this monitoring location due to its proximity to the road, the distance from the nearest residential receptor, and the fact that it had consistently recorded the highest NO_2 concentrations in the borough. It is also considered appropriate to provide additional context for CM1 due to potential exceedances of 24-hour means which, when distance corrected, could be lower than measured at the nearest sensitive receptor.

7. Annualisation has been undertaken at five sites. Two nearby, background monitoring sites have been used for annualisation. It is recommended, but not required, that four sites are used for annualisation.

TWBC Response: This department has consistently used the two background monitoring sites of Rochester Stoke and Thurrock for annualisation historically, which has not been queried in previous reports. LAQM.TG22 suggests two to four, nearby (within 50 miles) forming part of the national network should be used for annualisation. Other background sites, for example in Eastbourne, Brighton and Worthing were not considered to be as representative of Tunbridge Wells Borough (by nature of size, population number, character etc...) we felt the two chosen sites were appropriate for annualisation.

8. A figure highlighting the location of the AQMA would be beneficial.

TWBC Response: A figure highlighting the location of the AQMA has been provided in Figure ES 2 Hawkhurst AQMA of the 2025 ASR. The Hawkhurst AQMA is unique in that it does not directly affect a road but rather affects specific properties which have been highlighted in that figure.

Tunbridge Wells Borough Council has taken forward a number of direct measures during the current reporting year of 2025 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Nine measures are included within Table 2.2, with the type of measure and the progress Tunbridge Wells have made during the reporting year of 2025 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in their respective Action Plans. Key completed measures are:

- [Tunbridge Wells Borough Local Plan](#) – The Council adopted the Local Plan on 10th December 2025 which sets out the spatial vision, strategic objectives and overarching development strategy for the borough covering the period between 2020 and 2038. Hawkhurst Parish was subject to a substantial reduction in development considerations put forward at the consultation stage, owing partly to potential air quality impacts and potential traffic congestion at the crossroads. The adopted Policy PSTR/HA 1 sets out the strategy for development in the area with section 3 of this policy relating to the requirement to ensure all development proposals establish an acceptable impact upon the Hawkhurst crossroads junction (the A229/A268), section 4 relating to the development of a comprehensive active travel strategy and section 5 relating to the requirement of an air quality assessment for major development which would generate significant vehicle movements through the northern arm of the crossroads.
- Improve air quality mitigation of businesses in Gill's Green – This measure mainly relates to the development of the business park under planning application [TW/25/00826/FULL](#). A revised air quality assessment was provided for this development which concluded a potential increase of 0.02 µgm⁻³ (or a change of 0.05%) on current NO₂ levels which is considered negligible in impacts according to the guidance provided by the [Institute of Air Quality Management](#).

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

- Collaborating with schools to promote the Pollution Patrol resource – Discussions are ongoing with the Kent & Medway Air Quality Partnership on the viability of hosting the resource on the KentAir website. Once this has been secured, the promotion of the resource can continue on an ongoing basis via the Mid-Kent Environmental Services. The project was evaluated by the University of Kent based on a questionnaire designed by the University and was sent to users of the resource. Few responses were received but in general the responses were favourable. The full evaluation of the report is available under Appendix F: Pollution Patrol Evaluation Report
- New improved traffic signals at crossroad – Adjustments of the timings of the newly installed MOVA systems are to be finalised at some point in the near future pending review of queueing traffic at the crossroads junction.

Tunbridge Wells Borough Council's priorities for the coming year are:

- Ongoing promotion of DEFRA funded GP air quality training resource – This initiative promotes the use of air quality data to specifically target residents in the borough that may be adversely affected by poor air quality (for example, residents with asthma, heart conditions etc...). 37 registrations of the resource were recorded at the beginning of 2025: 23 from the Kent & Medway area and 14 from elsewhere in the UK. The majority of registrants are professionals in Sustainability and Air Quality but there are also a few registrations from GPs and Health Visitors. In 2025 the resource was promoted at the Kent & Medway Respiratory Network Annual Conference where a QR code was available for attendees could easily register. This event gained 25 new registrations from attendees at the conference. The resource will be perpetually promoted and reviewed by stakeholders to ensure its efficacy and succession.

Tunbridge Wells Borough Council worked to implement these measures in partnership with the following stakeholders during 2025:

- Kent County Council
- Hawkhurst Parish Council
- TMC Creative Limited

- Matt's Monitor's Limited
- Ricardo PLC
- Air Quality Consultants Limited
- Kent & Medway Air Quality Partnership

The principal challenges and barriers to implementation that Tunbridge Wells Borough Council anticipates facing are:

- Engagement with stakeholders – Adoption of the action plan items and the timeline for completion relies on the engagement and active participation in the measured by all stakeholders.
- Competition with other green initiatives – There are a number of green initiatives that exist in the UK to contend with the actions in our action plan. Stakeholders have agency to choose which initiatives or resources to take on.

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

- Collaborating with schools to promote active travel and travel plans – Engagement with schools and other academic institutions has been considerably less than we originally anticipated. One school containing more than three pupils from the Hawkhurst area has provided an updated Travel Plan while the remaining seven schools have not updated their Travel Plans in the last five years.
- Securing a commercial sponsor for the Pollution Patrol resource – The procurement process to find a commercial sponsor yielded limited results with few submissions for bids. Discussions are currently ongoing with the Kent and Medway Air Quality Partnership to determine the specific requirements and viability of hosting the Pollution Patrol resource on their website.
- Awareness Campaign including signage – Anti-idling signage has been installed throughout the borough including the area surrounding the AQMA, however suitable locations for specific signage with the verbiage “You are now entering an AQMA” have yet to be identified.

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	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
Priority Air Quality Actions														
1	New improved traffic signals at crossroad	Traffic Management	Strategic highway improvements, re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2022	2028	Mid Kent Environmental Health, Kent County Council	Private Sector s106 Agreements	Funded	£50K-£100K	Planning	MOVA systems reduce delays by 10-20%	Upgraded MOVA signals installed	The MOVA signals have been completed pending final adjustments to timings.	MOVA signals at present are increasing queuing traffic at certain junctions possibly causing adverse effects.
2	Collaborating with schools to promote active travel and travel plans	Public Information	Via other mechanism	2022	2030	Mid Kent Environmental Health, Kent County Council	Existing TWBC budgets and DEFRA Pollution Patrol Project	Funded	<£10k	Implementation	Reduce traffic around schools during pick-up and drop-off times	All Hawkhurst Primary Schools signed up to Pollution Patrol. Travel Plans for schools of Hawkhurst pupils updated annually	Secondary schools identified. Pupil numbers acquired. One school providing updated travel plan.	Limited success in engaging with schools. Several other "green" initiatives to contend with.
3	Awareness campaign including signage	Public Information	Other	2021	2025	Mid Kent Environmental Health, Tunbridge Wells Borough Council Communications	Existing TWBC budgets	Funded	<£10k	Implementation	Reduced traffic idling within AQMAs	Achieve conditions favourable for AQMA revocation	Target lamppost identified. Street furniture application to be submitted following completion of	Subject to KCC allowances of street furniture.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
						department, Kent County Council							crossroads improvements.	
4	Increased EV charging points	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2018	2028	Kent County Council	KCC Budgets	Funded	£10k-£50k	Planning	Reduced emission from petrol and diesel vehicles	Increase in number of EV charging points	EV actions have been incorporated into Energy and Low Emissions Strategy rather than standalone policy. To date the following charging point sockets have been facilitated: 137 in District/Borough Car Parks; 66 in Parish Council car parks; 12 in Thanet Parkway Rail station; 24 under rapid taxi charger project; 14 across KCC estates. Capital funding has been secured to develop a network of thousands of additional 7kW on-	Viable on-street locations must be determined, and consideration must be given to placement due to suitable power supply, highway constraints, pavement widths, and various planning constraints.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
													street public chargers with procurement processes ongoing.	
5	Working with planning development to improve mitigation of businesses in Gill's Green	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2023	2038	Mid Kent Environmental Health, Tunbridge Wells Borough Council Planning Department	Existing TWBC Departmental Budgets	Funded	<£10k	Implementation	Reduce emissions from commuter and freight traffic to and from Gill's Green geographical area	Active Travel infrastructure enacted for any new development	Revised Air Quality Assessment provided which determined negligible impacts on the AQMA. The development will include EV in parking.	This action specifically relates to a large development at the Gill's Green Business Park
6	Ensure all developments are in accordance with current AQ policies in emerging local plan	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2023	2038	Mid Kent Environmental Health, Tunbridge Wells Borough Council Planning Policy	Existing TWBC Departmental Budgets	Funded	<£10k	Implementation	Minimise AQ impacts of new developments	Development of Air Quality Guidance specific to Hawkhurst Area	Hawkhurst Planning Position Statement developed. Adopted local plan which includes provision for AQ assessments to be provided for any major development potentially affecting AQMA.	Local plan was adopted in December 2025.

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
7	Have awareness of potential impact of cross boundary development	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2023	2024	Mid Kent Environmental Health, Tunbridge Wells Borough Council Planning Department	Existing TWBC Departmental Budgets	Funded	<£10k	Ongoing	Minimise AQ impacts of new developments	Consultation with cross-boundary Local Authority Environmental Health departments regarding major developments	Ongoing	Influence is limited to consultee status. Good working relationship with neighbouring Local Authorities.
8	Explore options to mitigate the effects of HGVs on the crossroads in Hawkhurst	Traffic Management	Other	2023	2024	Mid Kent Environmental Health, Kent County Council	KCC Budgets	Funded	<£10k	Planning	Minimise AQ impacts of HGV traffic	Reduction of HGV movement along Hawkhurst AQMA	Identifying options. Some information available in Highways development plan about redirection of HGVs but nothing positive.	Crossroads located at a junction of two A roads suitable for most traffic. These roads have been deemed not suitable for HGV restrictions or rerouting due to lack of suitable diversion route and impact on access and deliveries for business and agriculture. Local MP campaigning
9	Prioritise Hawkhurst in the rollout of	Public Information	Via other mechanism	2023	2029	Mid Kent Environmental Health, Kent	Existing TWBC budgets,	Funded	<£10k	Implementation	N/A	Hawkhurst GP Survey	Promotion ongoing	KCC priorities have since changed thus promotion

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
	the DEFRA funded GPs air quality training resource					County Council	DEFRA funding					Sites pilot resource		now being undertaken through Mid Kent Environmental Services in collaboration with TMC Ltd. Promotion via KCC would be ideal due to intersection of Director of Public Health and GP surgeries.

2.3 PM_{2.5} – Local Authority Approach

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy², 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.

Tunbridge Wells Borough Council is taking the following measures to address PM_{2.5}:

Automatic monitoring equipment for PM_{2.5} was installed and operational in May of 2022. As such, the data capture that year was 56% and the annual mean PM_{2.5} concentration was determined to be 8.0 µgm⁻³. This improved the following year in 2023, when data capture was 99.6% and a mean of 7.0 µgm⁻³ was determined. In 2024, data capture was 84.5% with a slightly higher mean of 7.8 µgm⁻³. Finally in 2025 data capture was 92.1% and an annual mean of 9.3 µgm⁻³ was recorded. Despite this increase, levels remain within both current and future proposed PM_{2.5} objectives.

There are currently no Smoke Control Zones in Tunbridge Wells Borough Council's geographical area. While this measure may be considered if future monitoring indicates exceedances of 2040 objectives, there are no current plans to implement such zones.

The Environmental Protection department is a statutory consultee for developments potentially affecting air quality. This department strongly discourages the installation of domestic combustion appliances in new developments. Planning applications that include such installations are subject to the following standard informative.

“Wood burners and multiple fuel stoves are strongly discouraged by this department since the pollutants from them can be a nuisance to neighbouring occupants and enforcement over the use of the correct fuels in the domestic sector is difficult. In addition, to the installation complying with Clean Air Act requirements, the cleanest installation and fuel option should be considered (i.e. pellet preferable to chips, preferable to wood).

This department investigates under Section 79(1b) of the Environmental Protection Act nuisance smoke from premises where complaints are received and substantiated with sufficient evidence.

² Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

We collaborate with the Environment Agency to share information on illegal waste burning incidents, ensuring that cases are referred to the appropriate authority for potential enforcement action and to support a wider understanding of incidents causing pollution to the local environment. This enhanced information sharing ensures that each agency can deploy appropriate prevention and/or enforcement powers to create coordinated responses.

Action 2 of our AQAP involves the Clean Air for Schools programme and Pollution Patrol schools' resource, both of which contain elements on domestic burning, industrial sources, and transport sources of particulate matter. Similar messages are included in the Clean Air Academy health practitioners' resource under Action 9 of the AQAP.

It is recognised that measures employed to reduce NO₂ and PM₁₀ will also have a beneficial effect on PM_{2.5}, therefore several of the measures included in our AQAP will also tackle PM_{2.5}.

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

This section sets out the monitoring undertaken within 2025 by Tunbridge Wells Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2021 and 2025 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Taken

3.1.1 Automatic Monitoring Sites

Tunbridge Wells Borough Council undertook automatic (continuous) monitoring at one (1) site during 2025. Table A.1 in Appendix A: Monitoring Results shows the details of the automatic monitoring sites. The KentAir page presents automatic monitoring results for Tunbridge Wells Borough Council, with automatic monitoring results also available through the UK-Air website.

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

3.1.2 Non-Automatic Monitoring Sites

Tunbridge Wells Borough Council undertook non- automatic (i.e. passive) monitoring of NO₂ at 20 sites during 2025. Table A.2 in Appendix A: Monitoring Results presents the details of the non-automatic sites.

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

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: Supporting Technical Information/Air Quality Monitoring QA/QC.

3.2.1 Nitrogen Dioxide (NO₂)

Table A.3 and Table A.4 in Appendix A: Monitoring Results compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. 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 2025 dataset of monthly mean values is provided in Appendix B: Full Monthly Diffusion Tube Results. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

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

No exceedances were identified in any passive monitoring site in 2025. The highest reading site in the borough was TW82 on Bayhall Road, which recorded an annual mean of 35.2 µgm⁻³ at the monitoring site. It is noted this monitoring site is set 7.5m closer to the road than the nearest residential receptor and is thus subject to distance correction calculations. Site TW41 remains the second highest reading passive site in the borough, although data capture in this area has consistently been affected each year. In 2025 officers of the Environmental Health department considered nearby locations to monitor levels in this area. The site sits on a KCC lamppost (identifier LEAN 006) at an elevation of 2.2m. Officers consider that this lower elevation allows passers-by to easily reach diffusion tubes and remove them from their sited locations. It is considered that re-siting the diffusion tube at a higher elevation of 3.0m will reduce the likelihood of removal of diffusion tubes and therefore improve data capture at the location. Works will be undertaken in 2026 to establish this new monitoring site to ensure NO₂ levels in the area remain under the national objectives.

There were no exceedances of the hourly mean at the automatic monitoring station in any year from 2021-2025 and no passive monitoring site recorded an annual average mean NO₂ level in excess of 60 µgm⁻³, therefore exceedances in the hourly mean objective for NO₂ are not thought to be likely in the Borough of Tunbridge Wells.

3.2.2 Particulate Matter (PM₁₀)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the air quality objective of 40µg/m³.

Table A.7 in Appendix A: Monitoring Results compares the ratified continuous monitored PM₁₀ daily mean concentrations for the past five years with the air quality objective of 50µg/m³, not to be exceeded more than 35 times per year.

The annual mean PM₁₀ concentration measured at the automatic monitoring station was 19.9 in 2025 with data capture at 92.5%. This was slightly higher than the previous year in which annual mean levels were measured at 17.6 µgm⁻³. There were no exceedances of the annual mean PM₁₀ concentration targets for the fifth consecutive year. There were two instances in 2025 where the 24-hour average of 50µg/m³ was exceeded, but this is well-below the requirement under the Air Quality Standards Regulations 2010 which require that these concentrations are not exceeded more than 35 times in a single year. It is noted that the automatic monitoring station is set back from the road from residential receptors and that the nearby road (A26 London Road) was affected by significant queuing traffic and emergency repair roadworks imposed by SGN gas to improve the piping network. It is possible that these conditions could account for the higher than usual 24-hour average of PM₁₀ in 2025.

3.2.3 Particulate Matter (PM_{2.5})

Table A.8 in Appendix A: Monitoring Results presents the ratified and adjusted monitored PM_{2.5} annual mean concentrations for the past five years.

The annual mean PM_{2.5} concentration measured at the automatic monitoring station was 7.8 µgm⁻³ in 2024. This slightly increased to 9.3 µgm⁻³ in 2025 which remains comfortably under the interim target of 12 µgm⁻³ to be met by January 2028 according to the Environmental Improvement Plan 2023 for England. It is noted that the nearby road, the A26 London Road) was significantly affected by queueing traffic subject to several stop-

start conditions for several months in 2025 due to roadworks imposed by SGN gas to improve the piping network and for emergency repairs. It is possible that these conditions, along with the presence of additional construction traffic and works could account for the increase in monitored PM_{2.5} levels in the year.

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) ^(1,2)	Distance to kerb of nearest road (m) ⁽¹⁾	Inlet Height (m)
CM1	A26 St John's Road	Roadside	558260	141599	NO ₂ , PM ₁₀ , PM _{2.5}	NO	N/A	Chemiluminescent; TEOM, BAM	18	4	3

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)
TW02	11 The Hurst, Tunbridge Wells	Urban Background	560022	141249	NO ₂	No	6.0	1.6	No	2.2
TW20	Mount Ephraim, T. Wells	Roadside	558303	139903	NO ₂	No	2.8	2.0	No	2.3
TW23	Neville Gate, T. Wells	Urban Background	558748	138219	NO ₂	No	16.0	0.7	No	2.4

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TW25	Flying Dutchman, T. Wells	Roadside	558142	142004	NO ₂	No	1.8	2.6	No	2.9
TW34	The Cutout St John Road TW AQ	Roadside	558260	141605	NO ₂	No	14.0	4.0	Yes	3.0
TW41	by 38 The Pantiles, London Rd/Pantiles, Tunbridge Wells	Roadside	558070	138756	NO ₂	No	4.8	1.8	No	2.2
TW53	Warrington Road, Paddock Wood	Roadside	566874	145076	NO ₂	No	9.0	1.8	No	3.0
TW55	Badsell Road opposite Macalls park., Paddock Wood	Roadside	566803	144107	NO ₂	No	11.0	1.8	No	2.3
TW58	Union House, Tunbridge Wells	Roadside	557948	138620	NO ₂	No	7.4	1.3	No	2.0
TW60	12 Goarse Road	Urban Background	560234	140146	NO ₂	No	10.0	30.0	No	2.5
TW63.1, TW63.2, TW63.3	Cranbrook Road, Hawkhurst Smugglers Rest	Roadside	576056	130592	NO ₂	Yes - Hawkhurst AQMA	0.0	1.0	No	2.3
TW69 HH	Near Substation, Cranbrook Road, Hawkhurst	Roadside	576068	130619	NO ₂	Yes - Hawkhurst AQMA	3.0	2.5	No	2.4
TW70 HH	Outside 8/9 Cranbrook Road, Hawkhurst	Roadside	576042	130765	NO ₂	No	0.2	1.2	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TW71	Tube on post just besides of entrance next to Seven Springs Home	Roadside	560892	140403	NO ₂	No	7.0	1.5	No	2.4
TW72	Southborough Civic Centre - T Wells	Roadside	558149	142085	NO ₂	No	2.0	3.0	No	2.6
TW73	Summervale Road	Roadside	557358	138134	NO ₂	No	15.0	4.5	No	2.0
TW74	Papa John's Southborough - T Wells	Roadside	558138	142223	NO ₂	No	0.0	5.0	No	1.7
TW75	6 Bayhall Road	Roadside	559209	139319	NO ₂	No	3.0	3.0	No	2.0
TW82	Pembury Road - By Dorin Court Pembury Rd TN2 3RH	Roadside	559162	139393	NO ₂	No	7.5	1.0	No	1.8
TW83	Carrs Corner Roundabout Crescent Road TN1 2UN	Roadside	558782	139489	NO ₂	No	0.0	2.6	No	2.0

Notes:

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

(2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
CM1	558260	141599	Roadside	97.3	97.3	26	25	23	20.3	21.4

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

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

☒ Where exceedances of the NO₂ annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2025.

Notes:

The annual mean concentrations are presented as µg/m³.

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

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

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

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

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

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
TW02	560022	141249	Urban Background	82.7	82.7	9.3	9.3	9.5	10.0	7.4
TW20	558303	139903	Roadside	25.0	25.0	24.7	27.9	29.5	22.0	22.3
TW23	558748	138219	Urban Background	55.8	55.8	7.6	8.1	8.7	7.1	8.3
TW25	558142	142004	Roadside	73.1	75.0	22.2	22.6	26.3	17.1	20.2
TW41	558070	138756	Roadside	59.6	51.9	34.5	35.9	38.3	31.5	30.2
TW53	566874	145076	Roadside	75.0	75.0	10.5	11.8	11.4	9.2	8.9
TW55	566803	144107	Roadside	42.3	42.3	13.7	16.7	19.6	14.4	18.1
TW58	557948	138620	Roadside	44.2	44.2	31.3	27.5	29.5	22.2	21.5
TW60	560234	140146	Urban Background	92.3	92.3	11.3	12.7	11.9	9.8	9.8
TW63.1, TW63.2, TW63.3	576056	130592	Roadside	75.0	75.0	35.0	39.6	43.5	30.9	26.7
TW69 HH	576068	130619	Roadside	75.0	75.0	32.6	34.7	36.1	26.3	21.2
TW70 HH	576042	130765	Roadside	65.4	65.4	26.8	28.6	29.7	25.3	22.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
TW71	560892	140403	Roadside	75.0	75.0	27.2	28.0	29.2	21.1	20.7
TW72	558149	142085	Roadside	90.4	90.4	29.0	20.3	21.3	16.6	18.3
TW73	557358	138134	Roadside	59.6	59.6	13.9	14.6	17.0	16.2	17.8
TW74	558138	142223	Roadside	57.7	57.7	18.0	19.7	18.6	13.1	13.0
TW75	559209	139319	Roadside	75.0	75.0	17.3	15.2	15.3	12.6	13.6
TW82	559162	139393	Roadside	57.7	57.7		41.7	40.8	34.8	35.2
TW83	558782	139489	Roadside	48.1	48.1		24.5	24.4	20.3	20.3

☒ 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/m³.

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

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

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%).

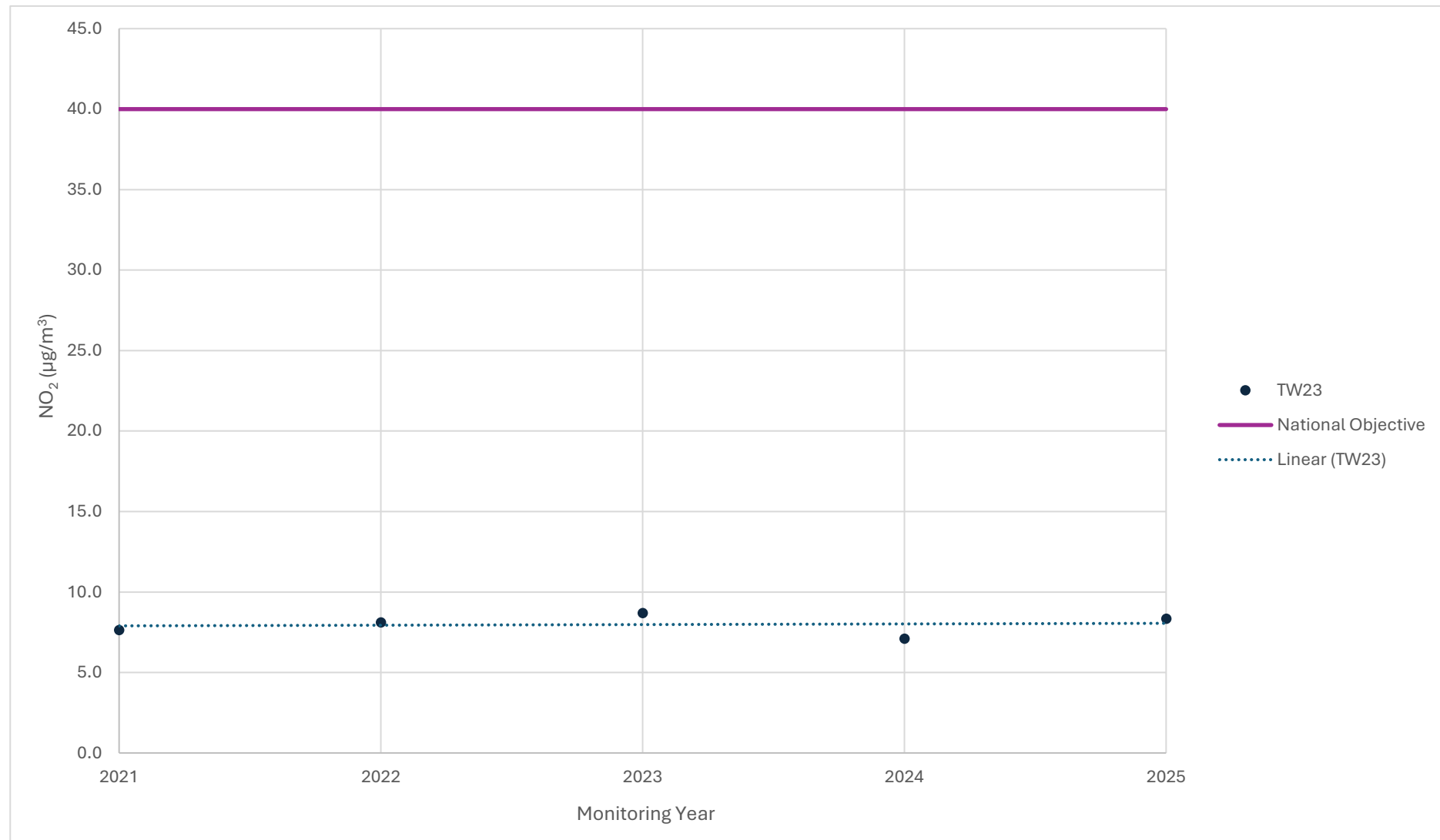
Figure A.1 -Trend in Annual Mean NO₂ Concentration at Background Monitoring Site TW23

Figure A.2 – Trends in Annual Mean NO₂ Concentrations in Central Tunbridge Wells Area

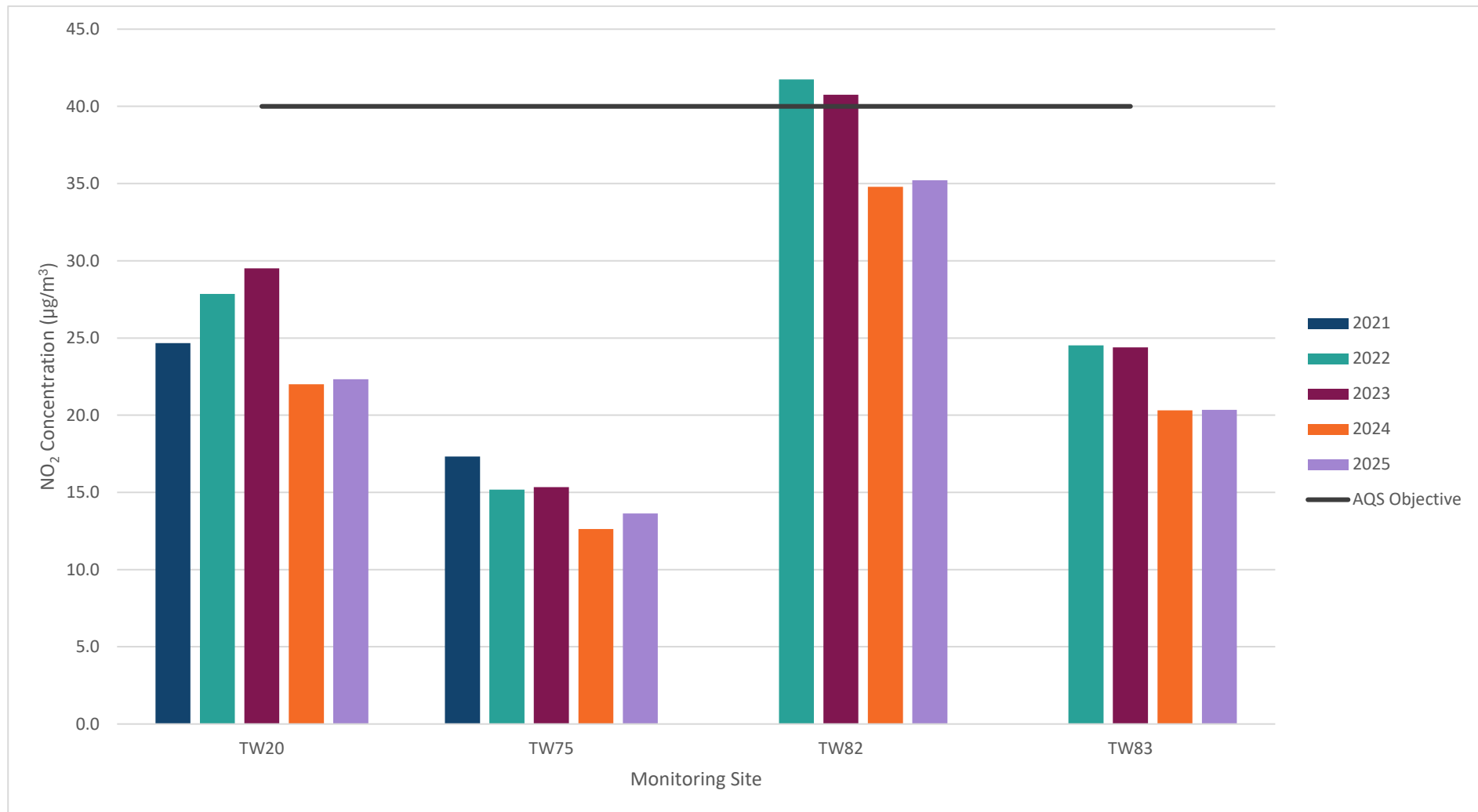


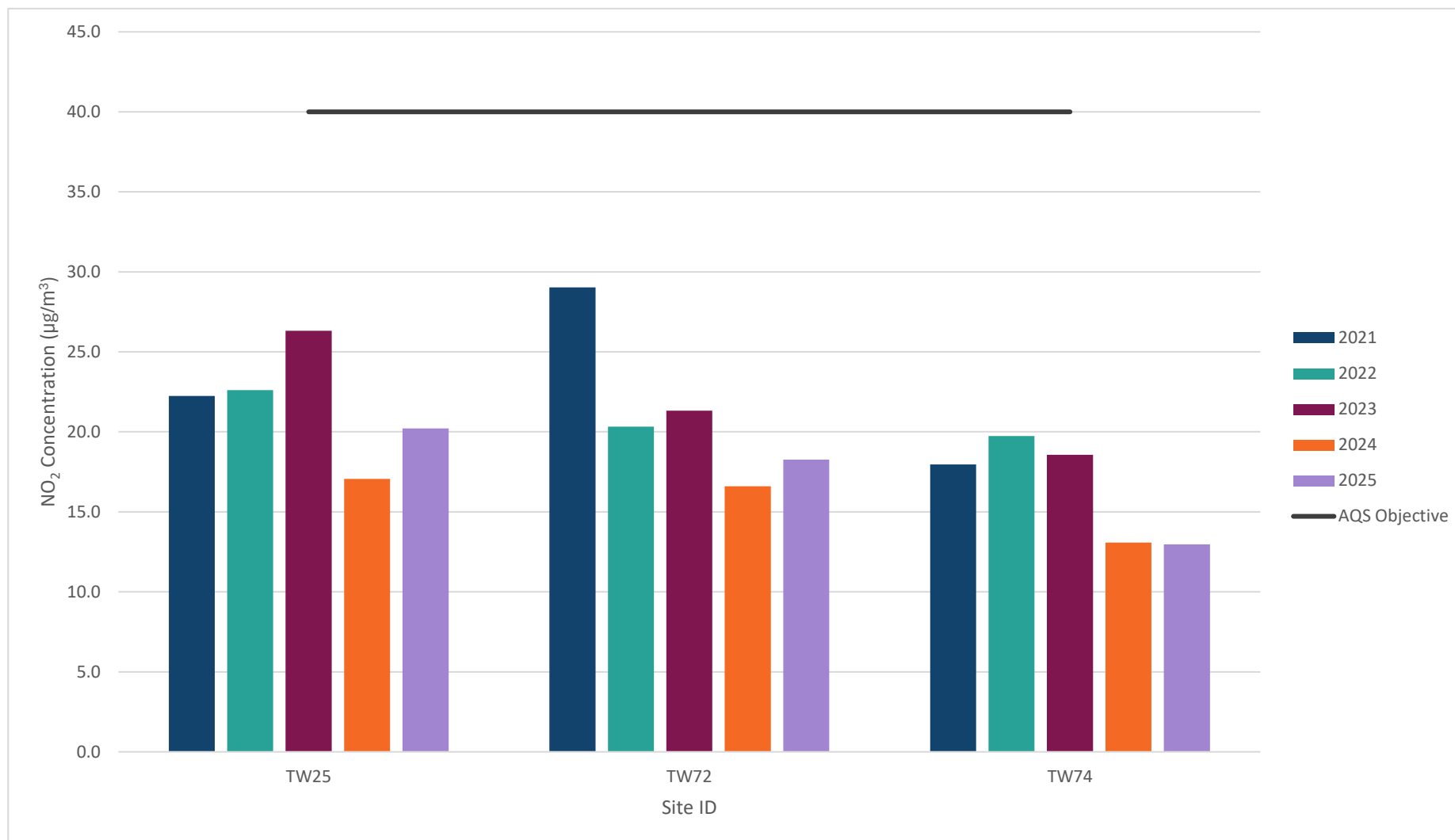
Figure A.3 – Trends in Annual Mean NO₂ Concentrations in Southborough Area

Figure A.4 – Trends in Annual Mean NO₂ Concentrations in Sherwood Area

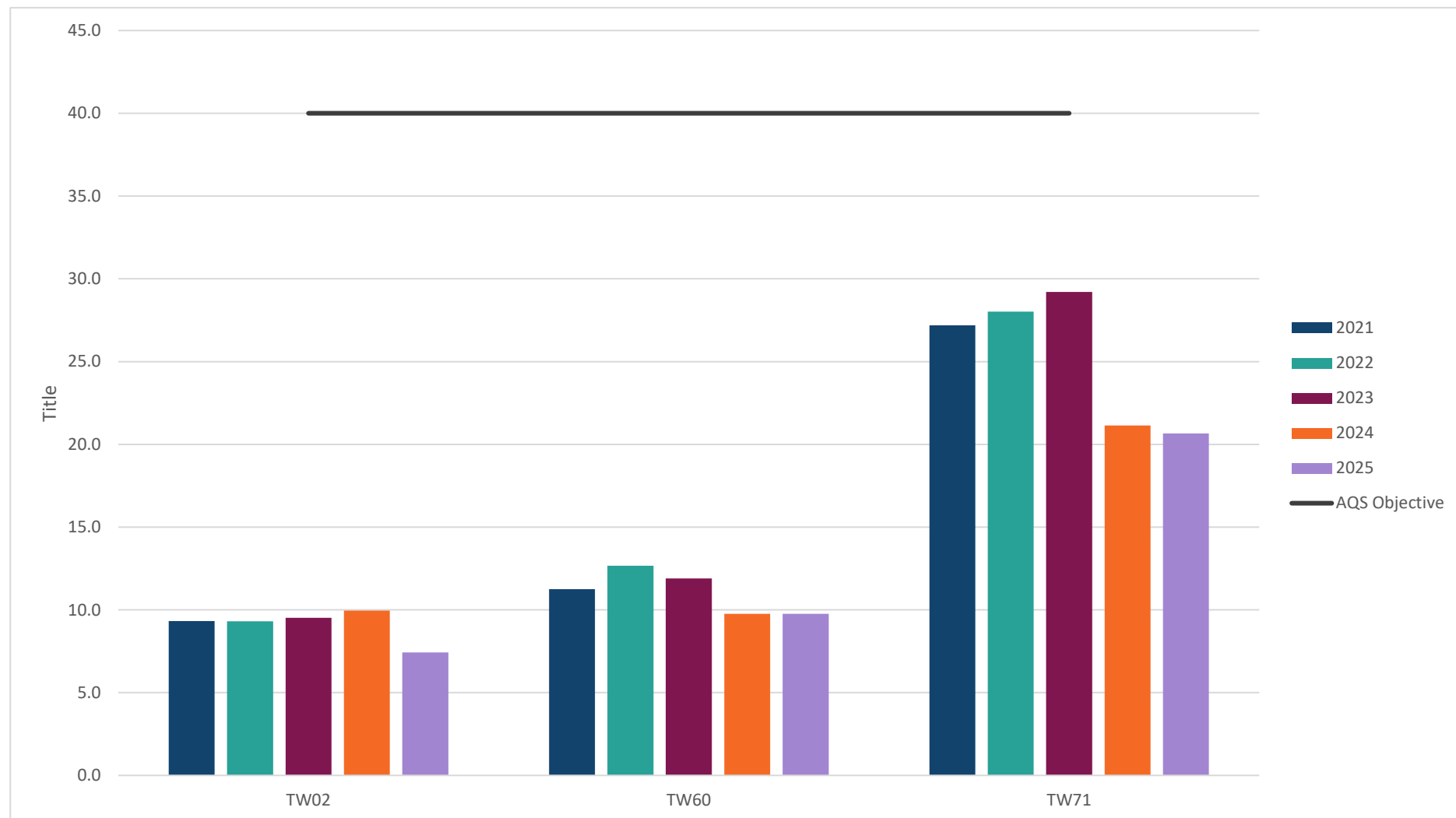


Figure A.5 – Trends in Annual Mean NO₂ Concentrations in Paddock Wood Area

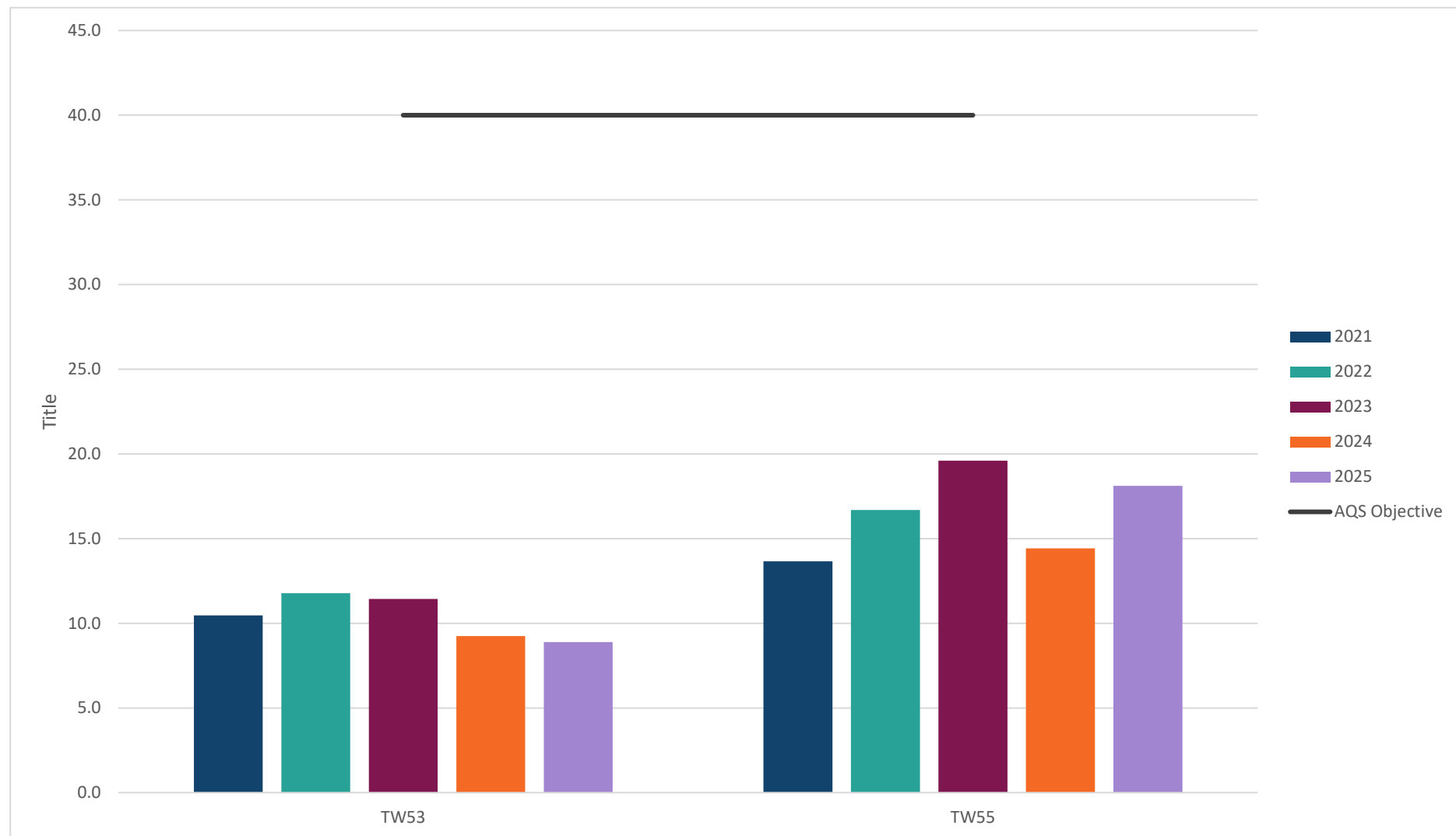


Figure A.6 – Trends in Annual Mean NO₂ Concentrations in Hawkhurst Area

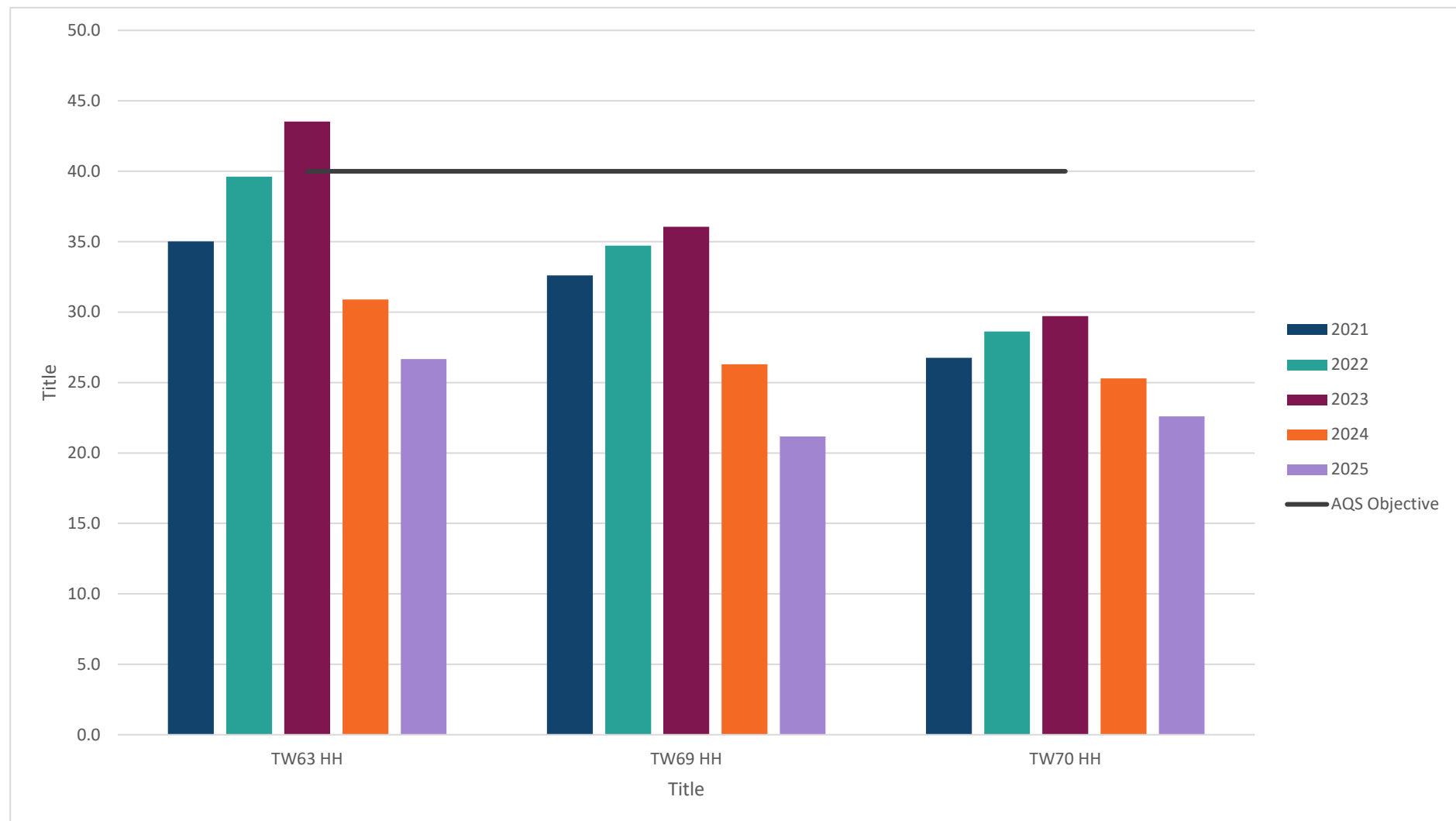


Figure A.7 – Trends in Annual Mean NO₂ Concentrations in The Pantiles Area

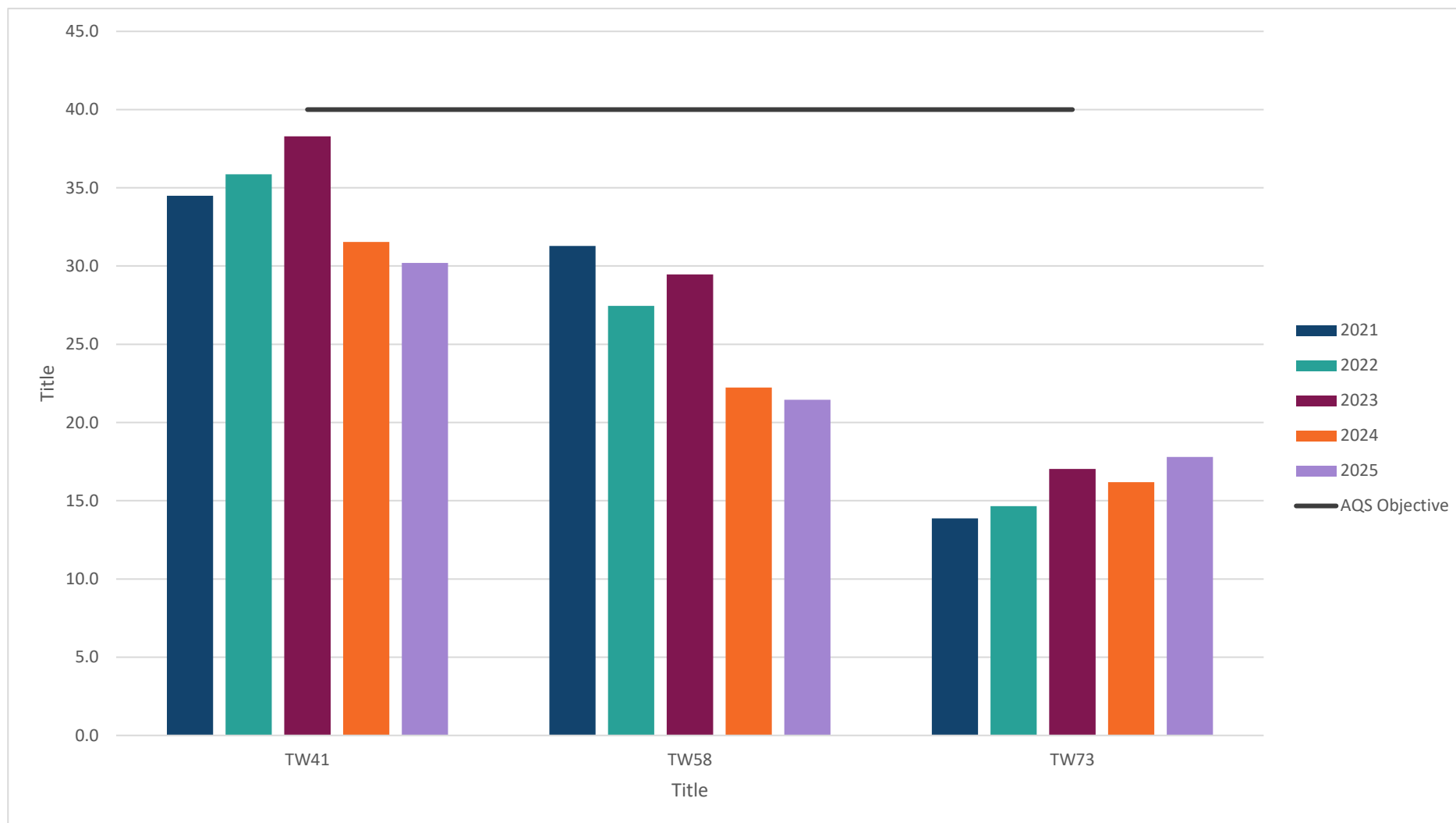


Figure A.8 – Trend in Annual Mean NO₂ Concentration at Automatic Monitoring Site A26 St John's Road

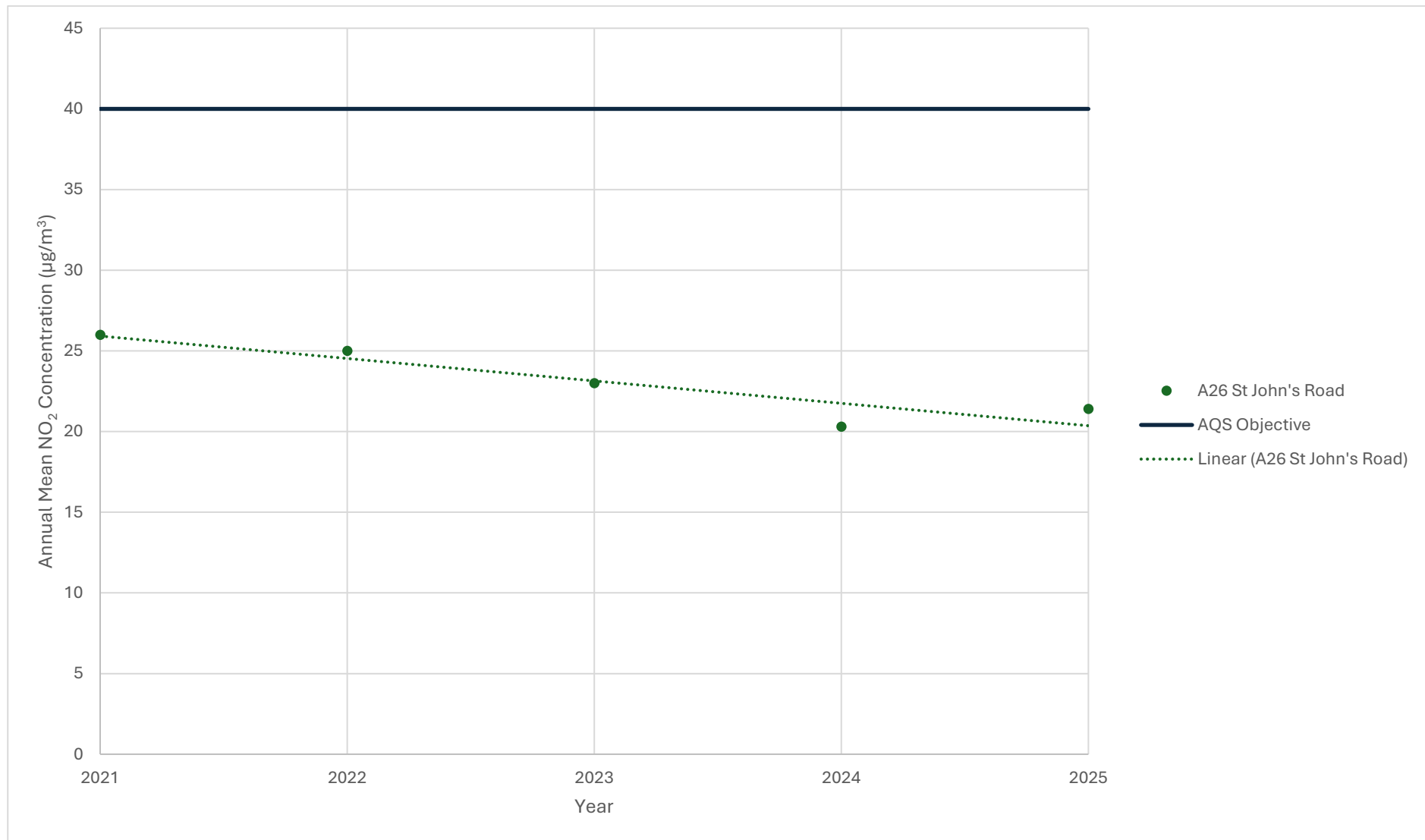


Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means >200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
CM1	558260	141599	Roadside	98.4	98.4	0	0	0	0	0

Notes:

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

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

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

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

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

Figure A.9 – Trends in Number of NO₂ 1-Hour Means > 200µg/m³

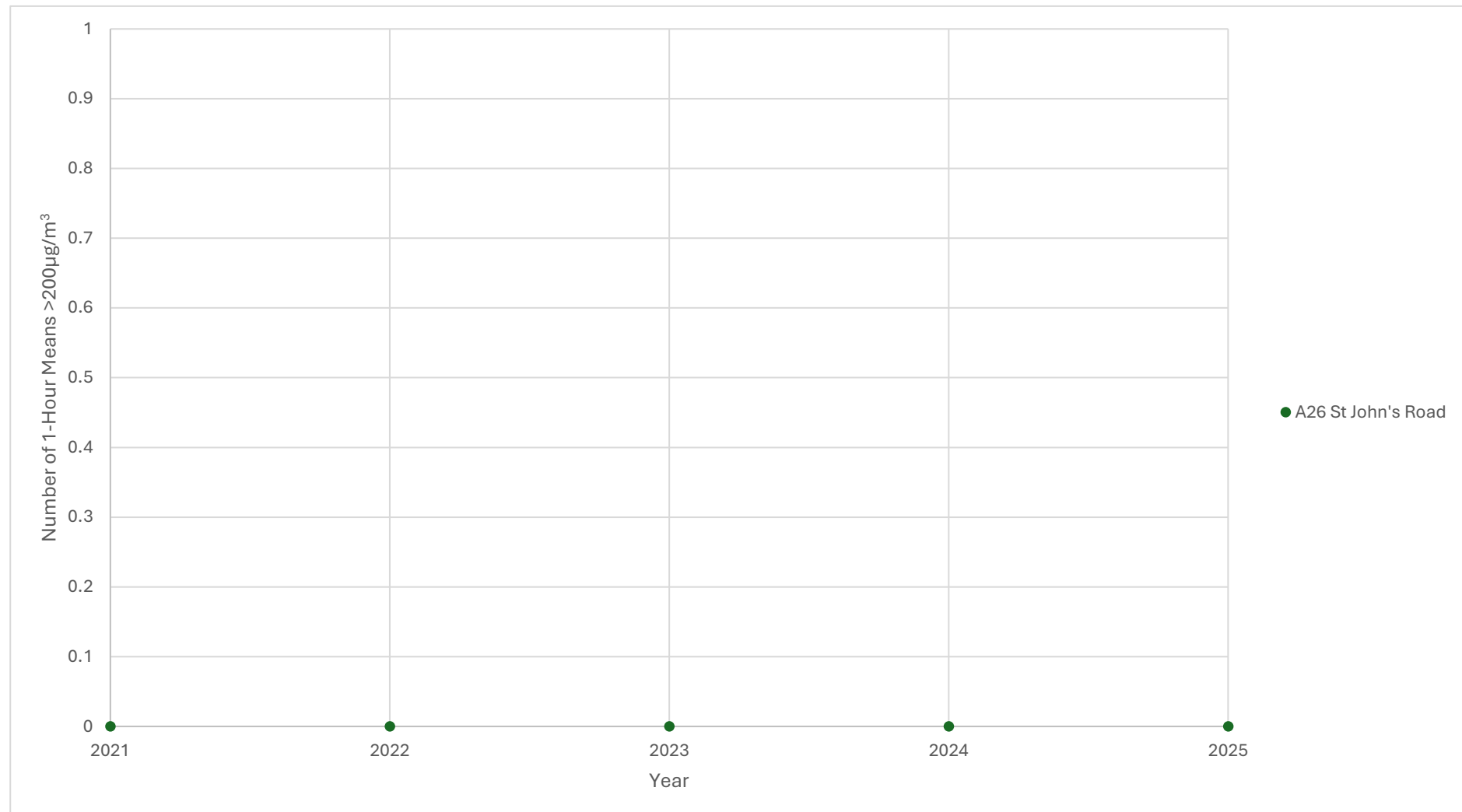


Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
CM1	558260	141599	Roadside	92.5	92.5	19	21	20	17.6	19.9

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

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the PM₁₀ annual mean objective of 40µg/m³ are shown in **bold**.

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

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

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

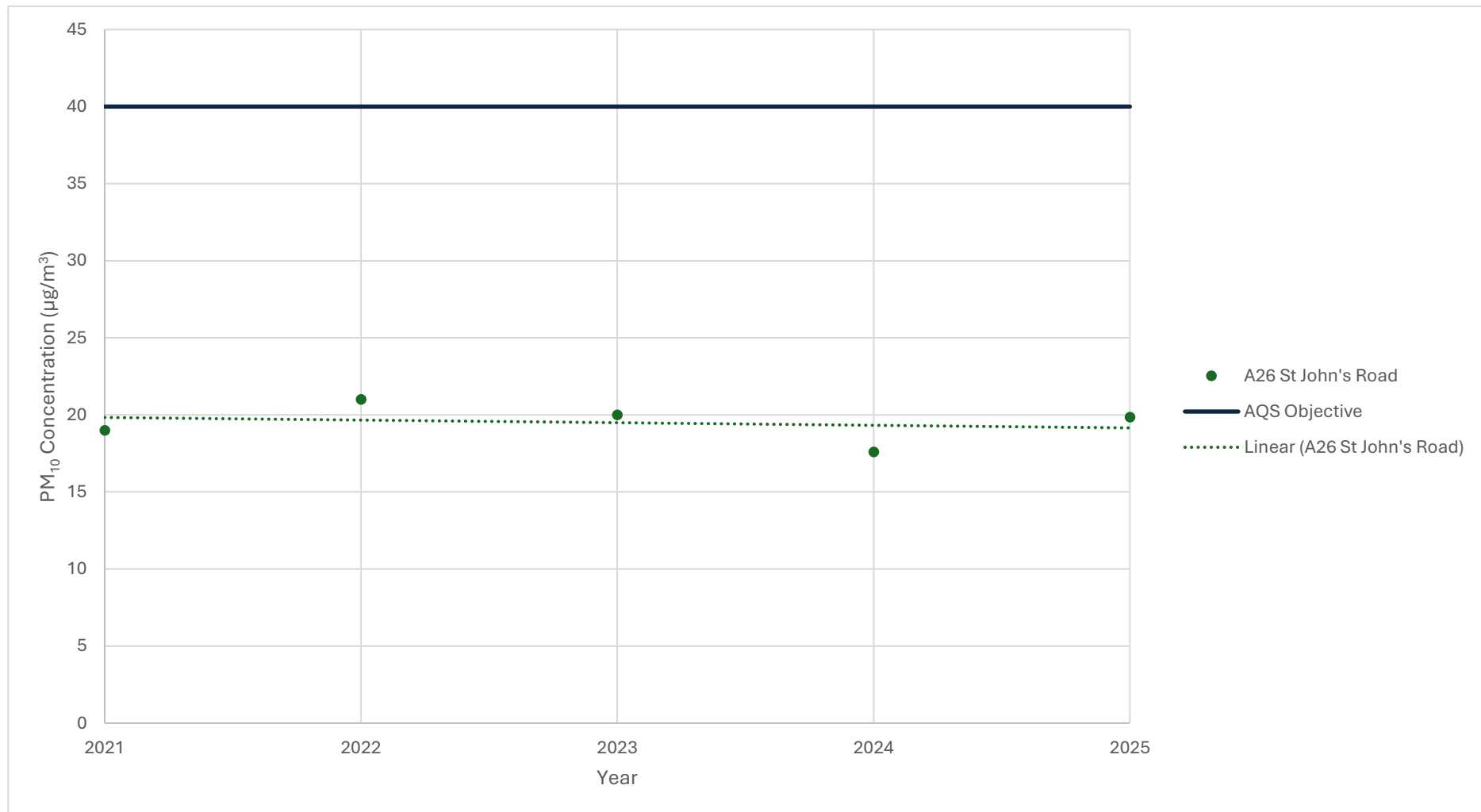
Figure A.10 – Trends in Annual Mean PM₁₀ Concentrations

Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
CM1	558260	141599	Roadside	92.5	92.5	1	2	0	0	2

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m³ have been recorded.

Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ 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.11 – Trends in Number of 24-Hour Mean PM₁₀ Results >50µg/m³

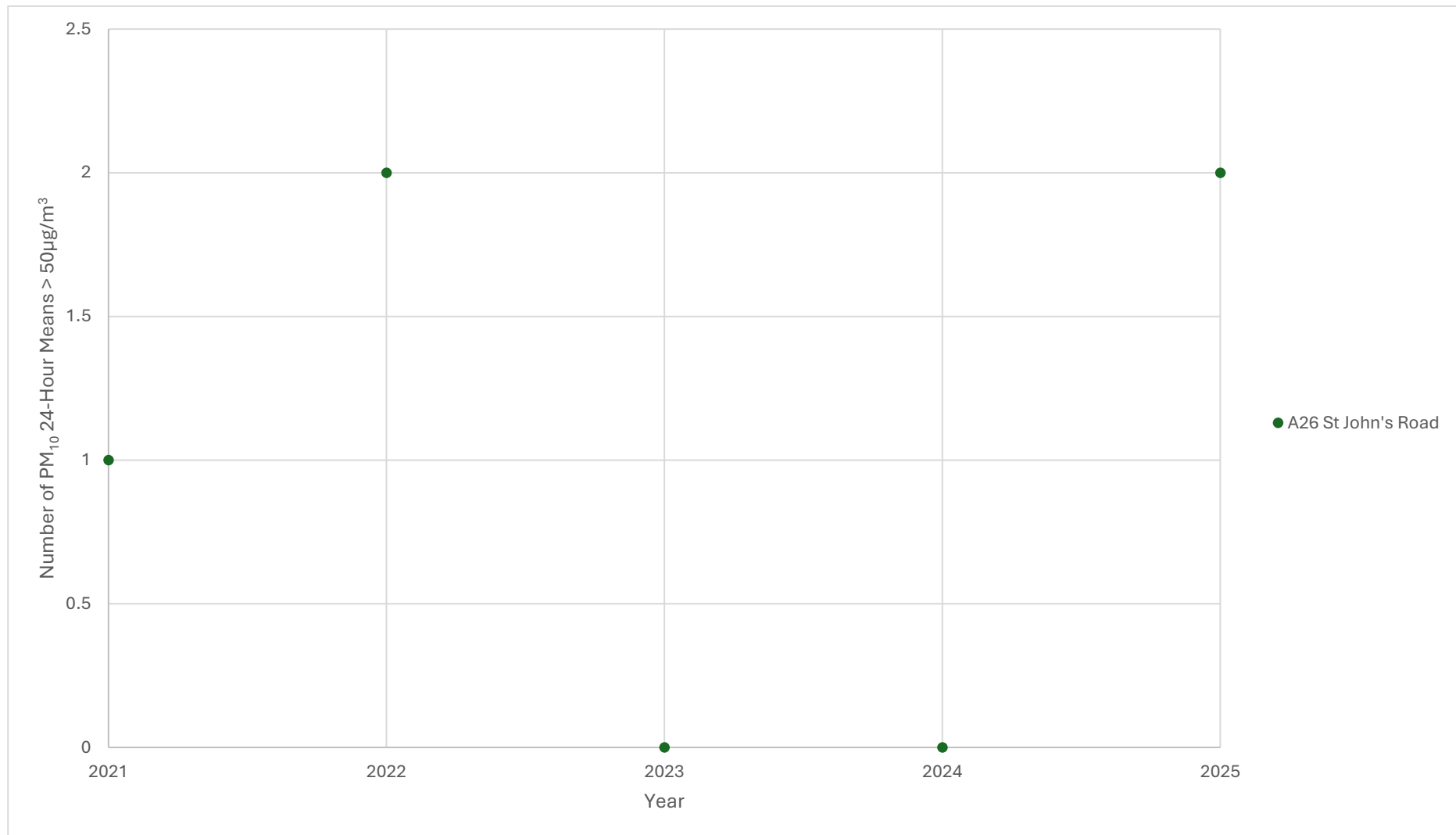


Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
CM1	558260	141599	Roadside	92.1	92.1		8	7	7.8	9.3

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

Notes:

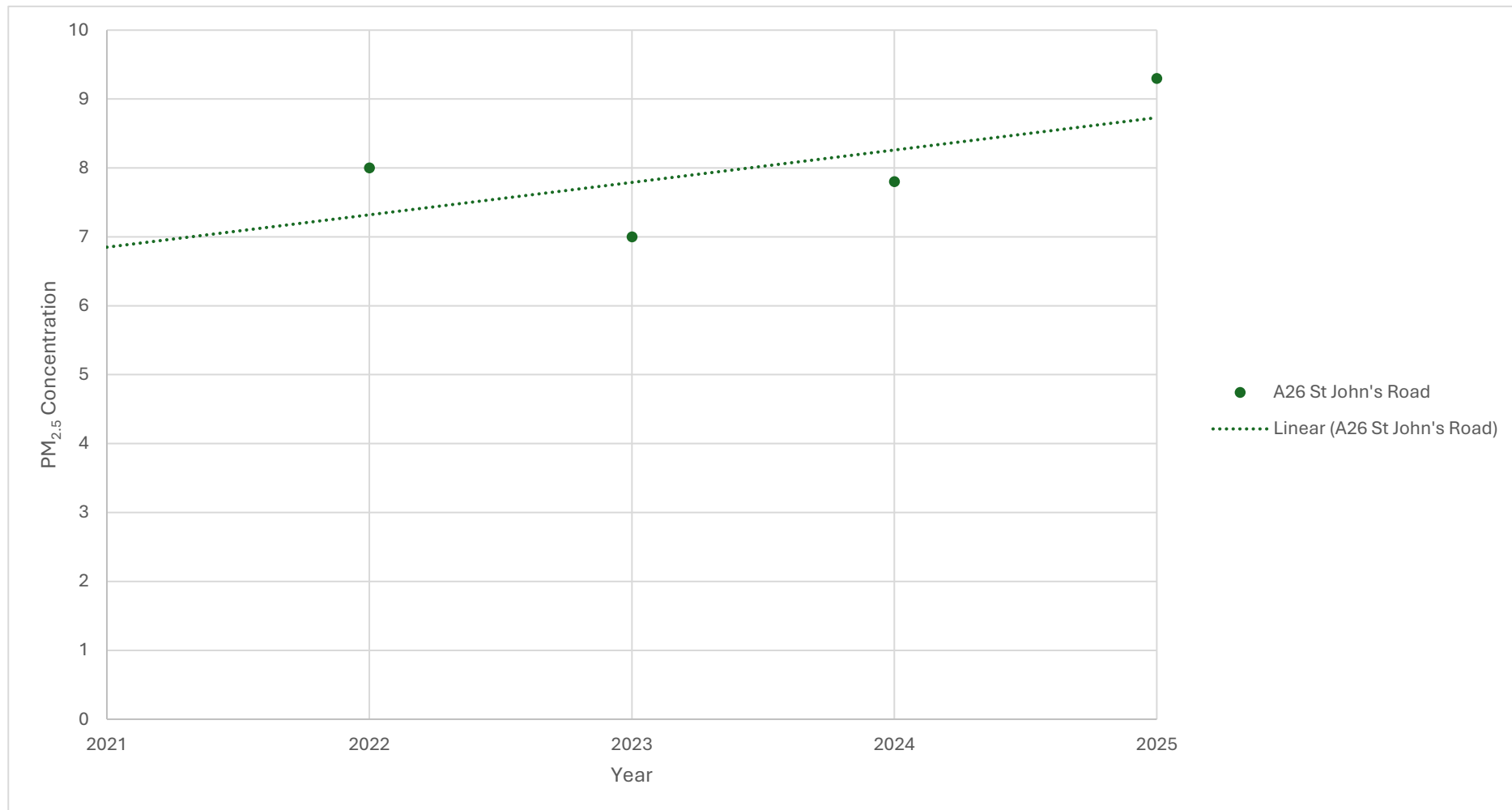
The annual mean concentrations are presented as µg/m³.

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.12 – Trends in Annual Mean PM_{2.5} Concentrations



Appendix B: Full Monthly Diffusion Tube Results

Table B.1 – NO₂ 2025 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TW02	560022	141249	11.2		12.8	13.8		6.5	7.2	5.5	7.7	7.9	11.0	11.6	9.5	7.4	-	
TW20	558303	139903			22.4			32.8	33.2						29.5	22.3	-	
TW23	558748	138219		13.2	12.0	13.2		6.9	7.4	5.5			18.7		11.0	8.3	-	
TW25	558142	142004	23.8	26.3	26.6	35.4		21.0	17.3	17.3		16.9	48.7		25.9	20.2	-	
TW34	558260	141605	27.3		32.0		7.2	25.2	10.7	16.5	21.4	16.8		23.0	-	-	-	Triplicate Site with TW34, TW34 and TW34 - Annual data provided for TW34 only
TW34	558260	141605	27.3		32.0		7.2	25.2	10.7	16.5	21.4	16.8		23.0	-	-	-	Triplicate Site with TW34, TW34 and TW34 - Annual data provided

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
																		for TW34 only
TW34	558260	141605	27.3		32.0		7.2	25.2	10.7	16.5	21.4	16.8		23.0	-	-	-	Triplicate Site with TW34, TW34 and TW34 - Annual data provided for TW34 only
TW41	558070	138756					13.1	38.8	31.8	33.5	34.2	32.3			30.6	30.2	-	
TW53	566874	145076		19.6		13.9	9.7	7.5	9.1	11.2	7.2	9.2	15.2		11.4	8.9	-	
TW55	566803	144107		29.9		14.5	17.7		17.2	31.8					22.2	18.1	-	
TW58	557948	138620					11.6		18.6	27.0	30.7	20.2			21.6	21.5	-	
TW60	560234	140146	15.8	18.4	15.9	20.4	3.5	11.3	9.2	9.0	8.1	10.3		15.8	12.5	9.8	-	
TW63.1	576056	130592		53.4		13.4	21.9	35.4	35.1	52.3	23.7	31.5	43.9		-	-	-	Triplicate Site with TW63.1, TW63.2 and TW63.3 - Annual data provided for TW63.3 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 (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TW63.2	576056	130592		49.3		16.7	23.2	36.7	34.1	35.9	21.8	31.0	47.5		-	-	-	Triplicate Site with TW63.1, TW63.2 and TW63.3 - Annual data provided for TW63.3 only
TW63.3	576056	130592		53.8			21.7	33.9	33.4	56.4	22.6	32.1	47.5		34.2	26.7	-	Triplicate Site with TW63.1, TW63.2 and TW63.3 - Annual data provided for TW63.3 only
TW69 HH	576068	130619		39.8		22.0	19.6	27.3	32.9	32.3	15.1	23.4	31.9		27.1	21.2	-	
TW70 HH	576042	130765		26.1		22.5		26.2	29.3	41.0	15.3	23.7	27.9		26.5	22.6	-	
TW71	560892	140403		41.9		13.4	29.7	30.2	28.3	35.8	13.5	21.4	24.2		26.5	20.7	-	
TW72	558149	142085	29.5	20.0	21.5	30.3	7.6	22.6	18.5	17.0	20.8	24.5	45.3		23.4	18.3	-	
TW73	557358	138134					4.5	13.7	36.7	13.5	15.1	14.8	31.8		18.6	17.8	-	
TW74	558138	142223	11.5	24.1	24.5	37.1	5.2	14.9	14.3						18.8	13.0	-	

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 (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TW75	559209	139319		16.2	21.0	28.8	5.3	13.5	14.7		9.2	15.7	32.9		17.5	13.6	-	
TW82	559162	139393		35.6	46.8			44.8	48.8	39.1	40.9	41.6			42.5	35.2	-	
TW83	558782	139489		32.2	34.8			25.1	21.0	19.1	19.9				25.4	20.3	-	

- ☒ All erroneous data has been removed from the NO₂ 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.
- ☒ Tunbridge Wells Borough Council confirm that all 2025 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

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

New or Changed Sources Identified Within Tunbridge Wells Borough During 2025

No new sources relating to air quality were determined in 2025.

Additional Air Quality Works Undertaken by Tunbridge Wells Borough Council during 2025

Detailed dispersion modelling for the Hawkhurst AQMA was undertaken by Air Quality Consultants (AQC) of Logika Group in September of 2025. A copy of this report is available under Appendix G: AQC Dispersion Modelling Report

This modelling builds upon previous work undertaken during the AQMA declaration and provides an updated assessment of air quality conditions at relevant receptors. The AQMA was declared based on results from 2019 monitoring and modelling undertaken in 2019 by AQC report J4114A/1/F2. The modelling was undertaken to address limitations associated with the passive monitoring sites TW63, TW69 and TW70 which may not fully represent pollutant concentrations experienced at relevant receptors due to practical siting constraints. While the modelled concentrations at some of the receptors were determined to be higher than the monitored concentrations, the model showed no exceedances of the annual mean nitrogen dioxide objective at any of the receptors, nor any concentrations within 10% of the objective. The report recommends that, while three years of compliance with the objectives has been demonstrated in both the monitored and modelled data, in order to account for uncertainties revocation should only be considered following the analysis of the 2025 monitoring data to ensure that concentrations are lower or have remained similar to 2024.

QA/QC of Diffusion Tube Monitoring

All diffusion tubes deployed in Tunbridge Wells Borough during 2025 were supplied by Socotec (Didcot). Socotec is a UKAS accredited laboratory and participates in the new AIR-PT (Proficiency Test) Scheme previously known as the Workplace Analysis Scheme for Proficiency (WASP) for NO₂ tube analysis and the Annual Field Inter-Comparison LAQM Annual Status Report 2026

Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance. In the latest available results, Socotec Didcot scored as follows: Air-PT AR062 (Jan to Feb 2025) 87.5%, AIR-PT AR069 (Apr to Jun 2025) 100% and AIR-PT AR072 (Sept to Oct 2025) 87.5%. The percentage score reflects the results deemed to be satisfactory based upon the z score of $< \pm 2$. Based on 42 studies, 100% of the Local Authority co-location studies 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 2025 diffusion tube calendar.

Diffusion Tube Annualisation

Ten non-automatic monitoring sites required annualisation as they achieved less than 75% data capture. The sites requiring annualisation were TW20, TW23, TW41, TW55, TW58, TW70HH, TW73, TW74, TW82 and TW83. An annualisation summary is available under Table C.1.

Table C.1 – Annualisation Summary (concentrations presented in µg/m³)

Diffusion Tube ID	Annualisation Factor Rochester Stoke	Annualisation Factor Thurrock	Average Annualisation Factor	Raw Data Simple Annual Mean (µg/m ³)	Annualised Data Simple Annual Mean (µg/m ³)
TW20	0.9404	1.0028	0.9716	29.5	28.6
TW23	0.9578	0.9872	0.9725	11.0	10.7
TW41	1.3193	1.2094	1.2643	30.6	38.7
TW55	1.0370	1.0540	1.0455	22.2	23.2
TW58	1.3293	1.2148	1.2720	21.6	27.5

TW70 HH	1.1216	1.0660	1.0938	26.5	29.0
TW73	1.2826	1.1724	1.2275	18.6	22.8
TW74	0.8592	0.9097	0.8844	18.8	16.6
TW82	1.0656	1.0577	1.0617	42.5	45.1
TW83	1.0116	1.0467	1.0291	25.4	26.1

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2025 ASR has been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Tunbridge Wells Borough Council have applied a national bias adjustment factor of 0.78 to the 2025 monitoring data. A summary of bias adjustment factors used by Tunbridge Wells Borough Council over the past five years is presented in Table C.2.

Typically, where we have achieved sufficient data capture from passive monitoring sites, Tunbridge Wells Borough Council prefers to choose a local bias correction factor rather than the national bias correction factor. In 2025, while sufficient data capture and good precision was achieved in most months there were two monitoring periods lacking co-location data from diffusion tubes which makes us cautious in using the local bias correction factor calculated at 0.97. This calculated local bias correction factor is considerably higher than the national bias correction factor from our laboratory, Ricardo. The calculated local bias correction factor for 2025 was also considerably higher than the local bias correction factor for 2024 (calculated at 0.71). Tunbridge Wells Borough Council had used the national bias correction factor in 2024 (calculated at 0.78) and in 2023 (calculated at 0.77). In 2021 and 2022, local bias correction factors were calculated to be 0.76 and 0.79, respectively. It is likely the actual local bias correction factor is somewhere

in between the calculated local factor and the national factor. As modelling data from 2025 for the Hawkhurst AQMA was based on the national bias correction factor, we have elected to use the national bias correction factor for comparison.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2025	National	03/26	0.78
2024	National	04/25	0.78
2023	National	03/24	0.77
2022	Local		0.79
2021	Local		0.76

Table C.3 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1
Periods used to calculate bias	8
Bias Factor A	0.97 (0.76 - 1.32)
Bias Factor B	3% (-24% - 31%)
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	22.2
Mean CV (Precision)	5.0%
Automatic Mean ($\mu\text{g}/\text{m}^3$)	21.5
Data Capture	97%
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	21 (17 - 29)

Notes:

The national bias adjustment factor of 0.78 has been used to bias adjust the 2025 diffusion tube results.

NO₂ Fall-off with Distance from the Road

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

automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

No diffusion tube NO₂ monitoring locations within Tunbridge Wells Borough required distance correction during 2025.

QA/QC of Automatic Monitoring

Calibration of the automatic monitoring station on St John's Road is undertaken fortnightly by Tunbridge Wells Borough Council's Environmental Protection Team. Matt's Monitors undertake a 6 monthly servicing, and the QA/QC is part of the Kent and Medway Air Quality Monitoring Network (KMAQN) which includes daily data checks and annual audits. The KMAQN contract is run by Ricardo Energy and Environment who ratify the data. Data is available on the KentAir website along with Tunbridge Wells Borough Council's previous ASRs.

QA/QC of Automatic Air Quality Instruments

Data ratification in Tunbridge Wells Borough was undertaken by Ricardo Energy and Environment.

Air quality measurements from automatic instruments are validated and ratified to the standards of the AURN and those described in the Local Air Quality Management Technical Guidance LAQM.TG22

Validation

This process operates on data during the data collection stage. All data are continually screened algorithmically and manually for anomalies. There are several techniques designed to discover spurious and unusual measurements within an exceptionally large dataset. These anomalies may be due to equipment failure, human error, power failures, interference, or other disturbances. Automatic screening can only safely identify spurious results that need further manual investigation.

Raw data from the gaseous instruments (e.g., NO_x, O₃, SO₂ and CO) are scaled into concentrations using the latest values derived from the manual and automatic calibrations. These instruments are not absolute and suffer drifts. Both the zero baseline (background) and the sensitivity may change over time. Regular calibrations with certified gas standards are used to measure the zero and sensitivity. However, these are only valid for the moment of the calibration since the instrument will continue to drift. Raw measurements

from particulate instruments (e.g., PM₁₀ and PM_{2.5}) generally do not require scaling into concentrations. The original raw data are always preserved intact while the processed data are dynamically scaled and edited.

Ratification

This is the process that finalises the data to produce the measurements suitable for reporting. All available information is critically assessed so that the best data scaling is applied, and all anomalies are appropriately edited. Generally, this operates at three-, six- or twelve-month intervals. However, unexpected faults can be identified during the instrument routine services or independent audits which are often at 6-monthly intervals. In practice, therefore, the data can only be fully ratified in 12-month or annual periods. The data processing performed during the three- and six-monthly cycles helps build a reliable dataset that is finalised at the end of the year.

There is a diverse range of additional information that can be essential to the correct understanding and editing of data anomalies. These may include

- The correct scaling of data
- Ignoring calibrations that were poor e.g. a spent zero scrubber
- Closely tracking rapid drifts or eliminating the data
- Comparing the measurements with other pollutants and nearby sites
- Corrections due to span cylinder drift
- Corrections due to flow drifts for the particulate instruments
- Corrections for ozone instrument sensitivity drifts
- Eliminating measurements for NO₂ conversion inefficiencies
- Eliminating periods where calibration gas is in the ambient dataset
- Identifying periods where instruments are warming-up after a power cut
- Identification of anomalies due to mains power spikes
- Correcting problems with the data and time stamp
- Observations made during the sites visits and services

The identification of data anomalies, the proper understanding of the effects and the application of appropriate corrections requires expertise gained over many years of operational experience. Instruments and infrastructure can fail in numerous ways that significantly and visually affect the quality of the measurements. There are rarely simple faults that can be discovered by computer algorithms or can be understood without previous experience.

The PM₁₀ concentrations require scaling into Gravimetric Equivalent concentration units by use of the Volatile Correction model (VCM) <http://www.volatile-correction-model.info> or by corrections published by Defra <https://uk-air.defra.gov.uk/networks/monitoring-methods?view=mcerts-scheme> depending on the measurement technique.

QC Audits

Ricardo Energy & Environment carry out annual audits to rigorously evaluate analysers to obtain an assessment of performance level. This information, in conjunction with the full analyser data set and calibration and service records, help ensure data quality specifications have been met during the preceding period. Additionally, an assessment of the station calibration cylinder concentrations provides an indication that the cylinder concentrations remain stable and therefore suitable for data scaling purposes.

The following describes the audit process:

1 Oxides of Nitrogen

1.1 Analyser Response Factors

A stable “intercalibrations standard,” validated against transfer standards, is transported to each site and is sampled by the analyser

The analyser also samples from a cylinder containing certified metrology grade zero air, or catalytic scrubbers of known efficiency.

The analyser factor quoted is the response to the intercalibration standard, expressed in nmol mol⁻¹, with the zero point being the response to zero air.

For oxides of nitrogen analysers, the NO_x and NO channel response factors are derived from an NO in nitrogen cylinder

1.2 Analyser Linearity

To determine analyser linearity, a series of amount fractions are produced (using dynamic dilution techniques) covering the analyser range. The analyser output is noted for each of these amount fractions. A linear regression is then carried out, relating analyser output to the dilution factor at each point. The linearity error is defined as the maximum residual of the regression slope.

1.3 Analyser noise levels

This is defined as the standard error of ten successive spot readings of analyser output when fully stabilised on zero (zero noise) or span (span noise) amount fraction.

1.4 NO_x analyser Converter Efficiency

NO₂ to NO Converter efficiency is determined using gas point titration as follows:

A stable amount of fraction of NO is produced, (by two stage dynamic dilution) and the analyser outputs, NO_x and NO, are noted after a suitable stabilisation period.

Ozone is added to the sample, converting some NO to NO₂, note however, the total NO_x in the sample remains constant. Again, following appropriate stabilisation times, the NO_x and NO outputs are noted.

Converter (in)efficiency is defined as the change in scaled NO_x signal as a percentage ratio of the change in the scaled NO signal.

1.5 Estimation of Site Cylinder Amount fractions.

The site cylinder amount fractions are evaluated by sampling from the site cylinder and using the analyser response factors, to derive their amount fraction

2 Particle Analysers

2.1 Analyser Flow Rates

Flow rates are measured by calibrated flow audit measurement systems. A leak check is also carried out

2.2 Analyser Calibration Constants

TEOM Analyser calibration constants are measured by consideration of the change in frequency induced by placing pre-weighed masses on the analyser sensors.

PM₁₀ and PM_{2.5} Monitoring

PM₁₀ data from the analysers used at Tunbridge Wells Borough Council does not require the application of a correction factor.

Automatic Monitoring Annualisation

Data capture at the A26 St John's Road automatic monitoring station was over 75% for all monitored pollutants and therefore did not require annualisation of data.

NO₂ Fall-off with Distance from the Road

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

No automatic NO₂ monitoring locations within Tunbridge Wells Borough required distance correction during 2025, however a representative calculation has been provided for the predicted concentration at the nearest relevant receptor as an informative.

Figure C.1 – Automatic NO₂ Fall Off With Distance Calculations (concentrations presented in µg/m³)

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
A26 St John's Road	4.0	14.0	21.4	8.3	16.8	Distance correction not required. Provided for informative.

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

Figure D.1 – Map of Hawkhurst AQMA

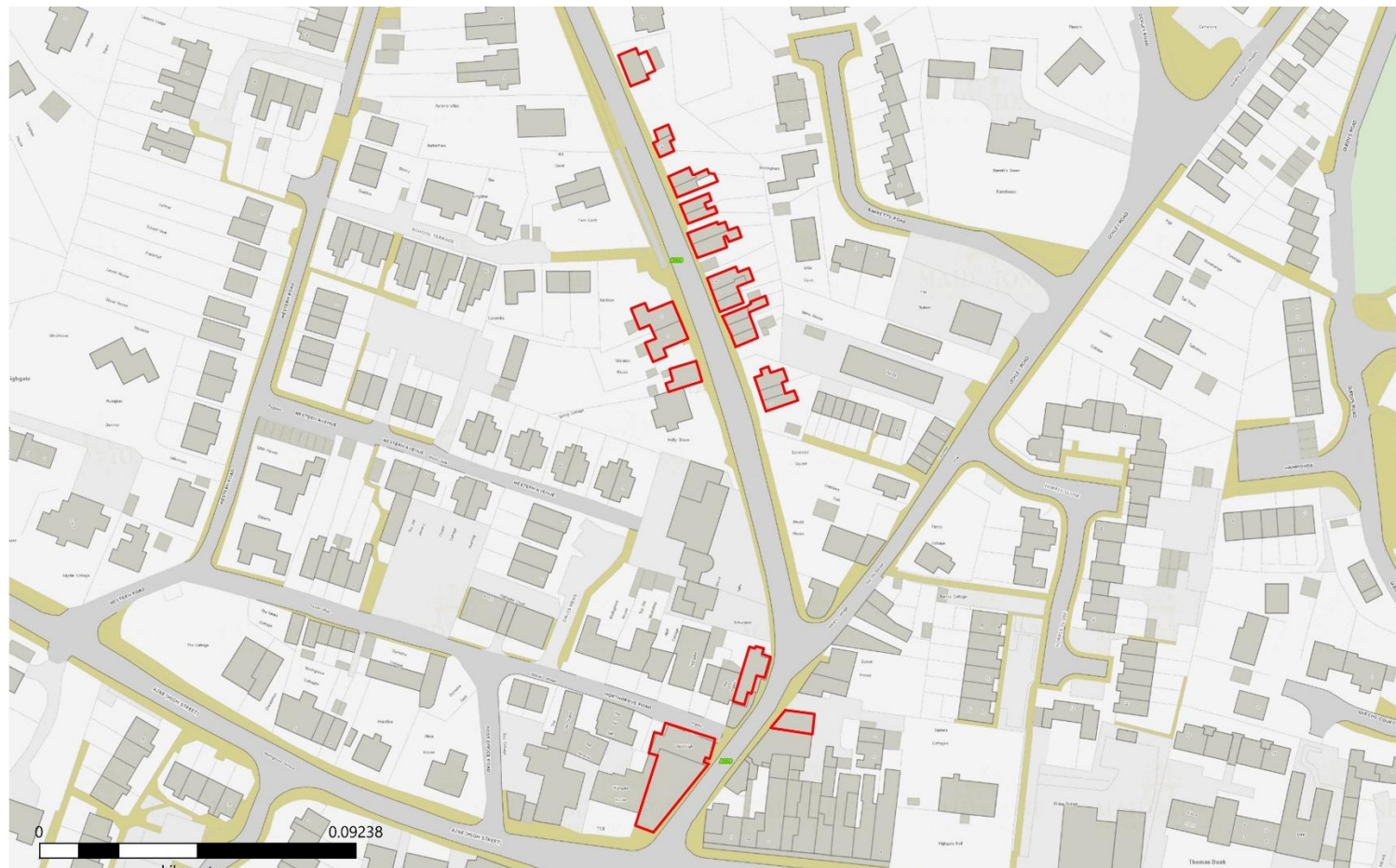


Figure D.2 – Map of All Monitoring Sites in Tunbridge Wells Borough Council

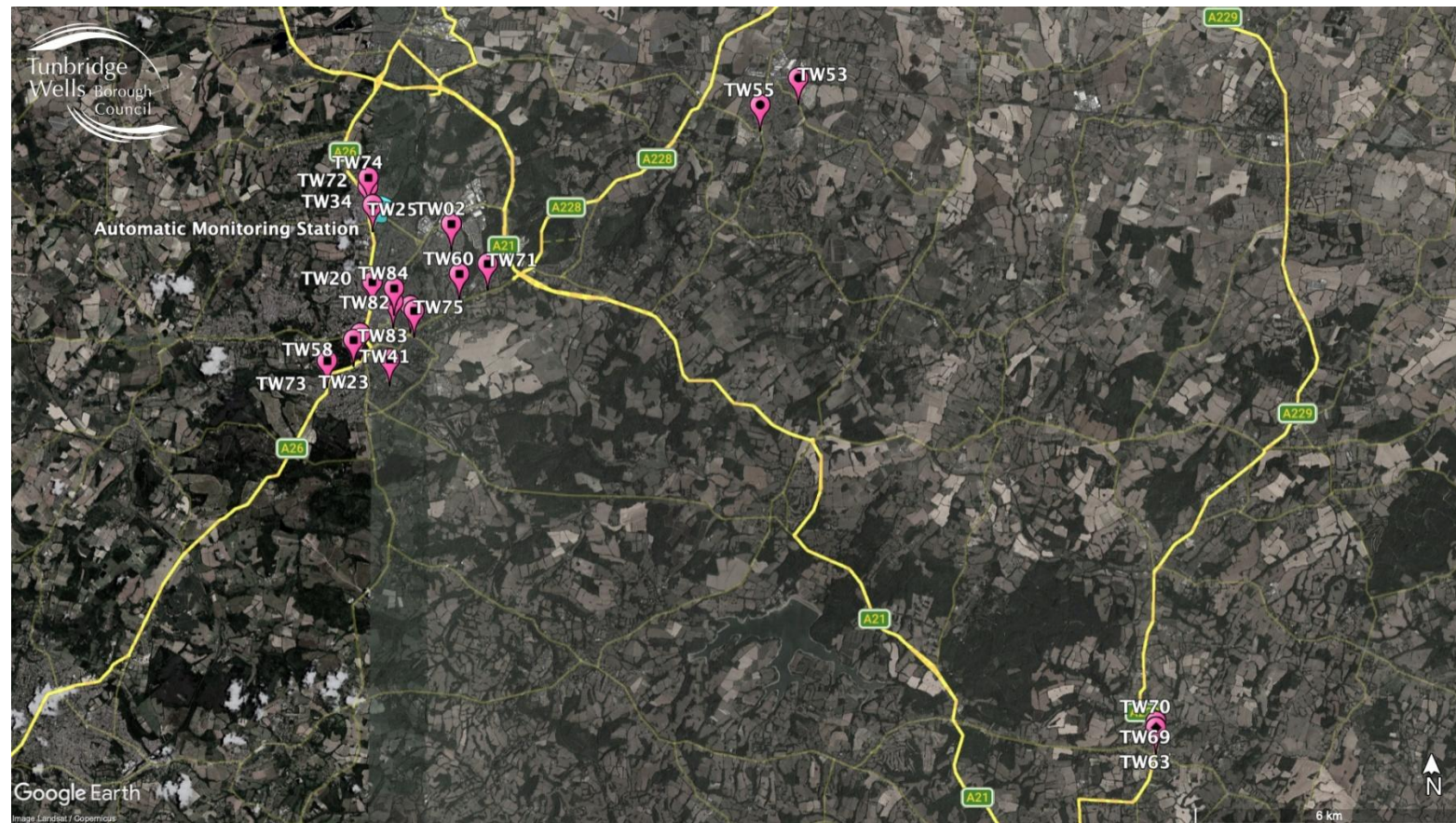


Figure D.3 – Map of Monitoring Sites in and around Central Tunbridge Wells Area

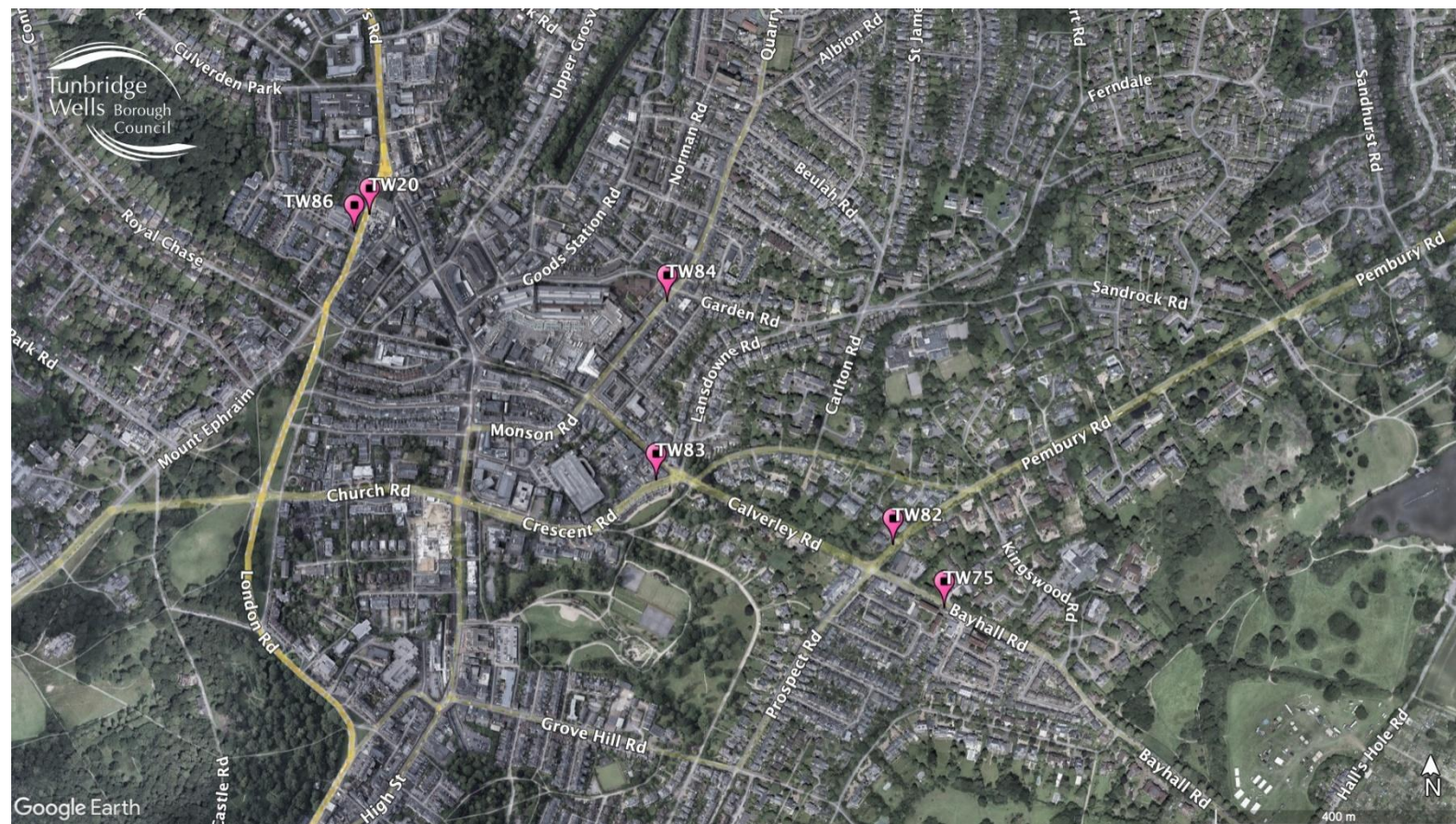


Figure D.4 – Map of Monitoring Sites in and around Sherwood Area

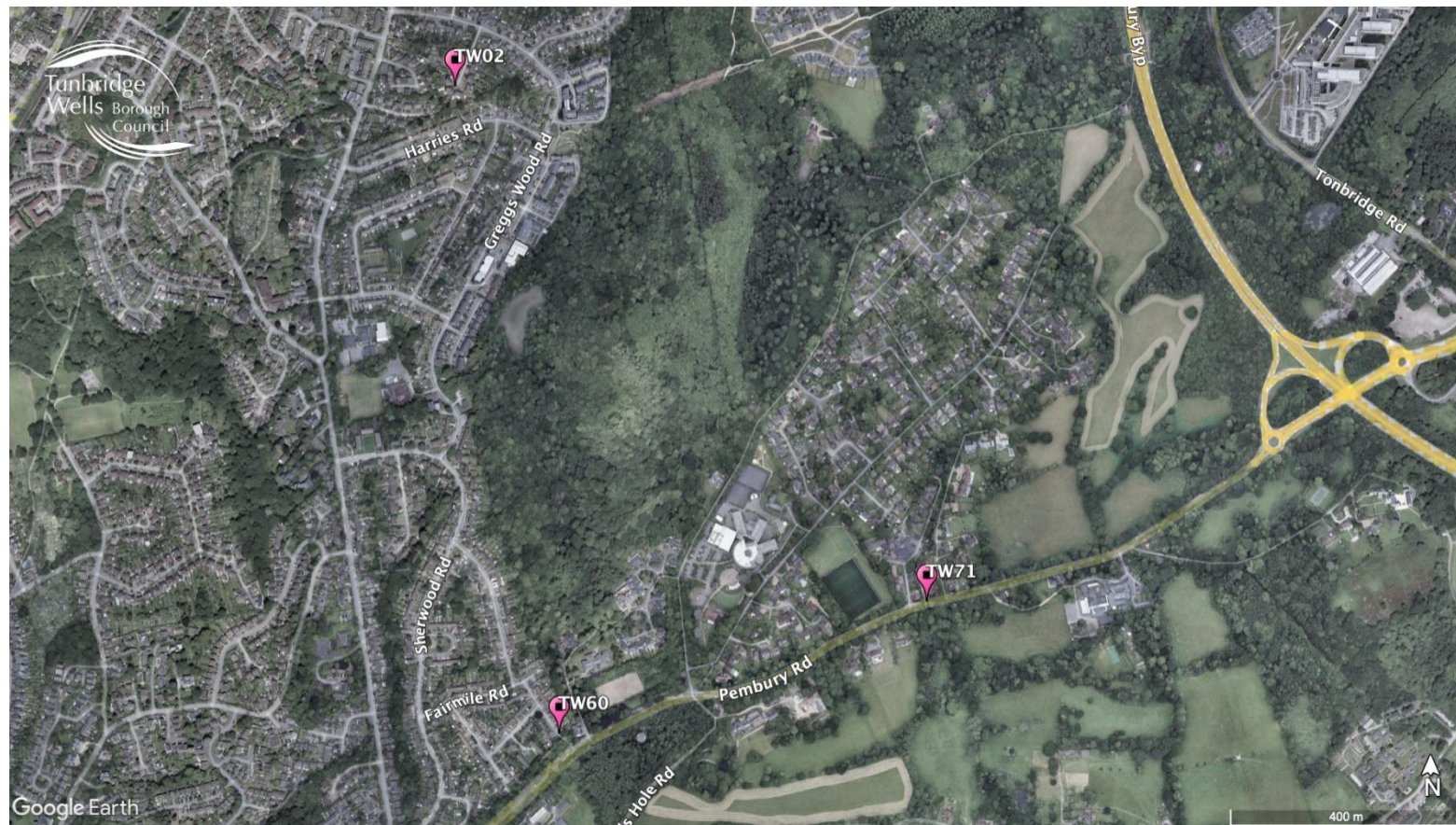


Figure D.5 – Map of Monitoring Sites in and around Southborough Area

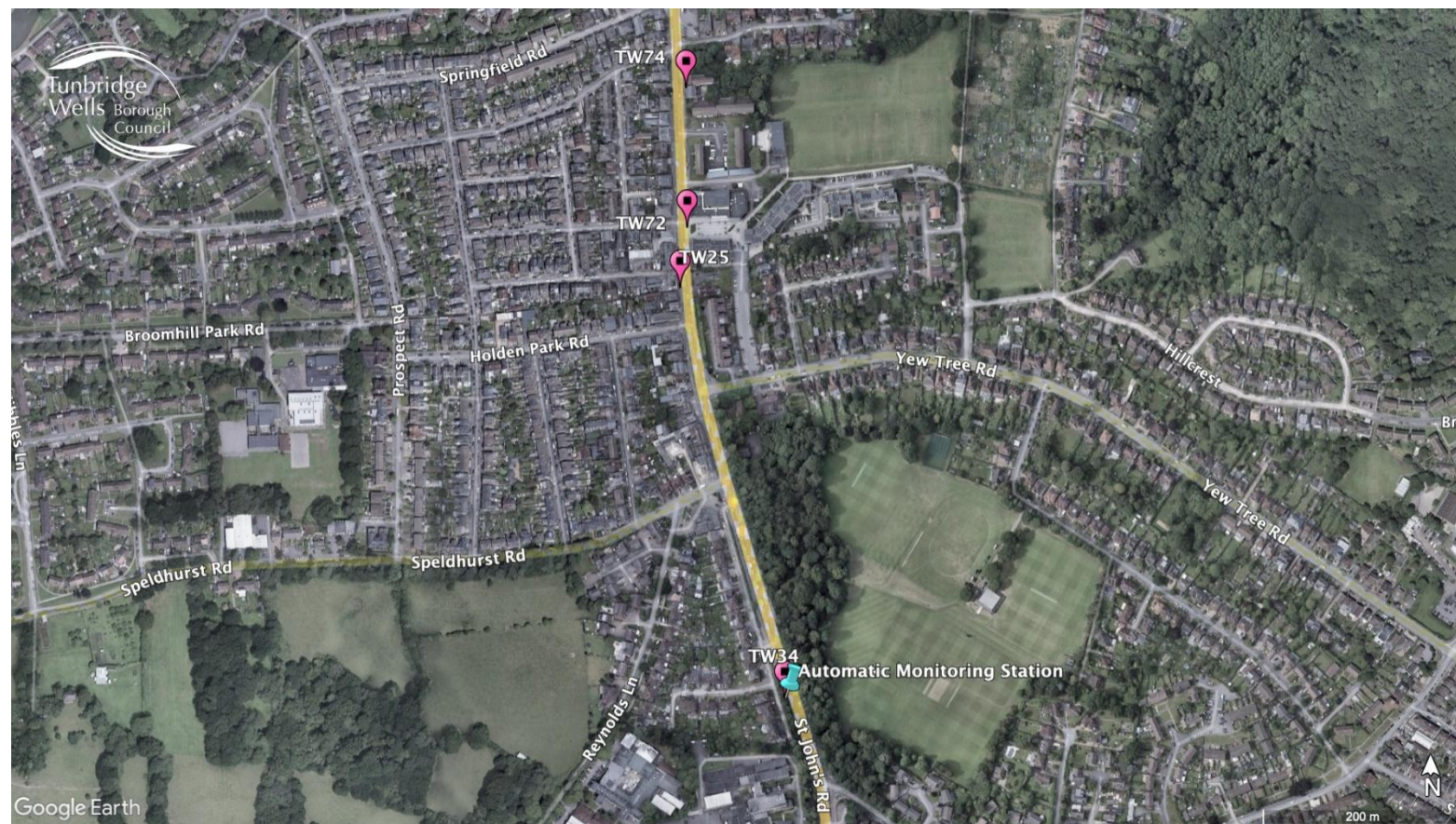


Figure D.6 – Map of Monitoring Sites in and around The Pantiles Area

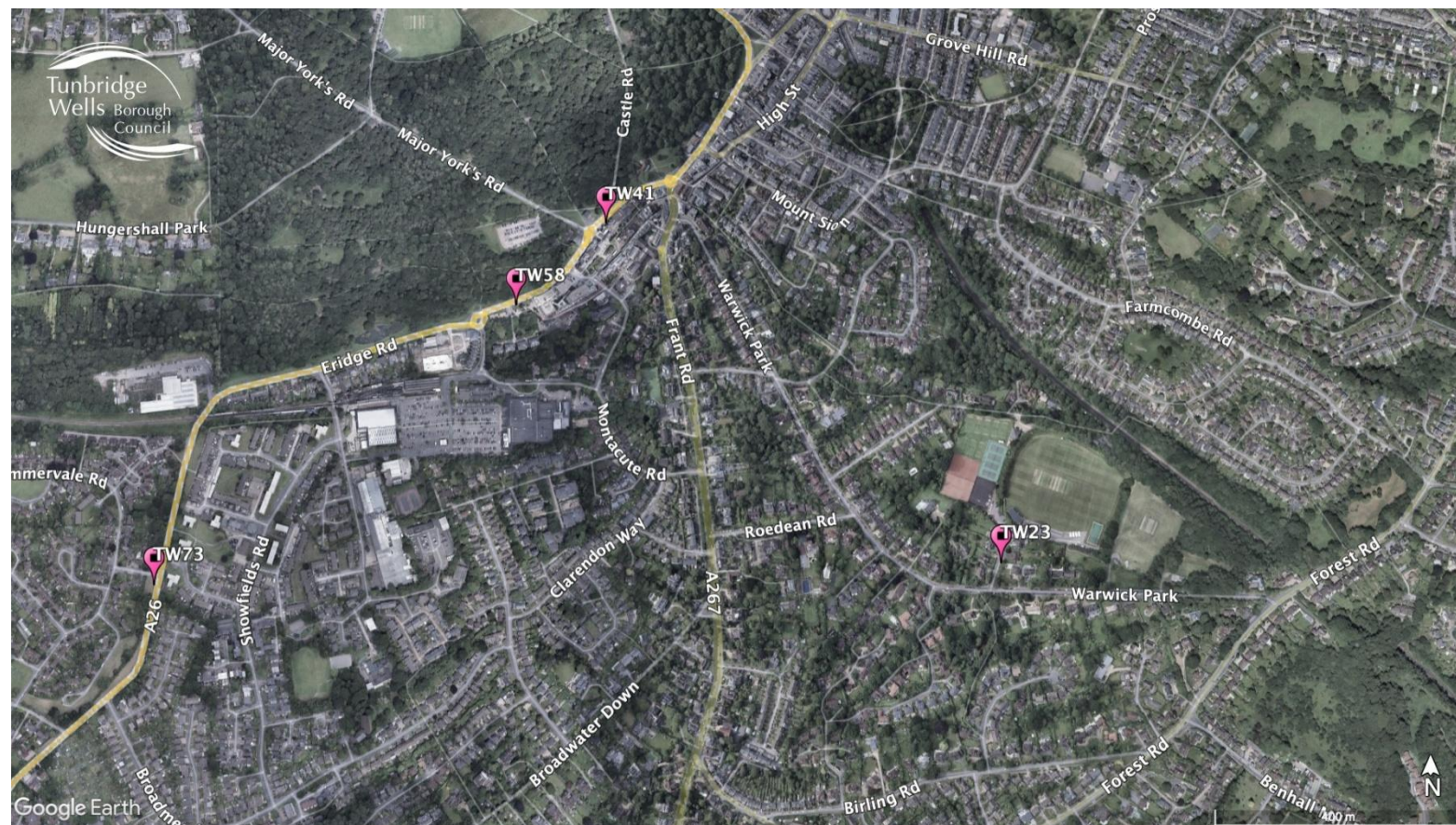


Figure D.7 – Map of Monitoring Sites in and around Hawkhurst Area

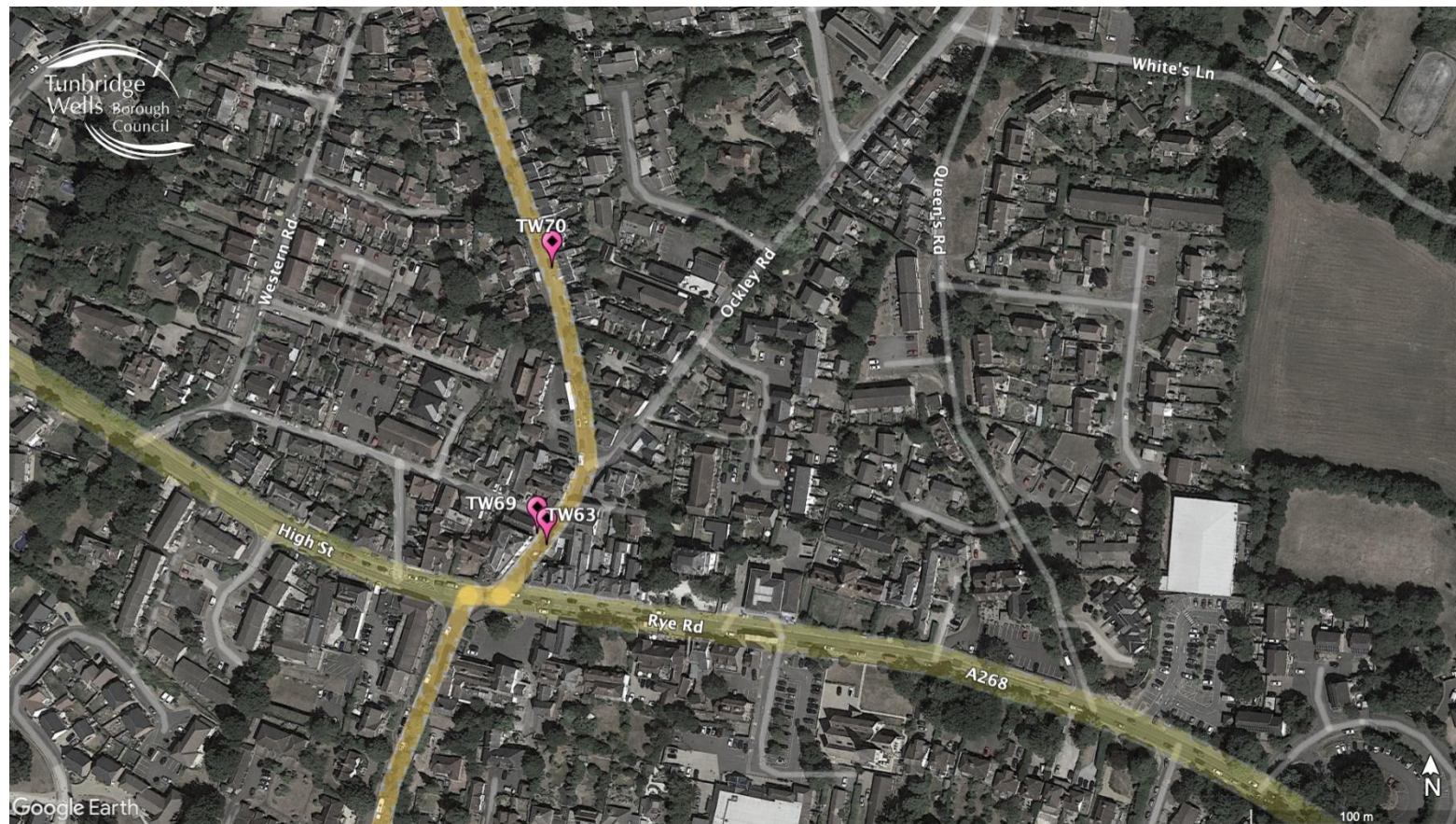
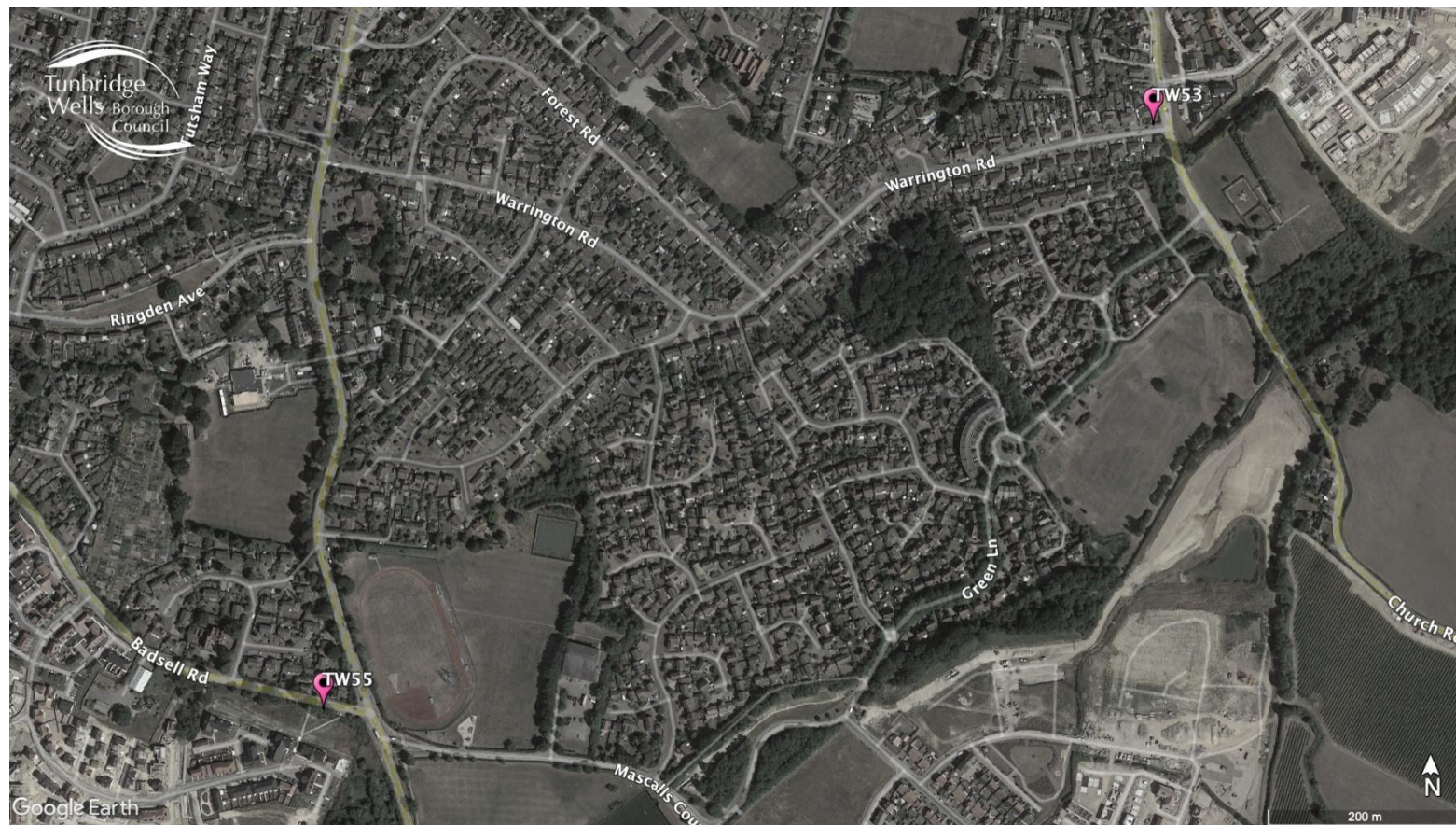


Figure D.8 – Map of Monitoring Sites in and around Paddock Wood Area



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England³

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

³ The units are in microgrammes of pollutant per cubic metre of air (µg/m³)

Appendix F: Pollution Patrol Evaluation Report

Appendix G: AQC Dispersion Modelling Report

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. May 2025.
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.