



Thanet District Council

Annual Progress Report 2023

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Contact Details		
Company Name	Bureau Veritas UK Limited	Thanet District Council
Contact Name	Alicia Dale	Amanda Berry
Position	Senior Consultant	Senior Environmental Health Practitioner
Address	Bureau Veritas Atlantic House, Atlas Business Park Manchester M22 5PR	Thanet District Council Offices Cecil Street Margate Kent CT9 1XZ
Telephone	0345 600 1828	01843 577422
e-mail	alicia.dale@bureauveritas.com	amanda.berry@thanet.gov.uk
Websites	www.bureauveritas.co.uk	www.thanet.gov.uk

	Name	Job Title	Signature
Prepared By	E. Thomas	Air Quality Consultant	
Approved By	A Dale	Senior Consultant	

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Bureau Veritas UK Limited
5th Floor, 66 Prescott Street,
London
E1 8HG

Telephone: +44 (0) 161 446 4600
Registered in England 1758622
www.bureauveritas.co.uk

Registered Office
Suite 206 Fort Dunlop
Fort Parkway
Birmingham B24 9FD



2023 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 2023

Information	Thanet District Council Details
Local Authority Officer	Amanda Berry
Department	Environmental Health
Address	Thanet District Council Offices, Cecil Street, Margate, Kent CT9 1XZ
Telephone	01843 577422
E-mail	amanda.berry@thanet.gov.uk
Report Reference Number	18826855
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Executive Summary: Air Quality in Our Area

Air Quality in Thanet District Council

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas^{1,2}.

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

Monitored annual mean NO₂ concentrations across Thanet District Council have largely shown an increase compared to 2021. However, there is an overall decrease in annual mean NO₂ concentrations since 2018, if 2020 and 2021 are discounted due to COVID-19. The increase in concentrations may indicate an increase in traffic activities in 2022, the first year without any COVID-19 lockdown restrictions. Nevertheless, all monitoring locations recorded annual mean NO₂ concentrations below the annual mean NO₂ air quality objective in 2022. This continues a trend of four years of compliance with the air quality objectives and five years with the exception of one site in 2018. This site falls within the newly declared Ramsgate AQMA.

With regard to the 1-hour mean NO₂ AQS objective, whereby there should be no more than 18 hours where concentrations exceed 200µg/m³, both automatic monitoring locations continue to report no hourly concentrations greater than 200µg/m³.

¹ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

³ Defra. Air quality appraisal: damage cost guidance, January 2023

⁴ Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

For PM₁₀, the reported annual mean concentration continues to be below the annual mean PM₁₀ AQS objective of 40µg/m³ at both automatic monitoring stations (ZH4 at Boundary Road, Ramsgate and ZH5 at The Square, Birchington). Compared to previous years, the concentrations at both sites have decreased slightly. With regards to the 24-hour mean PM₁₀ AQS objective, whereby there should be no more than 35 24-hour periods where concentrations exceed 50µg/m³, the maximum number of 24-hour period means greater than 50µg/m³ was seven and two, reported at ZH4 at Boundary Road and ZH5 at The Square, respectively.

Actions to Improve Air Quality

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

The Environmental Improvement Plan⁵ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term PM_{2.5} targets. The National Air Quality Strategy, published in 2023, provides the responsibilities on local authorities' to work towards these new targets and reduce PM_{2.5} in their areas. The Road to Zero⁶ details the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Thanet District Council has successfully progressed and implemented the following measures:

- Completion of the installation of rapid electric chargers for taxis and maintenance of electric charging points;
- Progressing the Taxi Licensing Policy, which is currently being updated. This will include incentives for ULEV and age restrictions of the existing fleet. For new licences, taxis must be Euro 6 vehicles, i.e. <7 years;

⁵ Defra. Environmental Improvement Plan 2023, January 2023

⁶ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

- Progressing the social media campaign on air quality;
- Developing Pollution Patrol school resource to educate children on air pollution and the impact on health;
- Improvement of KentAir Webpage; and
- The Kent and Medway Energy and Low Emission Strategy has been adopted and a travel plan monitoring officer appointed at Kent County Council;

The Thanet Local Plan was adopted on 9 July 2020, which includes Policy SE05 which focuses on Air Quality and SP14 and SP05 which set the requirements for EV charging points in residential and commercial development. This encourages major developments to promote a shift to use sustainable low emission transport. All developments which either individually or cumulatively are likely to have a detrimental impact on air quality, will be required to submit an Air Quality and/or Emissions Mitigation Assessment.

Thanet District Council continues to uphold and work with the existing partnership with Kent County Council to engage in a joint approach to tackle air quality issues and the implementation of the Thanet Transport Strategy, and as part of the Kent and Medway Air Quality Partnership.

Conclusions and Priorities

Road transport is the dominant source of pollution within Thanet and reducing road traffic emissions across Thanet therefore continues to remain the key air quality priority. This will also contribute to reducing PM₁₀ and PM_{2.5} concentrations across the district.

Considering no exceedances of the annual mean NO₂ AQS objective in 2021, Thanet District Council revoked the Thanet Urban AQMA as recommended by Defra in the 2021 appraisal letter. Following a detailed assessment, the declaration of a smaller AQMA in Ramsgate was declared on 25th June 2023 in place of the wider Urban AQMA and an Action Plan will be produced within 18months.

Local Engagement and How to get Involved

As the main source of air pollution within Thanet is road transport emissions, a way for the public to get involved with helping improving air quality in the District is to find alternatives to travelling by private vehicle. The following are suggested alternatives to private travel that would contribute to improving air quality within the District:

- Use public transport where available – this reduces the number of private vehicles in operation, which will in turn reduce congestion, both of which will help to reduce pollutant concentrations;
- Walk or cycle if your journey allows – choosing to walk or cycle for your journey will reduce the number of private vehicles on the roads, and there is the added benefit of keeping fit and healthy. In addition, many of the cycle routes and footpaths are off-road, meaning you will not be exposed to the higher concentrations that occur close to roads;
- Car/lift sharing – Where a number of individuals are making similar journeys, such as travelling to work or to school, car sharing reduces the number of vehicles on the road and therefore reduces congestion and overall emissions. Car sharing can be promoted via travel plans through the workplace and within schools; and

Alternatively, fuelled / more efficient vehicles – Fully electric, hybrid and more fuel-efficient cars are available and have different levels of benefits by reducing emissions. Locations of publicly available electric vehicle charging points in Thanet and nearby can be found on the zap-map app.

Thanet District Council are part of Kent Air which provides a website of educational material with the aim of educating the local population on air pollution and displaying the current air pollutions in Kent, called Care for [KentAir](#)⁷.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Thanet District Council with the support and agreement of the following officers and departments:

Amanda Berry Senior Environmental Health Practitioner

This ASR has been approved by:

Mike Humber, Director of Environment

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

If you have any comments on this ASR please send them to Amanda Berry at:

⁷ Care for KentAir available at [<https://care-for-air.kentair.org.uk/>]

Regulatory Services, Cecil Street, Margate, CT9 1XZ

01843 577422

amanda.berry@thanet.gov.uk

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1 Local Air Quality Management

This report provides an overview of air quality in Thanet District Council during 2022. 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 Thanet District Council to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

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 Thanet District Council can be found in Table 2.1. The table presents a description of the AQMA currently designated within Thanet District Council. Appendix D: Maps 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 objective pertinent to the current AQMA designation is the 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?	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
Ramsgate AQMA	25/6/2023	NO ₂ Annual Mean	An area encompassing 600 properties between High Street St Lawrence and Shah Place	No	35.2 µg.m ⁻³	35.2 µg.m ⁻³	3*	18 months January 2025	Visit the Detailed Assessment for the AQMA and impending AQAP

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

Thanet District Council confirm that all current AQAPs have been submitted to Defra.

* compliance with the AQS includes concentrations in 2020 and 2021

Progress and Impact of Measures to address Air Quality in Thanet District Council

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

- “The Council has included a comprehensive discussion and review of its monitoring strategy, informed by the results of monitoring network from previous reporting years. This demonstrates the Council's proactive and dedicated approach to improving air quality across the area.”
- “Extensive Trend graphs have been provided for all monitoring data, which is commended.”

Graphs of trends and discussion on monitoring locations has been included in the 2023 ASR.

- “TDC has decided to revoke the Thanet Urban AQMA during the next reporting year following a detailed modelling assessment of the two original exceedance areas: The Square Birchington and High Street, St Lawrence Ramsgate. This is highly encouraged.”

The Thanet Urban AQMA was revoked and a smaller AQMA declared on 25th June 2023 in place of the wider Urban AQMA following a detailed modelling assessment. A map detailing the new AQMA is provided in Appendix D and a copy the Detailed Assessment is given Appendix E.

- “There is one inconsistency present in the report. In the appendix section, under the heading of Diffusion Tube Annualisation, the report states “All diffusion tube monitoring locations within Thanet District Council recorded data capture of 75% therefore it was not required to annualise any monitoring data”. However, this is not the case as 8 diffusion tube sites recorded data capture below 75% and annualisation of these sites is carried out in Table C.3 later in the Appendix section. The Council is highly encouraged to correct this inconsistency if annualisation is required in future reporting years as this is quite misleading.”

This inconsistency has been corrected in the 2023 ASR.

Thanet District Council has taken forward a number of direct measures during the current reporting year of 2022 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Nineteen measures are

included within Table 2.2, with the type of measure and the progress Thanet District Council have made during the reporting year of 2022 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 the Action Plan.

Key completed measures are:

- Completion of the installation of rapid electric chargers for taxis and maintenance of electric charging points;
- Progressing the Taxi Licensing Policy, which is currently being updated. This will include incentives for ULEV and age restrictions of the existing fleet. For new licences, taxis must be Euro 6 vehicles, i.e. <7 years;
- Progressing the social media campaign on air quality;
- Assisting Kent and Medway Air Quality Partnership (KMAQP) funding the development
- Pollution Patrol school resource to educate children on air pollution and the impact on health;
- Improvement of KentAir Webpage.

Thanet District Council expects the following measures to be completed or progressed over the course of the next reporting year:

- To review the increased monitoring data obtained during 2023 within the new AQMA to assess whether the DA modelled risk of exceedance is reflected in real world conditions, and if so, progress the Action Plan;
- Continue to engage with land-use and transport planners to ensure the actions adhere to the Local Plan, and are supported by all parts of the authority;
- Continue to raise awareness of air quality issues within the District;
- Continue to work with Kent County Council to undertake identified feasibility studies of measures to tackle air pollution, to determine more robustly the effectiveness and cost of options;
- Encourage the public to use sustainable transportation, including public transport, car sharing, cycling, and walking;

- Continue the partnership with Kent County Council to engage in a joint approach to tackle air quality issues and the implementation of the Thanet Transport Strategy; and
- To progress KMAQP proposal for Air Pollution Training for healthcare professionals - to raise awareness and increase the confidence and skills of health care professionals to address air pollution in their day-to-day practice.
- Seek formal adoption of the Council's Net Zero Strategy and associated energy efficient Housing Strategies.

Thanet District Council worked to implement these measures in partnership with the following stakeholders during 2022:

- Kent County Council
- Kent and Medway Air Quality Partnership

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	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	Thanet Air Quality and Planning Technical Guidance 2016	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2015	2016	Local Authority Environmental Health, Local Authority Planning Dept.	Developer Contributions	No	Not Funded	-	Completed	-	-	Ongoing planning policy	All development in urban AQMA >10units is required to have EV charge points and major dev required to carry out Damage Costs Calc.
2	Kent and Medway Energy and Low Emissions Strategy	Policy Guidance and Development Control	Low Emissions Strategy	2020	2023	Kent County Council	-	No	Not Funded	-	Implementation	-	-	Implementation on-going	Kent and Medway Energy and Low Emission Strategy adopted and KCC travel plan monitoring officer appointed
3	Thanet District Council Local Plan Adopted July 2020	Policy Guidance and Development Control	Other policy	2020	2031	Local Authority Planning Department	Developer Contributions	No	Not Funded	-	Implementation	-	-	Implementation on-going	The LP contains many policies relevant to air quality improvements: In terms of the Local Plan Review was scheduled for Sept 22, however Cabinet agreed on 16th Jun 22 a new work programme which puts the first formal consultation (Reg 18) back to September 2023. This is because there is no DCO decision for Manston; the publication of the Levelling Up Bill (and other documents) and the implications for Local Plans; other emerging Government guidance (eg: BNG); and potential/likely changes to the Government's "standard method" for determining housing requirements (linked to new Census data).
4	Thanet Transport Strategy 2015 -2031	Policy Guidance and Development Control	Other policy	2020		Kent County Council Highways and Local Authority Strategic Planning Dept	-	No	Not Funded	-	Implementation	-	Inner Circuit Road, Thanet Parkway station	Implementation on-going	Although not yet formally adopted, KCC and TDC use to support adopted Local Plan.
5	Thanet Parkway Train Station	Promoting Travel Alternatives	Promote use of rail and inland waterways	2021	2023	KCC and TDC	DfT & KCC	No	Partially Funded	>£10 million	Implementation	-	-	Construction started March 2021	£12M Gov Funding & £6M KCC funding
6	Cycling and Walking audit to identify areas for improvement	Alternatives to private vehicle use	Promotion of cycling	2020	2021	Local Authority	DfT	No	Funded	£10k - £50k	Completed	0.01	Number of cyclists/walkers	Completed	Working with Sustrans to support development plans
7	Promotion of air quality issues, working with stakeholders	Public Information	Via the Internet	2016		Local Authority	-	No	Not Funded	-	-	-	Number of press releases, reports on website	-	Social Media Campaigns ongoing during Clean Air Week. Website improvements and development of school resource:

Measure No.	Measure	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
8	Updated Parking Policy draft	Traffic Management	Emission based parking or permit charges	2021	2022	Local Authority Parking Dept	-	No	Not Funded	-	Planning	-	-	Underway	-
9	Taxi Licensing Policy	Promoting Low Emission Transport	Taxi emission incentives	2020	2023	Local Authority Licensing Dept	-	-	-	-	Implementation	-	-	Underway	Promoting Euro 6 and incentivising ULEVs
10	ULEV funding application EV charging points for taxis	Promoting Low Emission Transport	Taxi emission incentives	2019	2022	Kent County Council and LA Environmental Health Dept	DfT	No	Funded	£10k - £50k	Completed	-	Number of chargers installed	Completed March 2021	2 x 2 rapid chargers in Market Street and Albion Road car parks
11	EV Points are maintained and available for the public	Promoting Low Emission Transport	Other	2013	-	Local Authority Parking Dept	-	-	-	-	-	-	Number of charges	Ongoing	Maintenance of EV point and back office
12	Kent Realising Electric Van Scheme	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2021	-	Kent County Council	DfT	-	-	£1 million - £10 million	Implementation	-	-	Ongoing	Electric van trials for business
13	Climate Emergency - Strategic Action Plan - Sustainable Council Housing	Policy Guidance and Development Control	Other policy	2020	2025	Local Authority Strategic Housing	-	-	-	-	-	-	-	Awaiting formal adoption	Improved energy efficiency of Council Housing Stock
14	Tenant and Leaseholder Services: Our Journey to Net Zero	Other	Other	2020	2030	Local Authority Strategic Housing	-	-	-	-	-	-	-	Awaiting formal adoption	Improved energy efficiency of rental sector
15	Kent air website development	Public Information	Via the Internet	2021	2022	Kent & Medway Air Quality Monitoring Network	LAs, KCC & Medway UKHSA	No	-	£10k - £50k	Completed	-	-	Completed	Improvements to https://kentair.org.uk/ website
16	Social Media Campaign	Public Information	Via the Internet	2022	-	Local Authority Environmental Health, & K&MAQP	Defra and LA contributions	YES	Partially Funded	<£10k	On-going	-	-	On-going	Kent-Air reached over 155,000 social media users on various platforms with a good rate of engagement obviously plenty of negative comments about anti idling. It was a success to reach such a number of users without paying for any advertising of these posts and this was due to sharing through at least 6 partners' social media platforms.
17	Pollution Patrol School Resource	Public Information	Via other mechanisms	2022	-	Local Authority Environmental Health, & K&MAQP	Defra and LA contributions	YES	Partially Funded	<£10k	On-going	-	-	Implementation On-going	10 schools have signed up 2 across Kent; further school engagement planned over coming year to promote Pollution Patrol resources in schools
18	TDC draft Net Zero Action Plan 2024 and draft Net Zero Strategy	Policy Guidance and Development Control	Low Emissions Strategy	2022	-	Local Authority Environmental Health, Local Authority Planning Dept.	-	No	Not Funded	-	Completed	-	-	Implementation On-going	The council is seeking formal adoption of the Council's Net Zero Strategy and associated energy efficient Housing Strategies.

Measure No.	Measure	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
19	Digital Training Resource for Health Care Professionals	Public Information	Via other mechanisms	2022	2023	Kent & Medway Air Quality Monitoring Network	Defra and LA contributions	YES	Partially Funded	£50k - £100k	Planning			Planning	Engagement with GPS
20	Cycling and Walking audit to identify areas for improvement	Alternatives to private vehicle use	Promotion of cycling	2023	2023	Local Authority	DfT	No	Funded	£10k - £50k	Planning		Number of cyclists/walkers	Planning	Working with Sustrans to support development plans to connect rural areas

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

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

No monitoring of PM_{2.5} is currently conducted within Thanet, however the two automatic monitoring sites located at Ramsgate and Birchington monitor PM₁₀ concentrations. As per LAQM.TG(22) guidance, PM_{2.5} concentrations can be estimated from monitored PM₁₀ concentrations. In order to do this, data from the Automatic Rural and Urban Network (AURN) monitoring station Chatham Roadside in Medway (~53km west of Birchington-on-Sea, and ~61km west of Ramsgate) has been used to calculate an estimated PM_{2.5} concentration at both monitoring sites. The Chatham Roadside site was chosen due to it being the closest AURN site to the automatic monitoring sites within Thanet where both PM₁₀ and PM_{2.5} are measured.

The methodology detailed within Box 7.7 of LAQM.TG(22) has been followed to calculate a locally derived PM_{coarse} value of 5.63. Applied to the 2022 PM₁₀ annual mean concentrations of 25.6µg/m³ and 18.4µg/m³ at Birchington and Ramsgate respectively, this gives an estimated PM_{2.5} annual mean of 19.97µg/m³ and 12.77µg/m³. These estimated annual mean concentrations are below to the indicative stage II annual mean limit value for PM_{2.5} (20µg/m³).

Many of the measures employed by Thanet District Council aims to reduce vehicular travel frequency and time, such as the encouragement of active travel. NO_x and PM_{2.5} emissions arise from vehicular sources, and therefore although the measures pursued by Thanet District Council focus on reducing NO₂ concentrations many of these will also likely have a positive impact on reducing PM_{2.5} concentrations.

Thanet District Council is part of the K&MAQP, which aims to deliver a consistent approach to tackling air pollution across the County, sharing knowledge and information between Kent County Council, district councils, health authorities, National Highways, the Environment Agency, Public Health England and various consultants and research partners. The KMAQP monitoring network includes a number of sites monitoring pollution

(including PM_{2.5}) across the County. Data for the network is reported through a dedicated website, [KentAir](#).

Thanet District Council has been working with members of KMAQP and KCC on the production of a Kent and Medway Energy and Low Emissions Strategy. The implementation plan 2020-2023 was adopted in October 2020 and updated in May 2021.

The planning regime is also important for reducing PM_{2.5} concentrations. With the formal adoption of the Thanet Local Plan in 2020, the updated Air Quality Policy SE05 focuses on ensuring that all future developments produce an Air Quality and/or Emissions Mitigation Assessment to prevent the users and local area are not adversely impacted by air quality. This also promotes developments to encourage the use of sustainable and low emissions transport. The Thanet Transport Strategy is also included within the Local Plan and sets out improvements which will also benefit the reduction of PM_{2.5} concentrations. Thanet District Council does not have any smoke control areas; however it does provide guidance on “Smoke and Bonfires” in order to reduce air pollution arising from these. This includes guidelines for burning waste as part of a bonfire, the use of wood burners and stoves, information on the ban on the sale of wet wood and coal but also sets out how to make a nuisance complaint if required.

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

This section sets out the monitoring undertaken within 2022 by Thanet District Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

Summary of Monitoring Undertaken

Automatic Monitoring Sites

Thanet District Council undertook automatic (continuous) monitoring at two sites during 2022. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The Thanet District Council automatic monitoring results are available through the UK-Air website.

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.

Non-Automatic Monitoring Sites

Thanet District Council undertook non-automatic (i.e. passive) monitoring of NO₂ at 50 sites during 2022 including five triplicate locations. Table A.2 in Appendix A presents the details of the non-automatic sites.

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

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.

Nitrogen Dioxide (NO₂)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 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).

Monitored NO₂ concentrations across Thanet District Council have shown an overall increase compared to 2021. However, a decreasing trend is seen in annual mean NO₂ concentrations overall since 2018, if 2020 and 2021 are discounted due to COVID-19. The increase in concentrations may indicate an increase in traffic activities in 2022, the first year without an COVID-19 lockdown restrictions. Nevertheless, all monitoring locations recorded annual mean NO₂ concentrations below the annual mean NO₂ air quality objective in 2022. This continues a trend of four years of compliance with the air quality objectives and five years with the exception of one site in 2018. The highest monitored concentration of NO₂ of 35.2µg/m³.

For diffusion tubes, the full 2022 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

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

During 2022 there were no exceedances of the NO₂ hourly objective of 200 µg/m³, with the maximum hourly concentration recorded at the two automatic monitoring stations being 108.0 µg/m³ (ZH5 Birchington Road) and 103.5 µg/m³ (ZH4 Ramsgate). In addition, no single diffusion tube recorded an annual mean concentration greater than 60 µg/m³, indicating that it is unlikely that the 1-hour objective was exceeded at any diffusion tube monitoring site in 2022.

In summary, relative to the previous reporting year, the NO₂ annual mean concentration has increased at the majority of diffusion tube sites and all reported concentrations were

below the NO₂ annual mean AQS objective (40 µg/m³) in 2022. The NO₂ annual mean concentration recorded at the two automatic monitoring sites were lower than concentrations recorded in 2021 and well below the AQS objective. For example, annual NO₂ concentrations of 17.4 µg/m³ (ZH4 Ramsgate) and 24.1 µg/m³ (ZH5 Birchington) were recorded in 2022. Therefore, both the annual mean and hourly objective of NO₂ was not breached during 2022.

Particulate Matter (PM₁₀)

Monitored PM₁₀ concentrations were well below the annual mean PM₁₀ air quality objective 40 µg/m³ at both automatic monitoring locations in 2022. Concentrations of PM₁₀ have shown a decreasing trend at ZH5 Birchington over the past five years. Concentrations of PM₁₀ at ZH4 Ramsgate have fluctuated in the past five years and concentrations increased in 2022 to higher than 2018 concentrations. However, concentrations of PM₁₀ are well below the annual mean PM₁₀ air quality objective of 40 µg/m³.

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 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.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
Thanet Ramsgate (ZH4)	Boundary Road, Ramsgate	Roadside	638483	165430	NO ₂ , PM ₁₀	Yes – Thanet Urban AQMA	Chemiluminescent; beta attenuation	16	4	2
Thanet Birchington (ZH5)	The Square, Birchington	Roadside	630284	169052	NO ₂ , PM ₁₀	Yes – Thanet Urban AQMA	Chemiluminescent; beta attenuation	4	3	2

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
TH48	CANTERBURY RD, BIRCH (A28) (Yew Tree)	KERBSIDE	630438	169111	NO ₂	No	1.0	0.5	No	2.0
TH13, TH46, TH47	BIRCHINGTON SQUARE 3	KERBSIDE	630254	169037	NO ₂	No	2.0	1.0	No	2.5
TH49	CANTERBURY RD, BIRCH (A28) (Kent Gdns)	ROADSIDE	630186	168983	NO ₂	No	3.0	3.5	No	2.5
TH88	MINNIS RD, BIRCHINGTON	KERBSIDE	629531	169345	NO ₂	No	10.0	1.0	No	2.5
TH79	SARRE	ROADSIDE	625641	165002	NO ₂	No	0.0	6.5	No	2.5
TH31	HIGH STREET MANSTON	URBAN BACKGROUND	634662	166026	NO ₂	No	9.0	N/A	No	2.5
TH32	BELL-DAVIES DRIVE MANSTON	URBAN BACKGROUND	632994	166428	NO ₂	No	10.0	N/A	No	2.5
TH33	HILL HOUSE DRIVE MINSTER	URBAN BACKGROUND	631161	165486	NO ₂	No	9.0	N/A	No	2.5
TH89	TOTHILL MINSTER	KERBSIDE	631057	165478	NO ₂	No	10.0	1.0	No	2.5
TH77	HIGH STREET, MINSTER	KERBSIDE	630972	164708	NO ₂	No	2.5	1.0	No	1.5
TH16	EARLSMEDE CRESCENT CLIFFSEND	BACKGROUND	634445	164416	NO ₂	No	3.0	N/A	No	2.5
TH37	KENTMERE AVE RAMSGATE	SUBURBAN	635932	165333	NO ₂	No	10.0	N/A	No	2.5
TH95	PORT RAMSGATE	ROADSIDE	637689	164115	NO ₂	No	255	160	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)
TH27	AVEBURY AVENUE RAMSGATE	URBAN BACKGROUND	639097	165971	NO ₂	No	7.0	N/A	No	2.5
TH67, TH68, TH69	20 HERESON RD, RAMSGATE 3	KERBSIDE	638536	165465	NO ₂	No	0.0	1.0	No	2.5
TH26	KING STREET RAMSGATE	KERBSIDE	638492	165410	NO ₂	No	0.0	3.0	No	2.5
TH51, TH52, TH53	BOUNDARY RD, RAMSGATE 3	ROADSIDE	638472	165432	NO ₂	No	16.0	4.1	Yes	2.5
TH85	143 BOUNDARY RD, RAMSGATE	ROADSIDE	638026	165442	NO ₂	Yes Ramsgate	0.0	0.0	No	3.0
TH86	26 MARGATE RD, RAMSGATE	ROADSIDE	637747	165713	NO ₂	No	2.0	1.5	No	3.0
TH54, TH64, TH65	3 HIGH STREET, ST LAWRENCE 3	ROADSIDE	637135	165354	NO ₂	Yes Ramsgate	7.0	1.0	No	2.5
TH66	HIGH STREET, ST LAWRENCE - FAÇADE	ROADSIDE	637112	165331	NO ₂	Yes Ramsgate	0.0	3.0	No	2.5
TH70, TH71, TH72	9 HIGH STREET, ST LAWRENCE 3	ROADSIDE	637092	165340	NO ₂	Yes Ramsgate	0.0	1.0	No	2.5
TH90	MERIDIAN CL, RAMSGATE	ROADSIDE	636109	165766	NO ₂	No	3.0	2.0	No	2.5
TH81	MARGATE RD, RAMSGATE (Winifred Ave)	ROADSIDE	637097	166799	NO ₂	No	0.0	7.8	No	2.5
TH55	COXES LANE (M'GATE RD) RAMSGATE	ROADSIDE	636815	167297	NO ₂	No	3.0	10.0	No	2.0
TH34	WESTWOOD RD,	ROADSIDE	636570	167894	NO ₂	No	N	14.0	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)
	BROADSTAIRS (Pizza Hut)									
TH82	WESTWOOD RD, BROADSTAIRS (St Georges)	ROADSIDE	637271	167873	NO ₂	No	7.0	7.9	No	2.5
TH05	THE BROADWAY BROADSTAIRS	KERBSIDE	639020	167982	NO ₂	No	N	2.5	No	2.5
TH59	CHURCH STREET, ST PETERS	KERBSIDE	638220	168614	NO ₂	No	3.0	2.0	No	2.5
TH36	STAR LANE, RAMSGATE RD, MARGATE	KERBSIDE	636405	168227	NO ₂	No	0.0	2.0	No	2.5
TH78	MANSTON WAY WALK WWX	ROADSIDE	636014	167851	NO ₂	No	8.0	2.5	No	2.0
TH87	MARLOWE WAY (schools)	ROADSIDE	636198	166771	NO ₂	No	2.0	1.0	No	2.5
TH83	RAMSGATE RD, MARGATE (nr car wash)	ROADSIDE	63590	169266	NO ₂	No	0.0	9.5	No	2.5
TH10	COLLEGE ROAD MARGATE	KERBSIDE	635539	169840	NO ₂	No	0.0	2.0	No	2.5
TH91	SHOTTENDANE RD, MARGATE	ROADSIDE	635029	169494	NO ₂	No	5.0	2.0	No	2.5
TH84	NORTHDOWN RD, MARGATE	KERBSIDE	635997	171095	NO ₂	No	0.0	6.0	No	3.0
TH76	BUENOS AYRES MARGATE	ROADSIDE	634752	170679	NO ₂	No	9.5	12.0	No	2.0
TH92	CANTERBURY RD Westagte (Victoria Ave)	ROADSIDE	632695	169877	NO ₂	No	5.0	2.0	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)
TH93	MINSTER RD, WESTGATE	ROADSIDE	632563	169291	NO ₂	No	4.0	2.0	No	2.5
TH94	St PETERS PARK RD (Sch)	KERBSIDE	638922	168342	NO ₂	No	5.0	1.0	No	2.5

Notes:

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

(2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
Thanet Ramsgate (ZH4)	638483	165430	Roadside	100	99.7	21.3	21.4	17.1	15.9	17.4
Thanet Birchington (ZH5)	630284	169052	Roadside	100	99.6	32.4	31.0	29.3	24.3	24.6

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.

Notes:

The annual mean concentrations are presented as µg/m³.

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

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

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

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

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

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
TH48	630438	169111	KERBSIDE	100.0	100.0	29.9	25.5	23.4	21.5	24.9
TH13, TH46, TH47	630254	169037	KERBSIDE	84.6	84.6	37.3	35.9	31.7	30.3	32.3
TH49	630186	168983	ROADSIDE	73.1	73.1	20.8	19.5	16.6	15.5	20.8
TH88	629531	169345	KERBSIDE	92.3	92.3	-	-	-	12.3	14.4
TH79	625641	165002	ROADSIDE	100.0	100.0	21.4	19.6	19.8	18.5	21.4
TH31	634662	166026	URBAN BACKGROUND	100.0	100.0	12.2	12.2	11.3	11.6	12.3
TH32	632994	166428	URBAN BACKGROUND	100.0	100.0	14.0	14.2	13.0	12.2	13.4
TH33	631161	165486	URBAN BACKGROUND	92.3	92.3	15.0	14.6	12.5	12.6	14.1
TH89	631057	165478	KERBSIDE	82.7	82.7	-	-	-	19.3	20.3
TH77	630972	164708	KERBSIDE	92.3	92.3	20.9	21.1	18.7	17.8	19.5
TH16	634445	164416	BACKGROUND	84.6	84.6	14.4	14.9	13.9	12.8	13.5
TH37	635932	165333	SUBURBAN	92.3	92.3	14.4	16.3	14.5	12.3	14.2
TH95	637689	164115	ROADSIDE	30.8	30.8	-	-	-	-	20.8
TH27	639097	165971	URBAN B/GROUND	92.3	92.3	14.2	15.1	13.8	12.0	13.0
TH67, TH68, TH69	638536	165465	KERBSIDE	100.0	100.0	31.8	30.4	24.0	23.6	27.9
TH26	638492	165410	KERBSIDE	100.0	100.0	32.4	30.5	25.3	25.6	26.6
TH51, TH52, TH53	638472	165432	ROADSIDE	100.0	100.0	20.2	19.3	17.0	16.3	18.5
TH85	638026	165442	ROADSIDE	100.0	100.0	41.8	29.2	25.4	23.6	25.3
TH86	637747	165713	ROADSIDE	63.5	63.5	36.7	23.4	20.9	21.0	21.9
TH54, TH64, TH65	637135	165354	ROADSIDE	100.0	100.0	32.7	33.7	28.9	27.8	31.7
TH66	637112	165331	ROADSIDE	100.0	100.0	24.7	24.0	21.3	19.6	23.0

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
TH70, TH71, TH72	637092	165340	ROADSIDE	100.0	100.0	38.6	37.6	30.7	30.8	35.2
TH90	636109	165766	ROADSIDE	92.3	92.3	-	-	-	13.9	18.6
TH81	637097	166799	ROADSIDE	92.3	92.3	21.2	19.1	17.9	17.0	18.9
TH55	636815	167297	ROADSIDE	84.6	84.6	22.7	23.6	21.1	21.3	19.9
TH34	636570	167894	ROADSIDE	100.0	100.0	21.8	21.7	19.6	21.4	20.2
TH82	637271	167873	ROADSIDE	100.0	100.0	25.1	20.8	21.7	22.5	28.4
TH05	639020	167982	KERBSIDE	100.0	100.0	28.5	27.8	25.1	23.3	25.9
TH59	638220	168614	KERBSIDE	100.0	100.0	28.9	28.3	25.3	22.8	28.9
TH36	636405	168227	KERBSIDE	82.7	82.7	26.5	25.5	21.9	23.3	25.0
TH78	636014	167851	ROADSIDE	100.0	100.0	16.9	16.8	16.0	19.3	17.5
TH87	636198	166771	ROADSIDE	100.0	100.0	-	-	-	13.9	13.9
TH83	635907	169266	ROADSIDE	100.0	100.0	19.4	17.2	15.7	15.0	17.7
TH10	635539	169840	KERBSIDE	92.3	92.3	32.3	30.7	28.2	24.5	28.8
TH91	635029	169494	ROADSIDE	100.0	100.0	-	-	-	13.7	13.9
TH84	635997	171095	KERBSIDE	100.0	100.0	19.1	22.1	20.7	17.6	20.0
TH76	634752	170679	ROADSIDE	92.3	92.3	21.3	22.1	20.3	17.7	18.8
TH92	632695	169877	ROADSIDE	100.0	100.0	-	-	-	14.5	15.9
TH93	632563	169291	ROADSIDE	84.6	84.6	-	-	-	14.5	14.2
TH94	638922	168342	KERBSIDE	34.6	34.6	-	-	-	21.5	20.8

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

☒ Diffusion tube data has been bias adjusted.

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

Notes:

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

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

NO₂ annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

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

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

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

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

Figure A.1 – Trends in Annual Mean NO₂ Concentrations in the North of the District

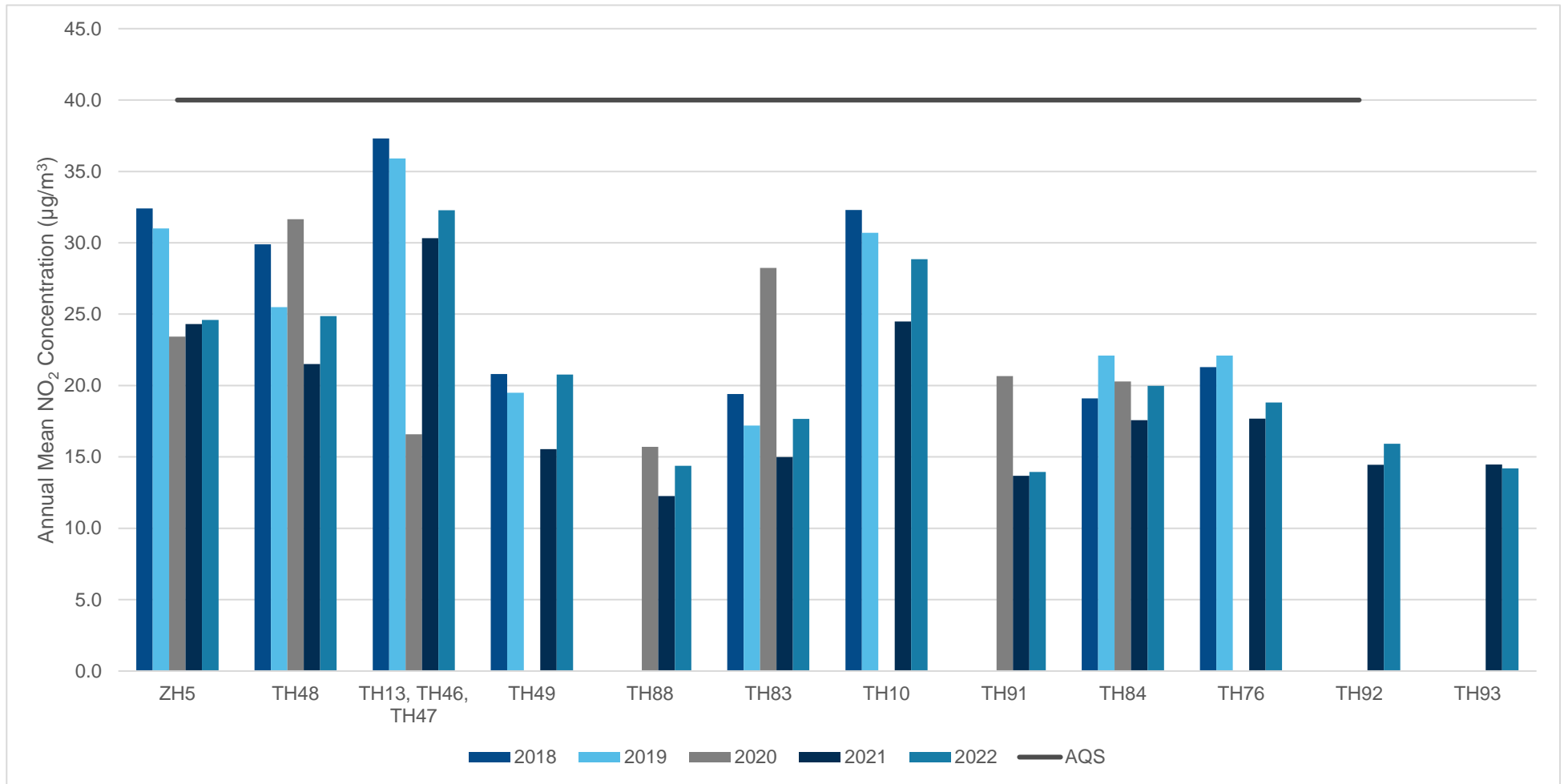


Figure A.2 – Trends in Annual Mean NO₂ Concentrations in the centre of the District

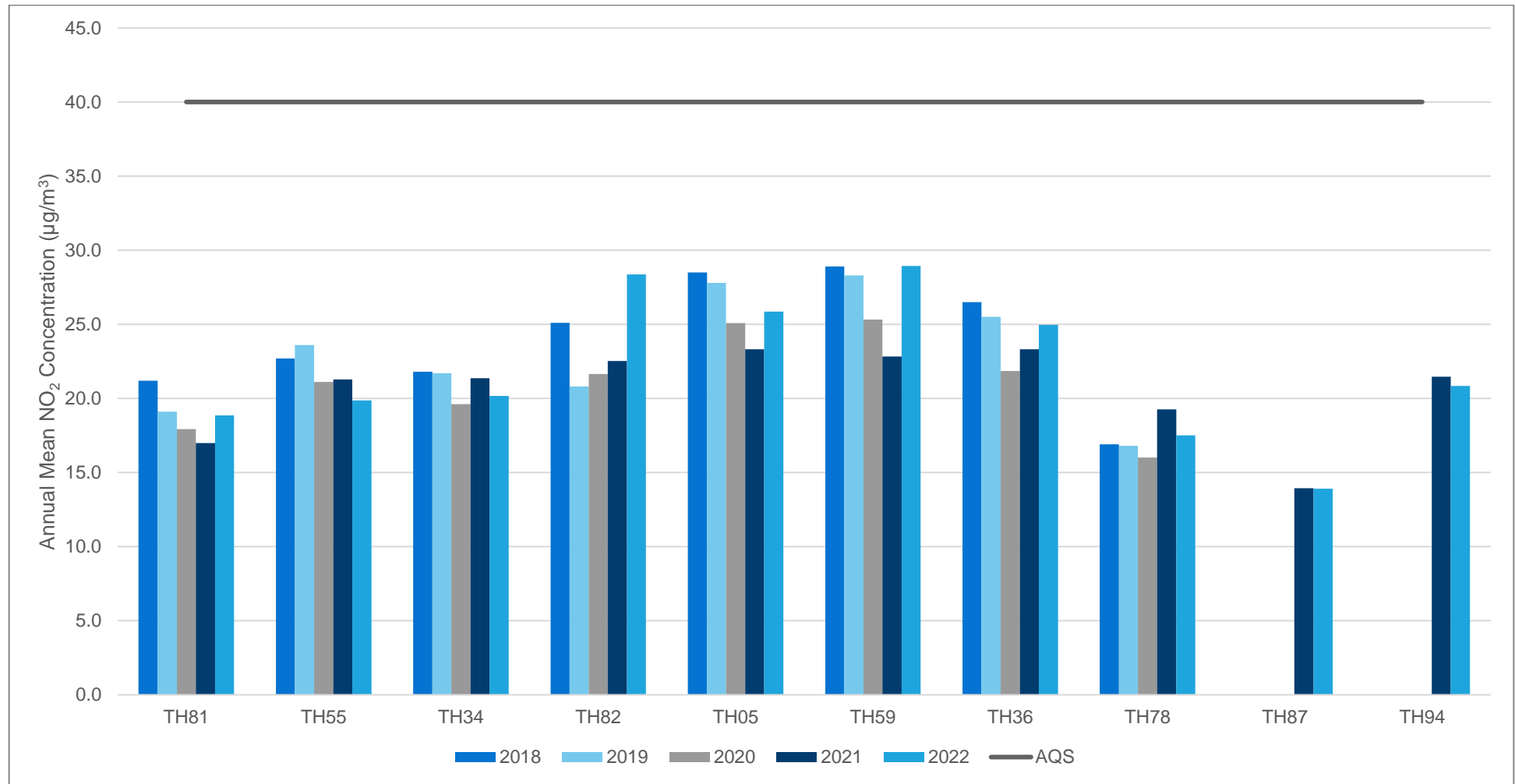


Figure A.3 – Trends in Annual Mean NO₂ Concentrations in the South of the District

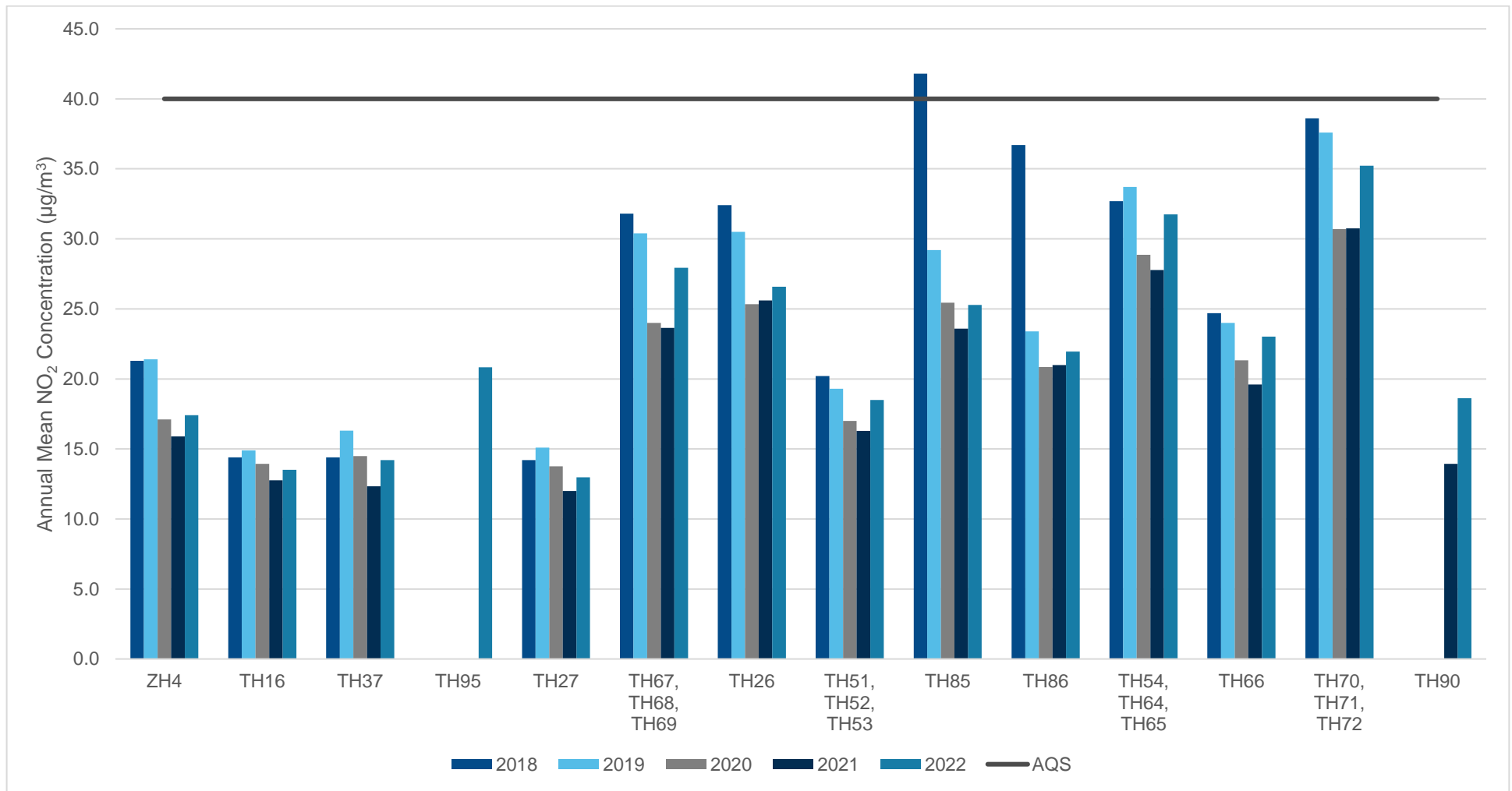


Figure A.4 – Trends in Annual Mean NO₂ Concentrations outside the AQMA

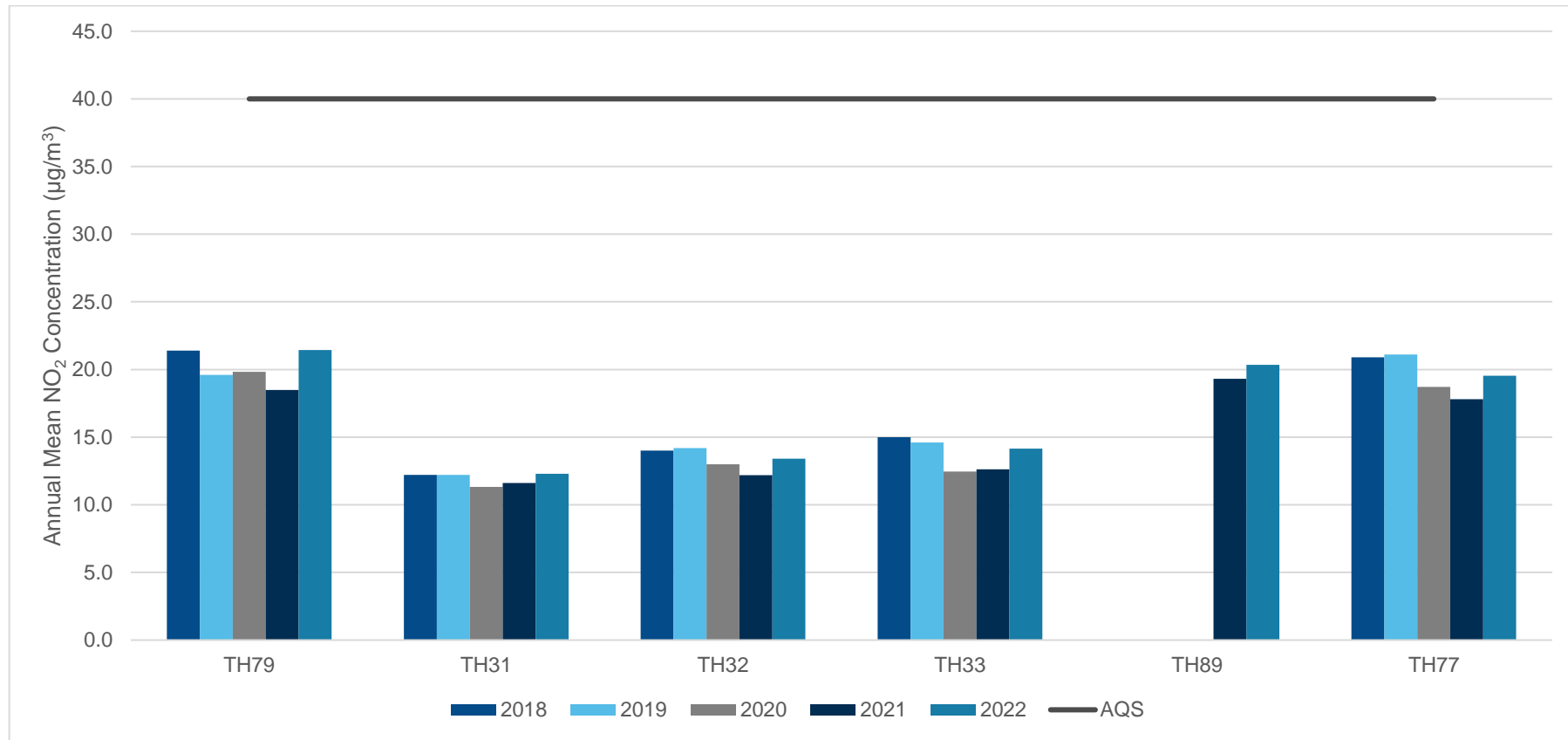


Table A.5 – 1-Hour Mean NO₂ Monitoring Results, Number of 1-Hour Means > 200µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
ZH4	638483	165430	Roadside	93.9	93.9	0	0	0	0	0
ZH5	630284	169052	Roadside	96.2	96.2	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%).

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 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
ZH4	638483	165430	Roadside	93.9	93.9	24.6	22.6	24.5	22.3	25.6
ZH5	630284	169052	Roadside	96.2	96.2	25.2	23.9	23.0	21.1	18.4

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.5 – Trends in Annual Mean PM₁₀ Concentrations

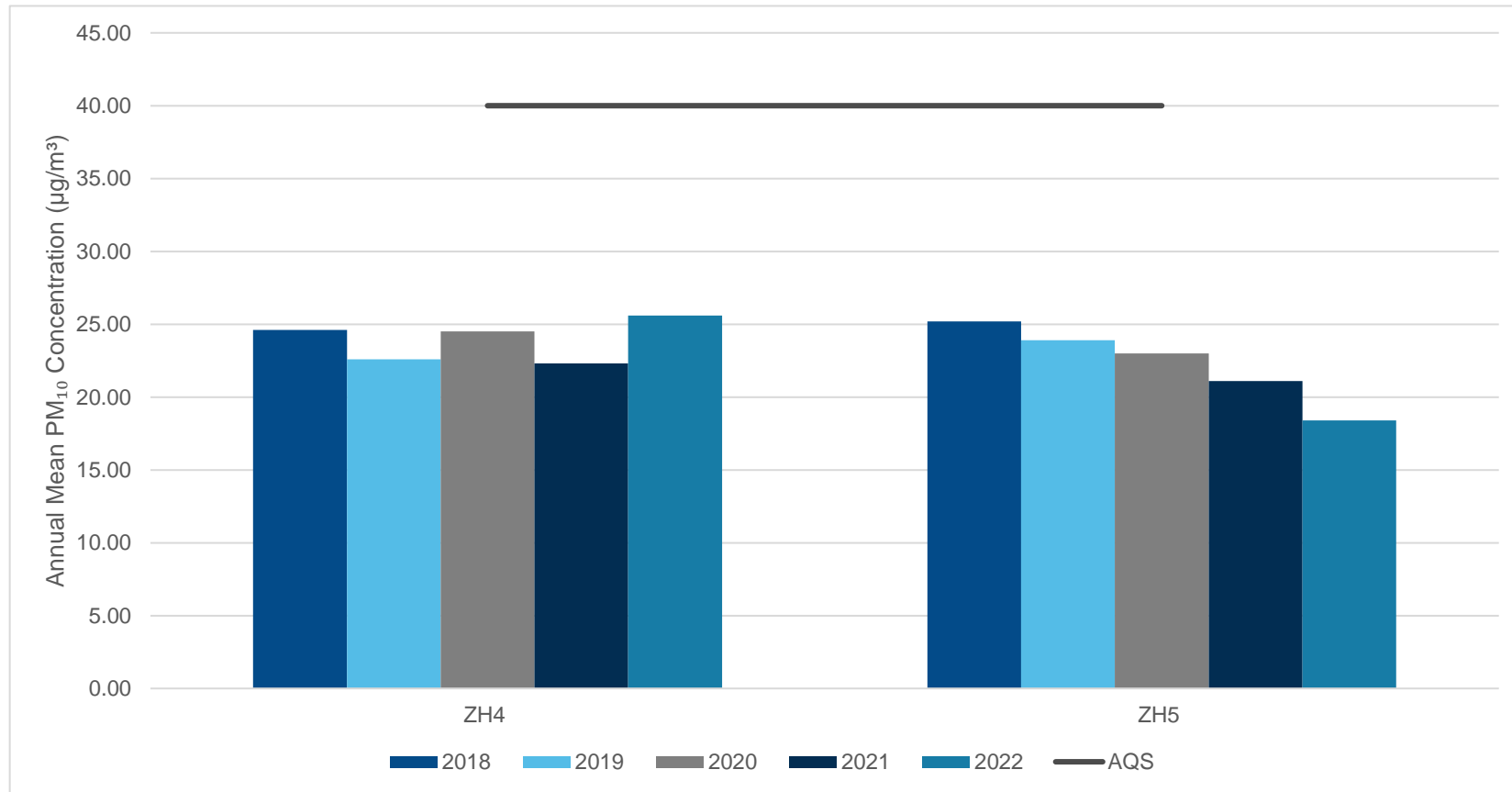


Table A.7 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	2018	2019	2020	2021	2022
ZH4	638483	165430	Roadside	93.9	93.9	11	3 (29.4)	13	0	7
ZH5	630284	169052	Roadside	96.2	96.2	10	14	10	1	2

Notes:

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

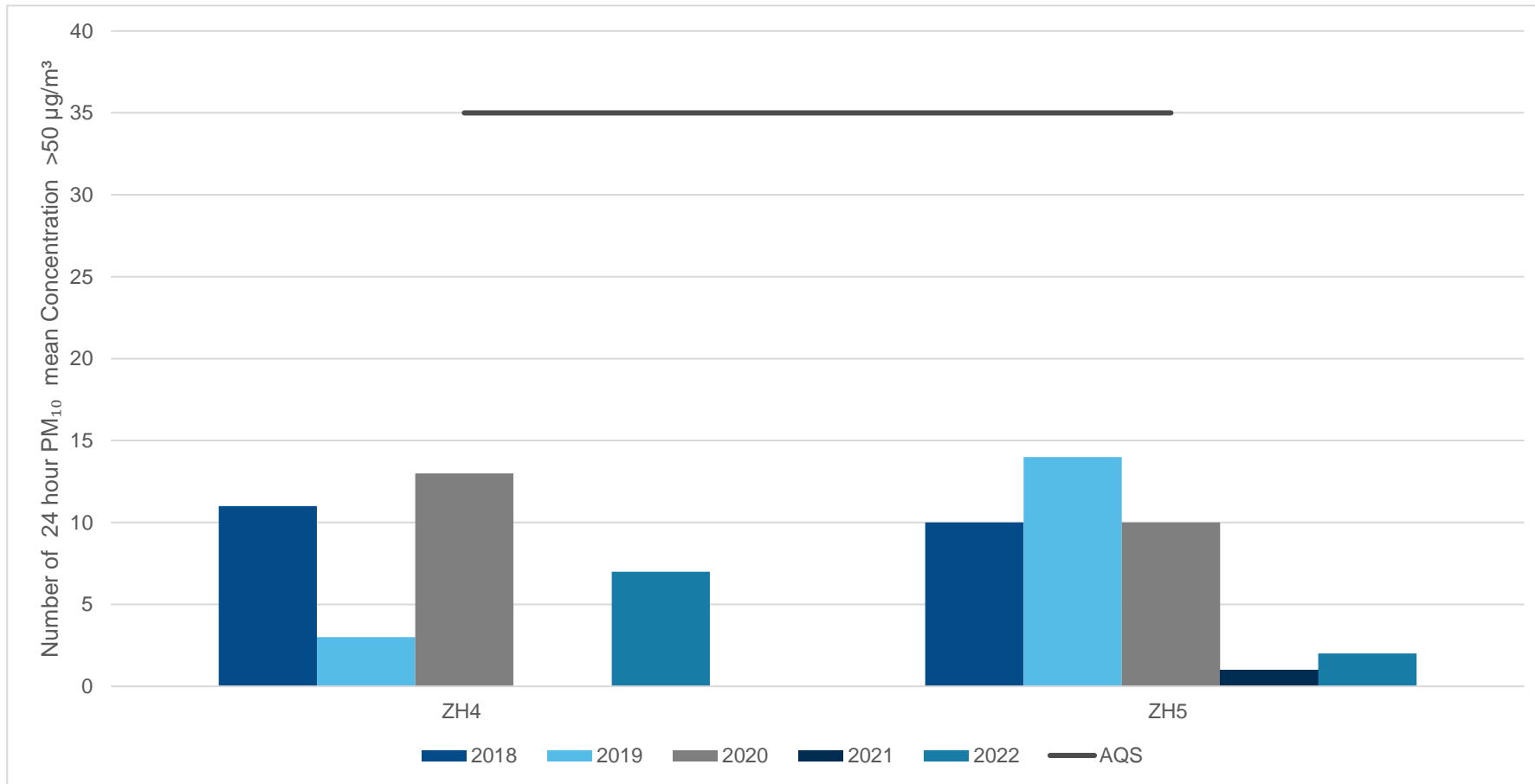
Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

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.6 – Trends in Number of 24-Hour Mean PM₁₀ Results > 50µg/m³



Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2022 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 (0.82)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TH48	630438	169111	42.6	31.7	43.1	31.3	23.6	23.3	23.5	35.0	22.9	27.8	29.9	29.3	30.3	24.9	-	
TH13	630254	169037	51.8			34.7	39.6	38.3	18.3	41.0	40.1	41.9	45.0	31.9	-	-	-	Triplicate Site with TH13, TH46 and TH47 - Annual data provided for TH47 only
TH46	630254	169037	47.4			30.1	39.2	36.0	41.7	43.8	37.2	41.7	44.8	37.3	-	-	-	Triplicate Site with TH13, TH46 and TH47 - Annual data provided for TH47 only
TH47	630254	169037	53.3			32.1	39.0	33.1	42.3	43.0	37.4		41.0	36.5	39.4	32.3	-	Triplicate Site with TH13, TH46 and TH47 - Annual data provided for TH47 only
TH49	630186	168983	30.2		38.0			17.5	24.6	26.9	22.8	22.5	22.6	22.9	25.3	20.8	-	
TH88	629531	169345	23.4		29.8	14.4	14.5	11.1	14.4	16.2	14.6	17.2	17.9	19.3	17.5	14.4	-	
TH79	625641	165002	33.1	21.2	32.4	23.6	23.6	18.0	24.6	40.1	23.5	24.2	23.4	26.0	26.1	21.4	-	
TH31	634662	166026	25.5	18.0	24.6	15.0	11.3	8.8	11.9	12.2	11.9	12.2	13.9	14.5	15.0	12.3	-	
TH32	632994	166428	19.4	17.1	27.6	14.8	13.7	11.4	15.3	13.3	13.8	15.4	19.2	15.1	16.3	13.4	-	
TH33	631161	165486	26.7		32.0	17.2	13.7	11.2	13.2	14.4	14.2	14.2	15.4	17.6	17.3	14.1	-	
TH89	631057	165478	34.1	25.5	36.5		20.6	20.5	21.9		17.7	23.7	24.1	23.5	24.8	20.3	-	
TH77	630972	164708	37.2		33.4	20.4	21.0	17.5	19.8	19.6	22.5	21.9	24.7	24.1	23.8	19.5	-	
TH16	634445	164416	30.2	19.7		17.6	14.8	15.8	6.3	14.4		14.3	13.2	18.4	16.5	13.5	-	
TH37	635932	165333		20.2	30.6	17.8	15.7	13.2	14.5	13.3	13.9	16.5	17.5	17.2	17.3	14.2	-	
TH95	637689	164115						20.6	17.9	16.5	17.3				18.1	20.8	-	
TH27	639097	165971	21.8		28.2	14.7	14.6	11.5	14.0	13.1	12.5	14.3	15.5	13.9	15.8	13.0	-	
TH67	638536	165465	30.3	24.7	42.9	36.9	29.5	33.7	38.3	41.2	37.0	32.1	29.4	27.5	-	-	-	Triplicate Site with TH67, TH68 and TH69 - Annual data provided for TH69 only
TH68	638536	165465	32.1		45.3			33.6	41.6	43.5	42.3	31.9	30.5	21.5	-	-	-	Triplicate Site with TH67, TH68 and TH69 - Annual data provided for TH69 only
TH69	638536	165465	35.5		47.7	42.2	36.8	27.0	33.1	39.2	32.5	27.3	26.1	31.4	34.1	27.9	-	Triplicate Site with TH67, TH68 and TH69 - Annual data provided for TH69 only
TH26	638492	165410	41.3	35.8	43.7	22.9	33.5	19.6	24.0	34.3	35.1	32.6	34.0	32.1	32.4	26.6	-	
TH51	638472	165432	30.1	25.4	33.7	19.0	22.0	19.1	20.6	17.0	18.5	20.5	23.3	20.8	-	-	-	Triplicate Site with TH51, TH52 and TH53 - Annual data provided for TH53 only
TH52	638472	165432	21.4	24.8	31.5	18.9	21.3	18.4	20.5	18.0	16.2	19.1	22.4	20.7	-	-	-	Triplicate Site with TH51, TH52 and TH53 - Annual data provided for TH53 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 (0.82)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TH53	638472	165432	30.4	24.3	31.1	18.2	21.5	32.6	30.2	17.6	19.0	20.9	23.0	20.3	22.6	18.5	-	Triplicate Site with TH51, TH52 and TH53 - Annual data provided for TH53 only
TH85	638026	165442	33.8	37.5	40.9	23.8	27.1	25.5	29.6	25.7	30.0	31.1	34.9	30.1	30.8	25.3	-	
TH86	637747	165713	36.2		38.2		22.0	19.6	23.8	21.9	21.9		27.2		26.4	21.9	-	
TH54	637135	165354	50.4	46.3	45.3	33.8	33.9	26.8	31.9	35.3	39.6	37.2	37.3	38.7	-	-	-	Triplicate Site with TH54, TH64 and TH65 - Annual data provided for TH65 only
TH64	637135	165354	57.4	40.1	47.8	31.9	32.7	31.2	32.6	32.2	41.6	38.1	41.7	61.4	-	-	-	Triplicate Site with TH54, TH64 and TH65 - Annual data provided for TH65 only
TH65	637135	165354	56.9	43.1	48.1	37.5	32.4	25.8	28.5	33.5	38.8	33.6	39.5	30.6	38.7	31.7	-	Triplicate Site with TH54, TH64 and TH65 - Annual data provided for TH65 only
TH66	637112	165331	33.7	29.2	43.6	29.3	25.3	24.5	25.4	27.2	24.9	21.6	24.9	27.2	28.1	23.0	-	
TH70	637092	165340	51.2	36.3	52.1	45.3	41.9	36.7	40.2		49.3	39.5	41.2	37.6	-	-	-	Triplicate Site with TH70, TH71 and TH72 - Annual data provided for TH72 only
TH71	637092	165340	53.6	40.0	54.0	46.2	40.0	37.3	40.9	45.4		38.3	40.2	40.7	-	-	-	Triplicate Site with TH70, TH71 and TH72 - Annual data provided for TH72 only
TH72	637092	165340	46.4	39.5	53.1	43.1	40.8	37.4	38.3	46.9	47.3	39.3	34.3	37.5	43.0	35.2	-	Triplicate Site with TH70, TH71 and TH72 - Annual data provided for TH72 only
TH90	636109	165766	33.1		33.5	19.4	21.2	18.3	20.3	18.6	20.8	23.3	19.4	21.9	22.7	18.6	-	
TH81	637097	166799	27.0		37.9	16.3	19.7	18.5	22.9	21.5	23.4	22.2	22.7	20.8	23.0	18.9	-	
TH55	636815	167297	32.8			24.0	21.2	20.3	23.4	18.4	25.0	25.7	25.9	25.6	24.2	19.9	-	
TH34	636570	167894	31.0	26.0	38.9	23.4	18.5	18.3	22.0	22.9	21.6	23.9	26.3	22.4	24.6	20.2	-	
TH82	637271	167873	43.0	34.7	47.3	31.8	30.6	30.2	33.3	34.4	35.4	28.6	33.2	32.5	34.6	28.4	-	
TH05	639020	167982	35.1	34.1	45.3	25.0	26.8	26.7	32.9	28.4	29.9	31.1	34.9	28.1	31.5	25.9	-	
TH59	638220	168614	44.1	42.6	44.8	33.4	31.8	29.8	29.8	30.3	33.5	33.2	34.9	35.3	35.3	28.9	-	
TH36	636405	168227	33.2		48.5	28.7	25.1	22.0	29.8	28.7	27.9	28.4	32.1		30.4	25.0	-	
TH78	636014	167851	26.1	21.5	39.9	21.9	16.5	13.9	20.4	19.3	19.3	18.3	19.5	19.7	21.4	17.5	-	
TH87	636198	166771	21.9	19.8	30.3	16.6	13.3	10.5	11.7	12.8	16.6	16.0	15.9	18.1	17.0	13.9	-	
TH83	635907	169266	25.0	20.5	36.9	23.2	16.3	17.4	20.7	19.6	22.6	18.8	19.9	17.5	21.5	17.7	-	
TH10	635539	169840	36.6		46.7	35.7	30.7	32.6	37.8	35.6	32.9	32.3	34.7	31.4	35.2	28.8	-	
TH91	635029	169494	21.5	19.2	29.6	17.4	15.9	10.5	13.6	16.4	15.1	13.3	15.0	16.5	17.0	13.9	-	
TH84	635997	171095	34.4	26.8	34.1	20.3	20.8	20.2	20.2	21.3	21.6	23.8	26.3	22.7	24.4	20.0	-	
TH76	634752	170679	33.4		38.0	20.5	20.5	19.0	13.9	18.2	21.8	22.9	22.9	21.3	22.9	18.8	-	
TH92	632695	169877	27.7	22.8	29.0	17.6	16.6	14.3	16.3	15.3	16.6	16.5	32.1	8.2	19.4	15.9	-	
TH93	632563	169291	25.9			19.0	14.6	12.3	14.3	15.6	15.3	17.7	20.9	17.6	17.3	14.2	-	

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 (0.82)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
TH94	638922	168342	37.9		36.4	25.3	26.2								31.5	20.8	-	

- 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.
- Thanet District Council confirm that all 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Thanet District Council During 2022

The following planning applications within the Thanet District Council area were granted permission in 2022 and identified to have the potential to impact on air quality in the district. All developments within the Thanet AQMA with more than 10 residential units with car parking provision are required to have EV charging points. Table C.1 details a list of planning applications which were commented on by the Environmental Health Department in terms of air quality. If it is a major development, then Thanet District Council are requesting that an Emissions Mitigation Assessment (EMA) is completed, and in some cases an Air Quality Assessment (AQA).

Table C.1 – Planning Applications with Air Quality Conditions in 2022

Reference	Location	Details	Status	Comments
OL/TH/16/1765	Land Adjacent To Salmestone Grange Nash Road MARGATE Kent	Outline application for residential development of up to 250 dwellings and alterations to the surrounding highway network, including details of Access with all other matters reserved (Appearance, Landscaping, Layout, Scale)	Permission Granted February 2022	Air Quality Assessment and Emissions Mitigation Assessment required to include modelling of crematorium emissions.
OL/TH/20/0847	Land On The North West And South East Sides Of Shottendane Road MARGATE Kent	Outline application for the erection of up to 450 residential dwellings (including market and affordable housing), structural planting and landscaping, formal and informal public open space and children's play area, sustainable urban drainage, with vehicular access points, including associated ancillary works and operations, from Hartsdown Road, Shottendane Road and Manston Road including access	Appeal Allowed with Conditions February 2022	Emissions Mitigation Assessment including a damage cost calculation using Defra methodology is required before any reserved matter application is submitted
F/TH/22/0573	Land At Manston Road	Erection of 88no. residential units (Use Class C3) consisting of 12No 1bed, 25No 2bed, 45No 3bed and 6No 4bed dwellings	Permission Granted	An air quality emissions statement was required to provide details of the air quality improvements before

	RAMSGATE Kent	with associated access, parking and landscaping including play area	October 2022	external works commence and this condition was approved February 2023 (planning ref: CON/TH/22/1590)
F/TH/20/1525	St Stephens Haine Road RAMSGATE Kent CT12 5ES	Erection of 115no. dwellings comprising a mix of 2, 3 and 4-bed houses, and 1 and 2 bed-apartments, with vehicular access from Haine Road, together with associated highway infrastructure works, parking, and landscaping	Permission Granted July 2022	Details of Electric Vehicle charging provision required and installation prior to occupation of units.
F/TH/21/0417	Land At New Haine Road RAMSGATE Kent	Hybrid planning application comprising outline planning with all matters reserved (except for access) for up to 322no. residential dwellings with associated open space, infrastructure and earthworks; and full planning for 178no. residential dwellings (Phase 1) with associated open space, equipped play area, landscaping, parking, infrastructure and earthworks	Permission Granted April 2022	Details of Electric Vehicle charging provision required and installation prior to occupation of units. Details of air quality mitigation as part of Emissions Mitigation Assessment required prior to start of works

Additional Air Quality Works Undertaken by Thanet District Council During 2022

No additional air quality works were undertaken by Thanet District Council in 2022.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes for the year 2022 were supplied and analysed by SOCOTEC Didcot, the tubes were prepared using the 50% TEA in acetone preparation method.

SOCOTEC is a UKAS accredited laboratory and participates in the AIR-PT Scheme for NO₂ tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a high calibre. The latest available AIR-PT result is AIR-PT AR050 (May – June 2022), in which SOCOTEC scored 100%. The percentage score reflects the results deemed to be satisfactory based upon the z-score of ± 2. Data from June 2022 onwards was not available at the time of writing.

The precision of the current 26 local authority co-location studies in 2022 detailed within the national bias adjustment factor spreadsheet (version 03/23) was 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%). Further information on the precision summary results can be found on the LAQM website.

Monitoring in 2022 had been completed in adherence with the 2022 Diffusion Tube Monitoring Calendar, whereby all changeovers were completed within ± 2 days of the specified date.

Diffusion Tube Annualisation

As per LAQM.TG(22), annualisation is required for any site which has a data capture of less than 75%, but greater than 25%. Annualisation was therefore required to be completed for three diffusion tube monitoring sites. The three closest continuous monitoring background locations which were selected to annualise the data were:

- Canterbury;
- Rochester Stoke; and,
- Southend-on-Sea.

These sites have a data capture of >85% and therefore could be used for annualisation.

Table C.1 presents the annualisation summary and is taken directly from the Diffusion Tube Data Processing Tool.

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

Site ID	Annualisati on Factor Canterbury	Annualisati on Factor Rochester Stoke	Annualisati on Factor Southend- on-Sea	Annualisati on Factor	Average Annualisati on Factor	Raw Data Annual Mean	Annualised Annual Mean
TH95	1.4423	1.3909	1.3823	-	1.4052	18.1	25.4
TH86	1.0242	1.0030	1.0199	-	1.0157	26.4	26.8
TH94	0.7929	0.7910	0.8396	-	0.8078	31.5	25.4

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2023 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from 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.

Thanet District Council have applied a local bias adjustment factor of 0.82 to the 2022 monitoring data as this is considered to be the most conservative than the national factor of 0.76. A summary of bias adjustment factors used by Thanet District Council over the past five years is presented in Table C.3.

Table C.3 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	Local	-	0.82
2021	National	03/22	0.78
2020	Local	-	0.82
2019	Local	-	0.75
2018	Local	-	0.76

Table C.4 – 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	9	-	-	-	-
Bias Factor A	0.82 (0.66 - 1.09)	-	-	-	-
Bias Factor B	21% (-8% - 51%)	-	-	-	-
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	22.0	-	-	-	-
Mean CV (Precision)	5.6%	-	-	-	-
Automatic Mean ($\mu\text{g}/\text{m}^3$)	18.1	-	-	-	-
Data Capture	100	-	-	-	-
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	18 (15-24)	-	-	-	-

Notes:

A single local bias adjustment factor has been used to bias adjust the 2022 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. No distance correction calculations were required for Thanet District Council monitoring in 2022.

QA/QC of Automatic Monitoring

QA/QC of the two automatic monitoring stations within the Thanet district are undertaken by Ricardo AEA on an annual basis. Daily data checks are undertaken and data downloads twice a day. The data for 2022 is fully ratified for both sites.

PM₁₀ and PM_{2.5} Monitoring Adjustment

The type of PM₁₀ monitor utilised within Thanet District Council do not require the application of a correction factor.

Automatic Monitoring Annualisation

All automatic monitoring locations within Thanet District Council recorded data capture of greater than 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

Appendix D: Maps of Monitoring Locations and AQMA

Figure D.1 – Detailed Map of Ramsgate AQMA

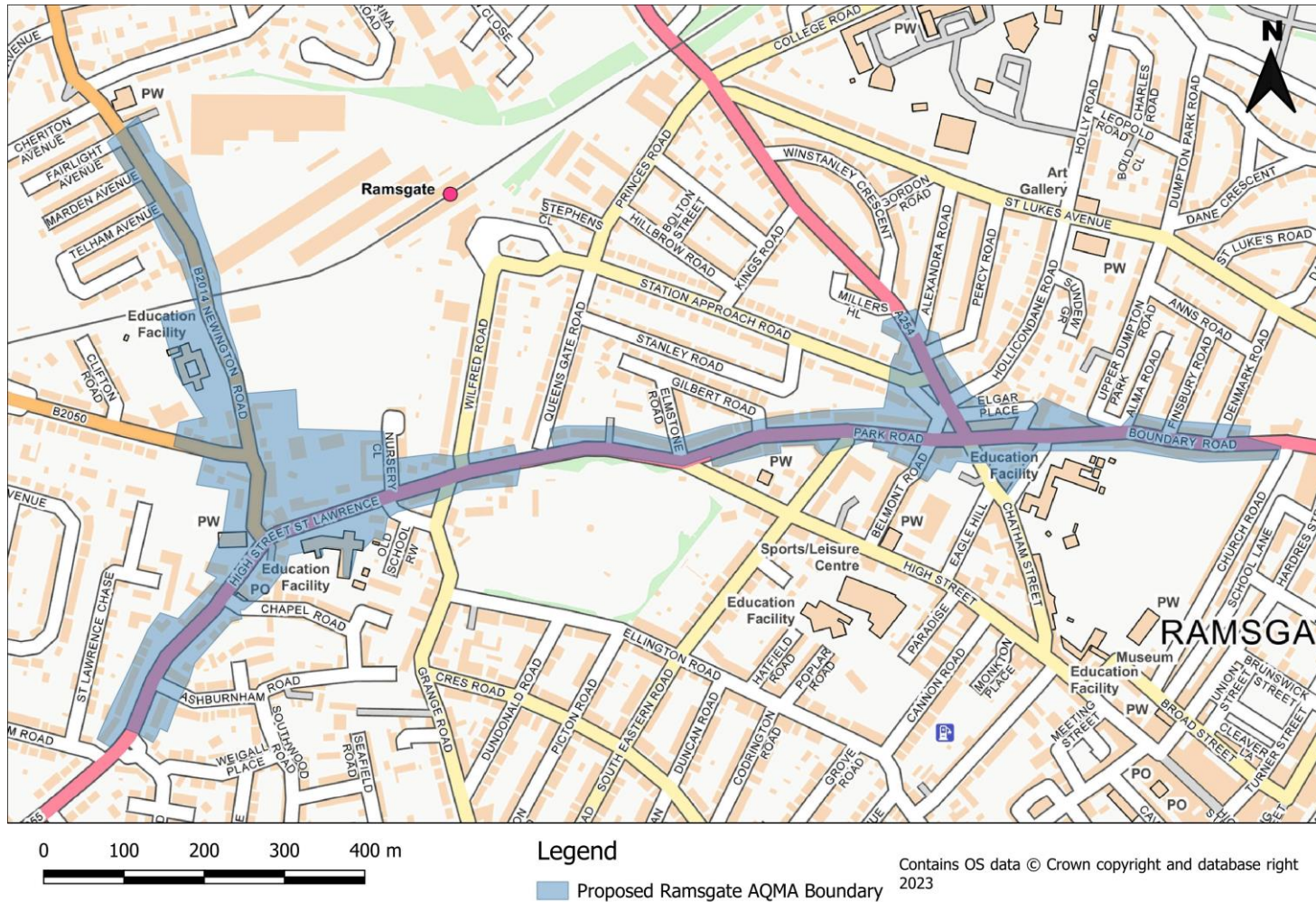


Figure D.2 – Map of Automatic Monitoring Sites

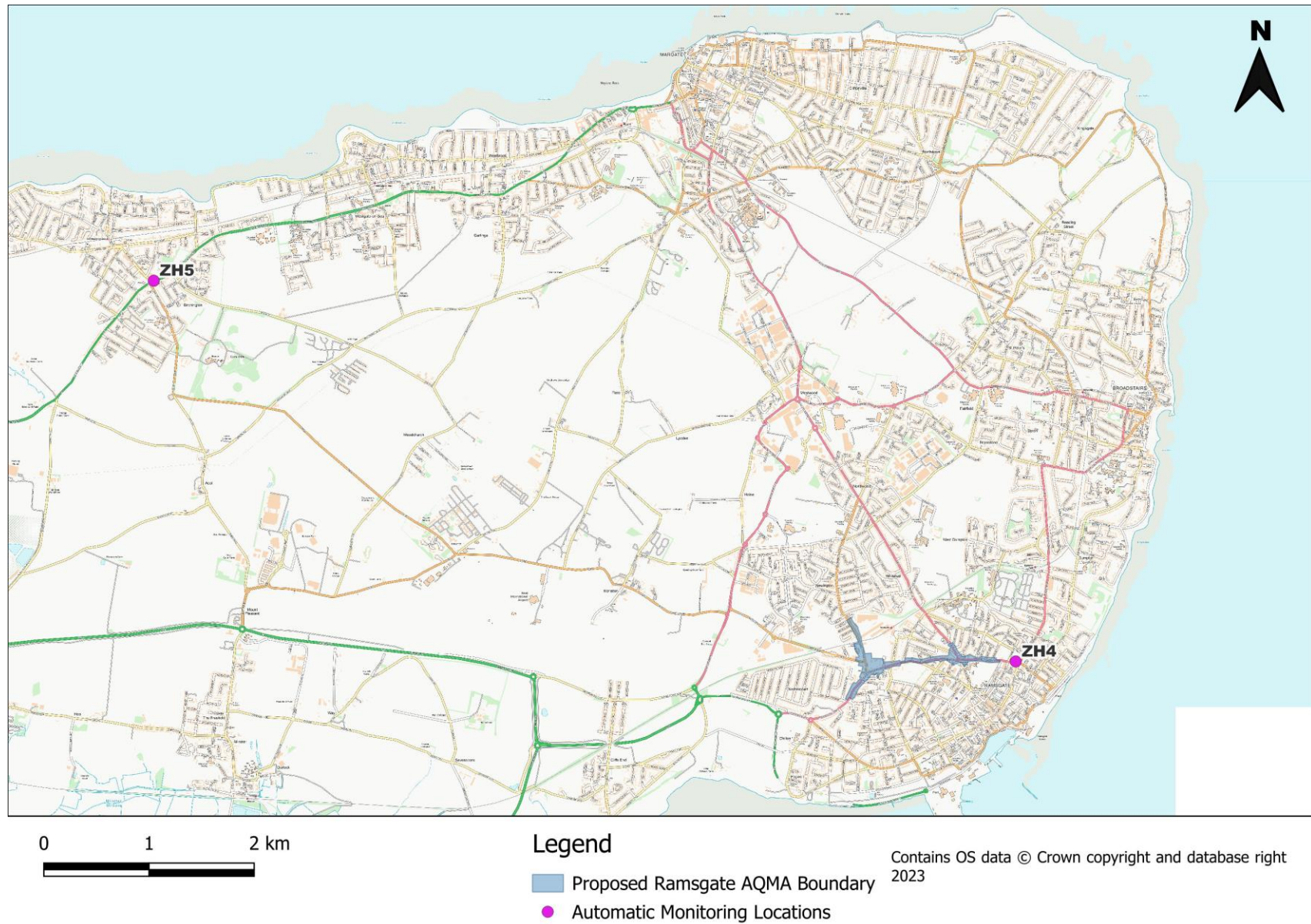


Figure D.3 – Map of Non-Automatic Monitoring Sites

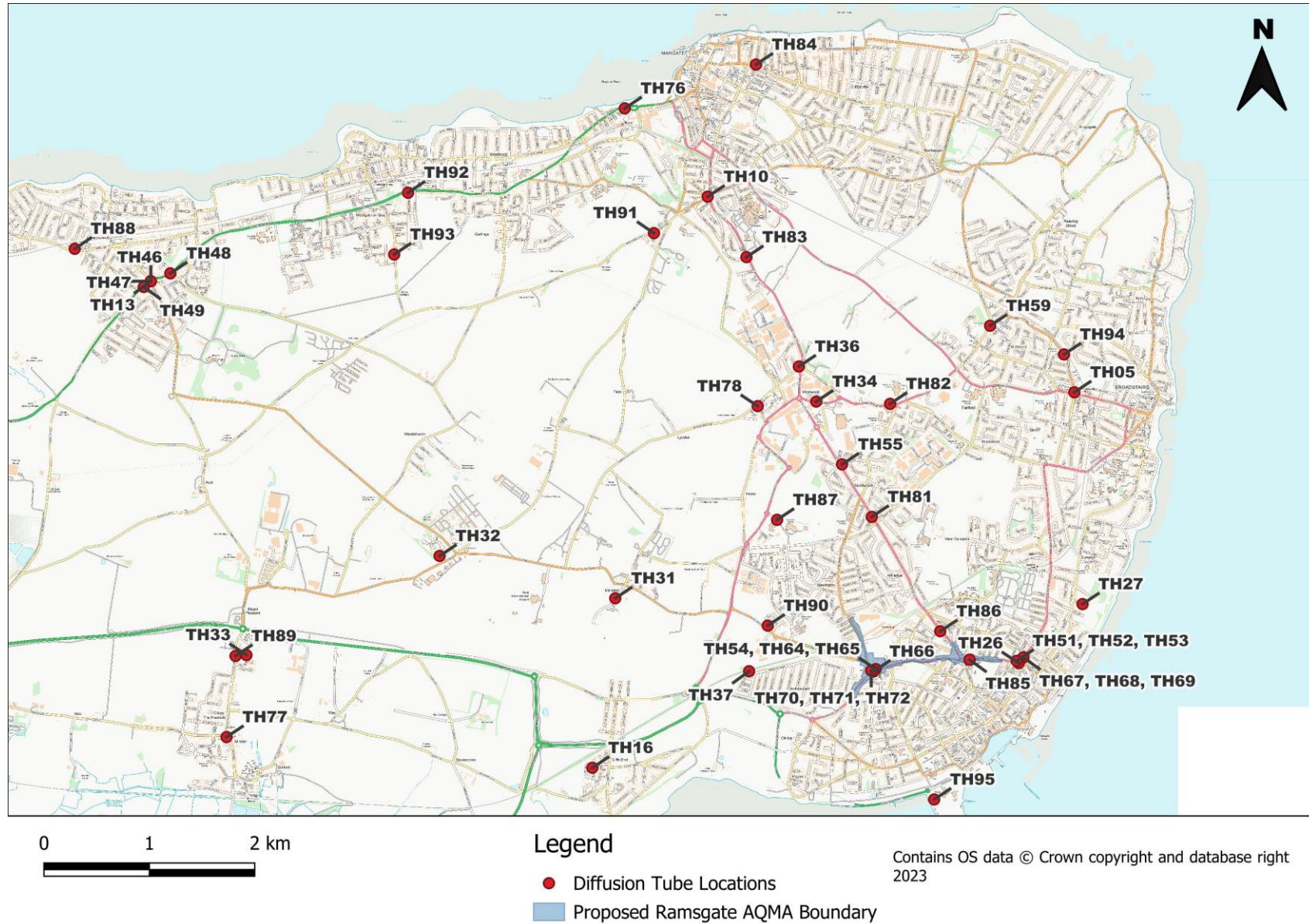
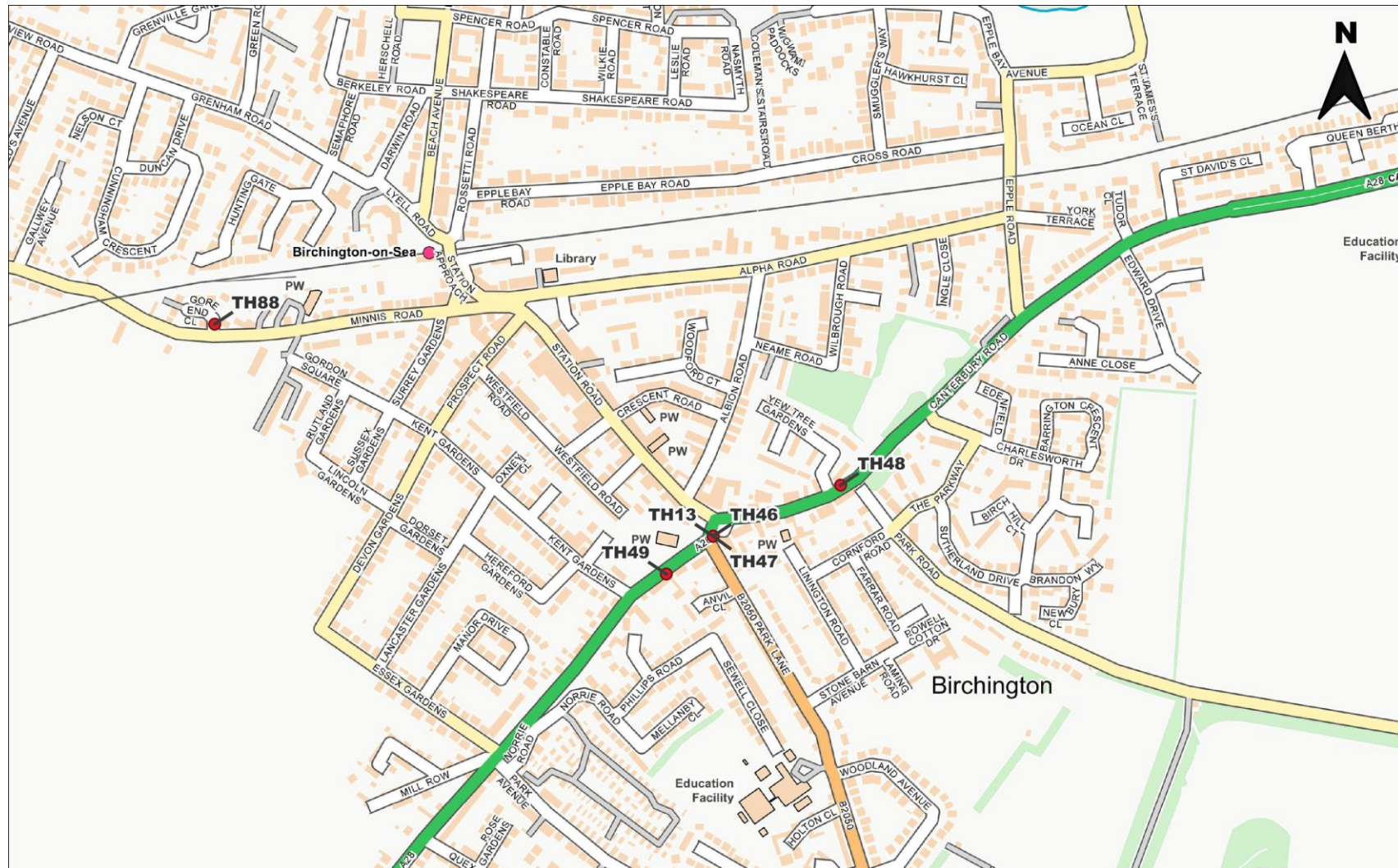


Figure D.4 – Map of Monitoring Locations in Birchington



Legend

- Diffusion Tube Locations

Contains OS data © Crown copyright and database right 2023

Figure D.5 – Map of Monitoring Locations in Minster

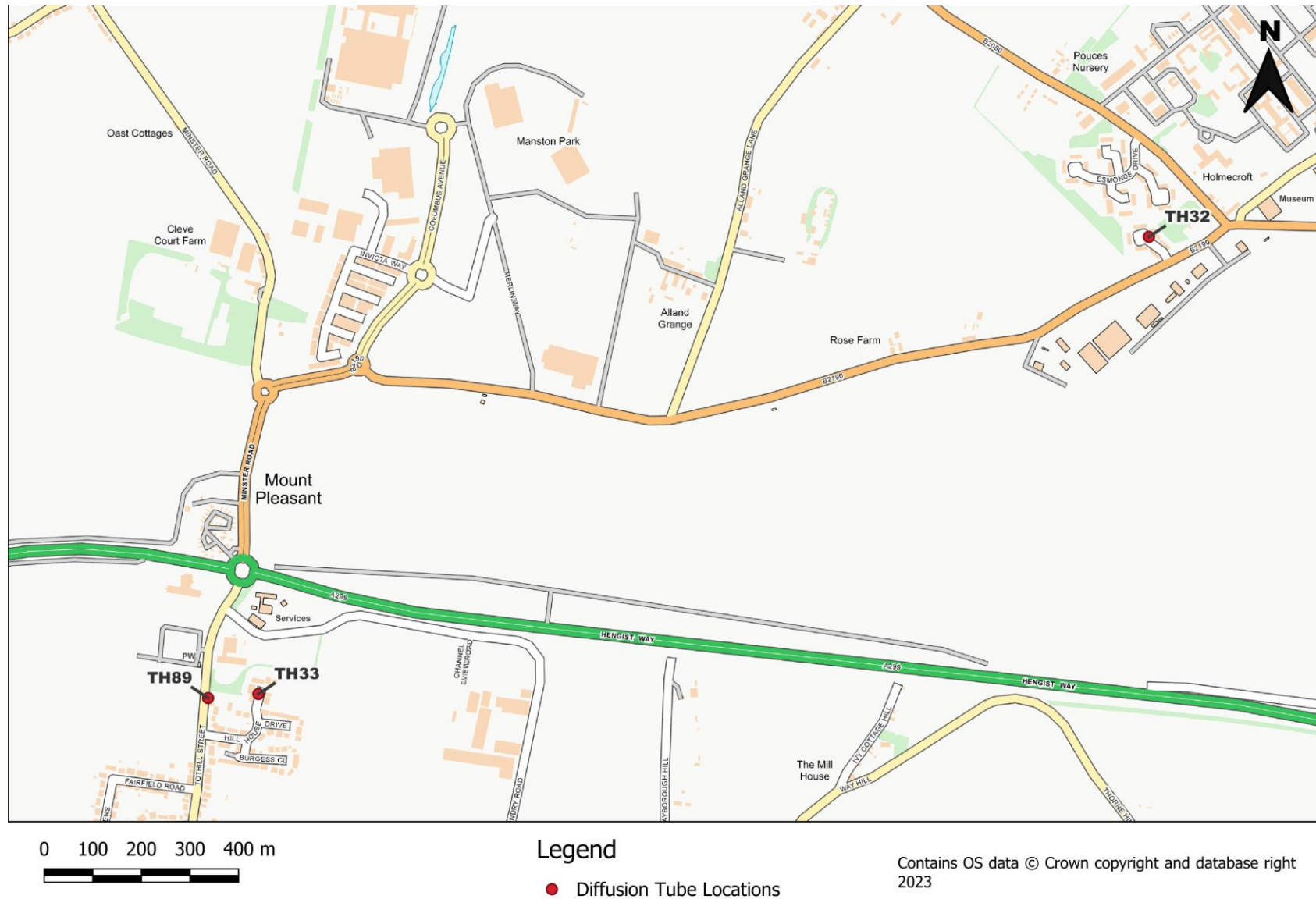


Figure D.6 – Map of Monitoring Locations in Cliffsend, Ramsgate

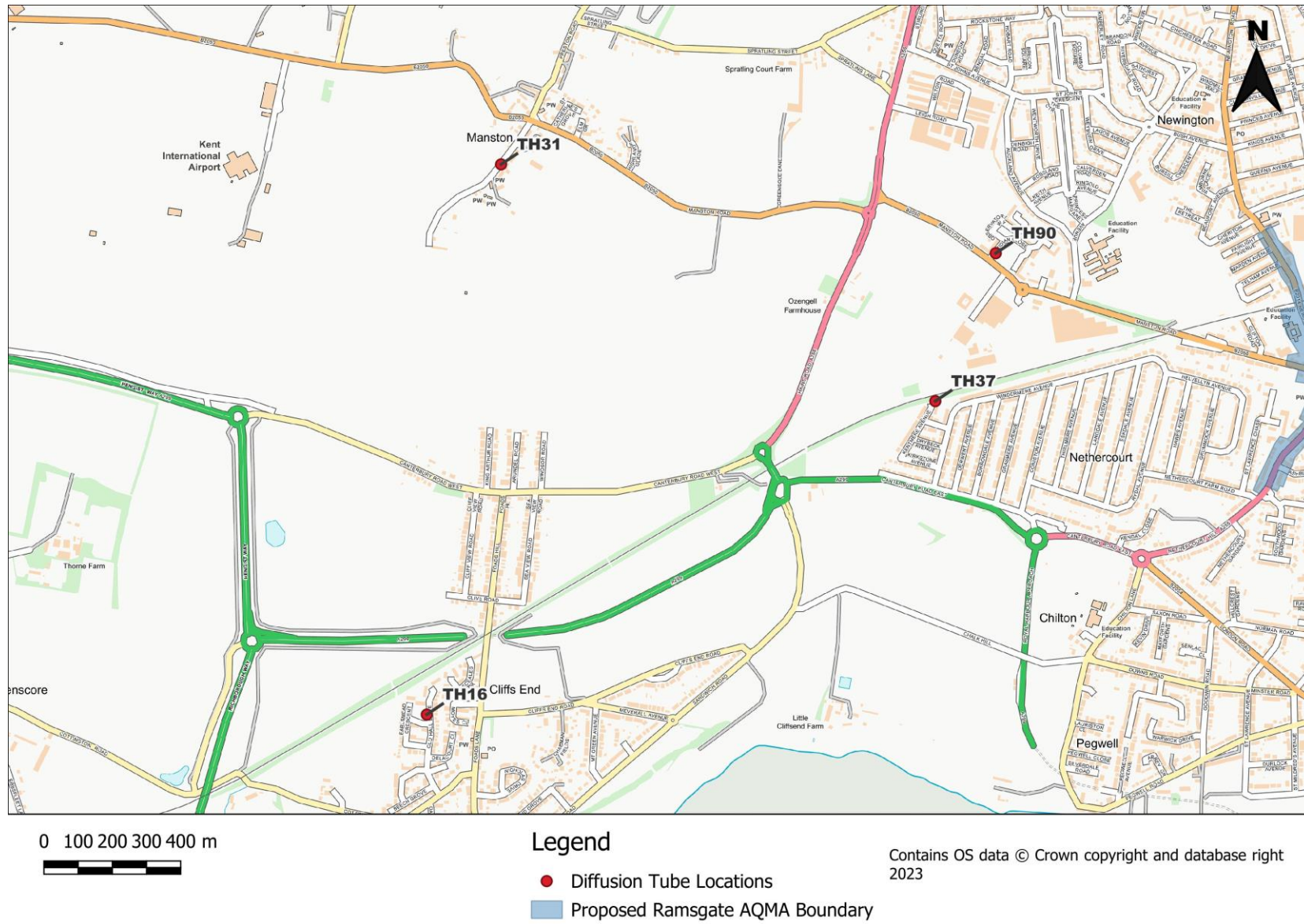


Figure D.7 – Map of Monitoring Locations in Westwood

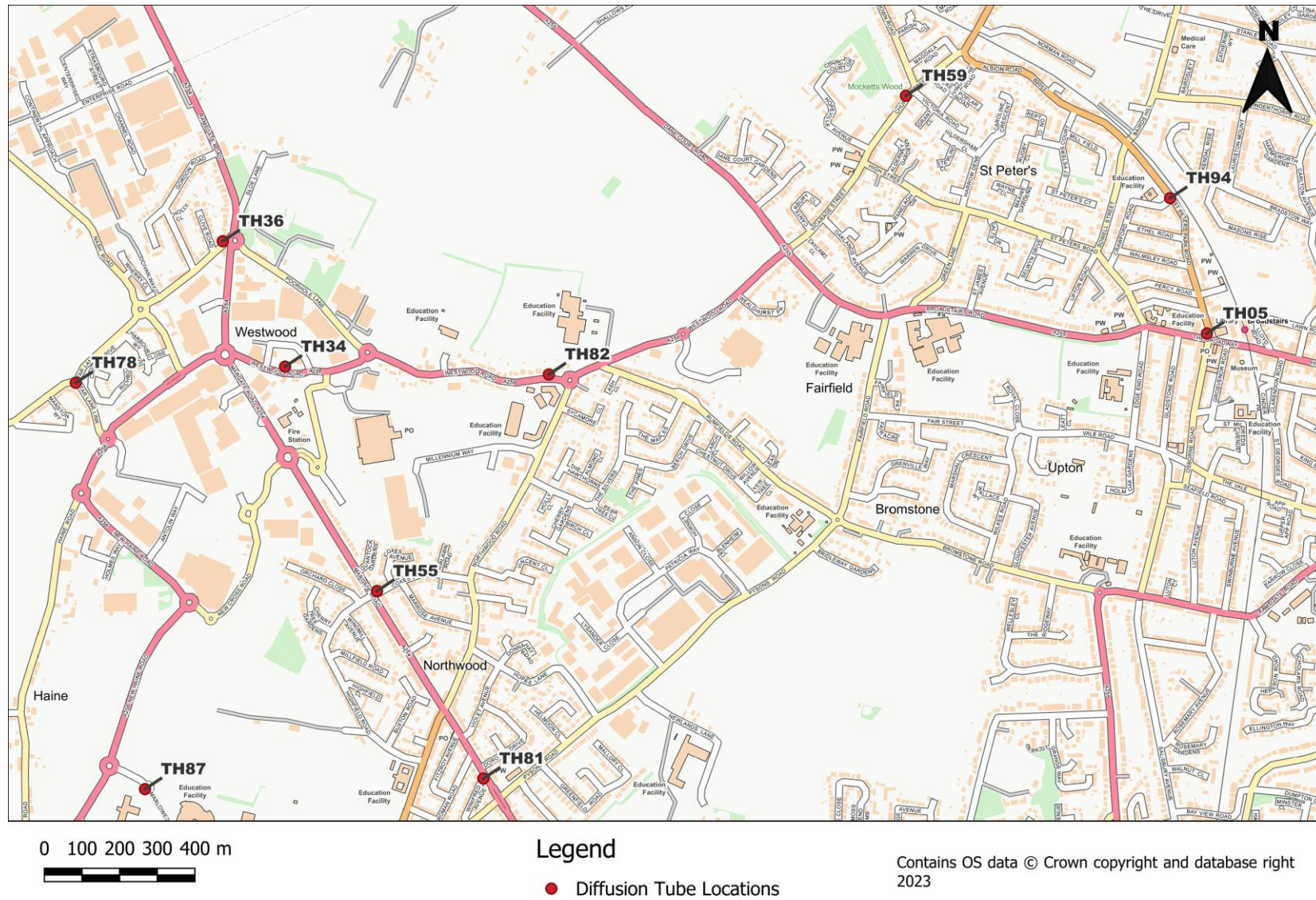


Figure D.8 – Map of Monitoring Locations in Margate and Westgate-on-Sea



Figure D.9 – Map of Monitoring Locations in Ramsgate AQMA

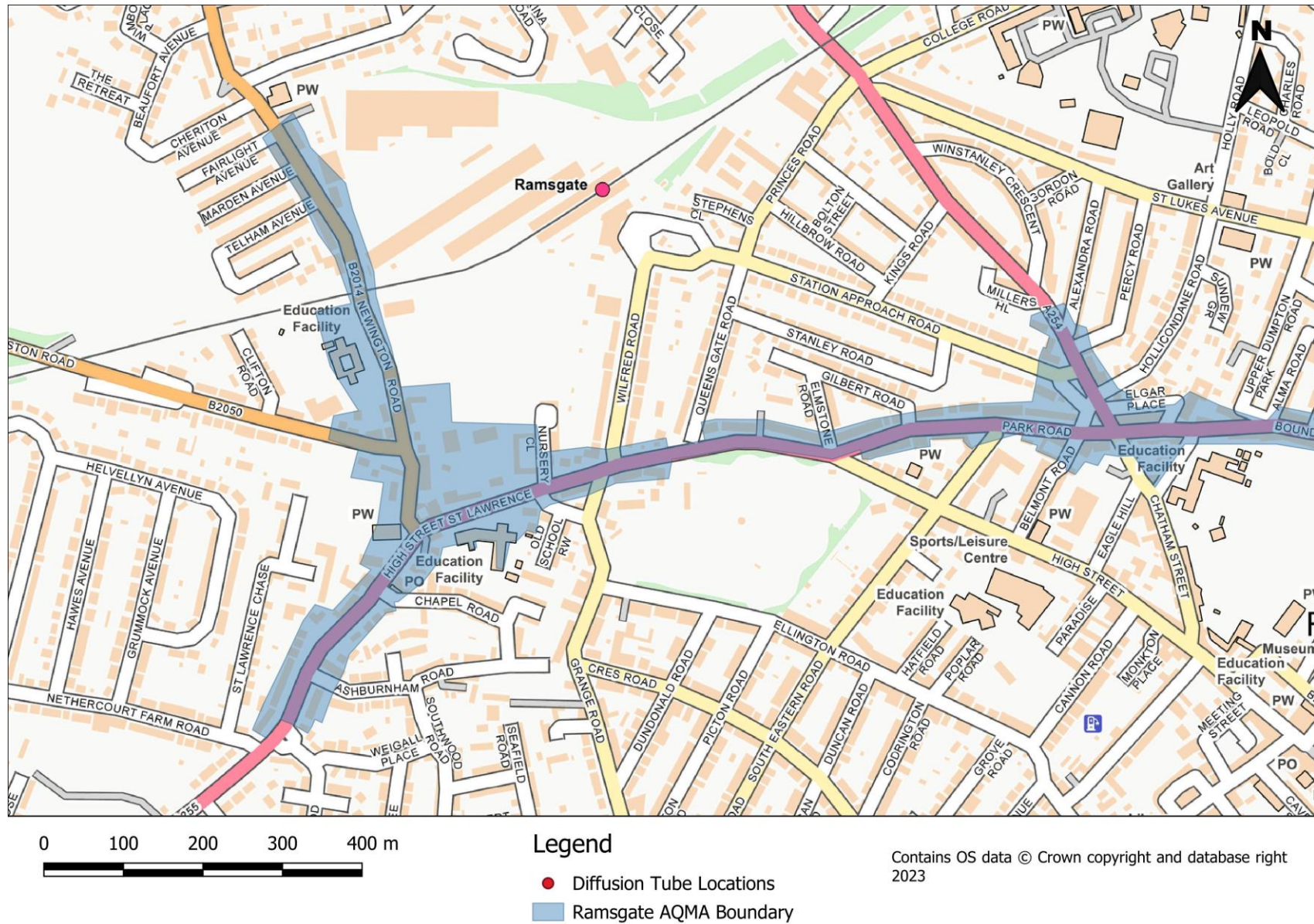


Figure D.10 – Map of Monitoring Locations in Ramsgate AQMA

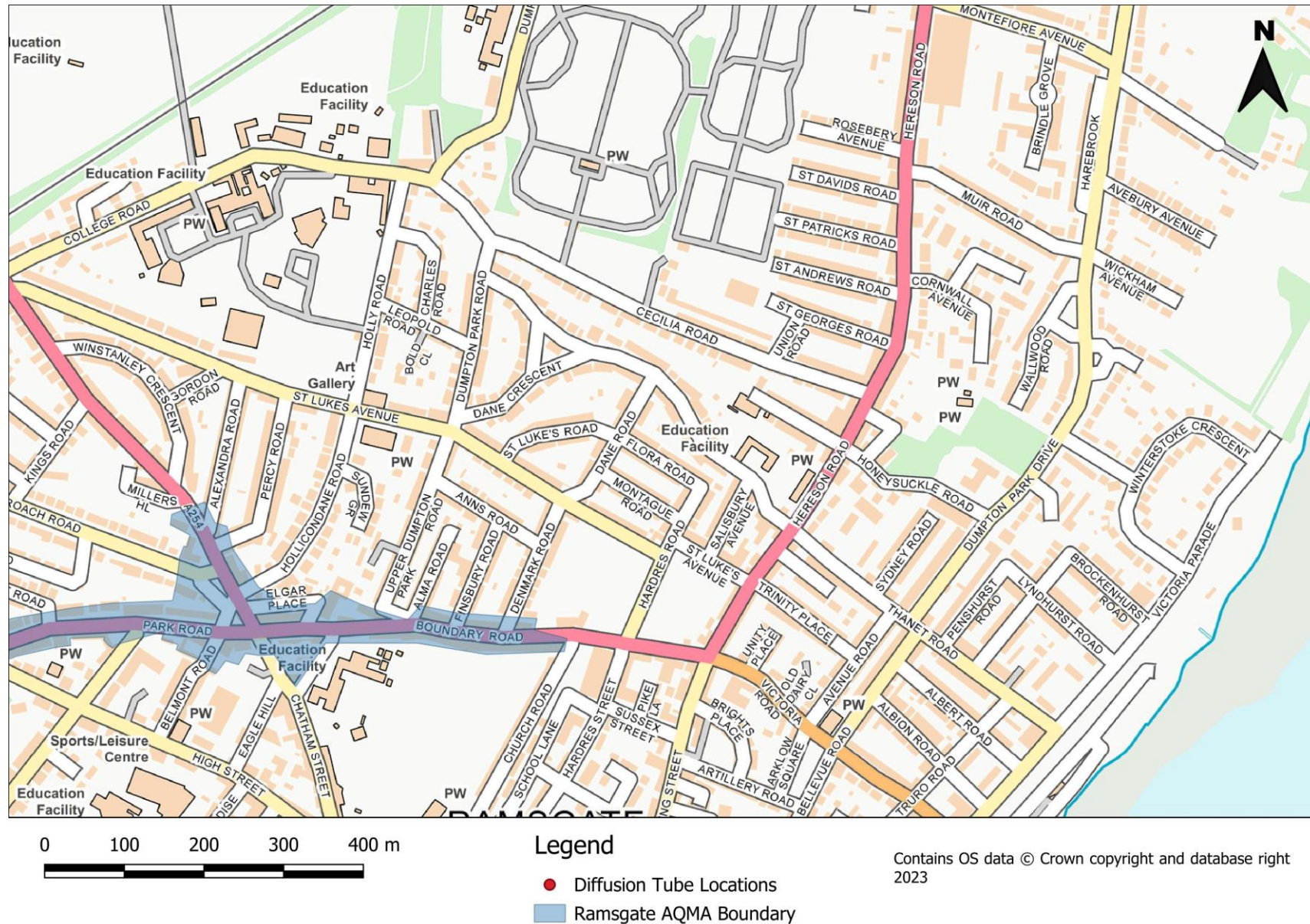
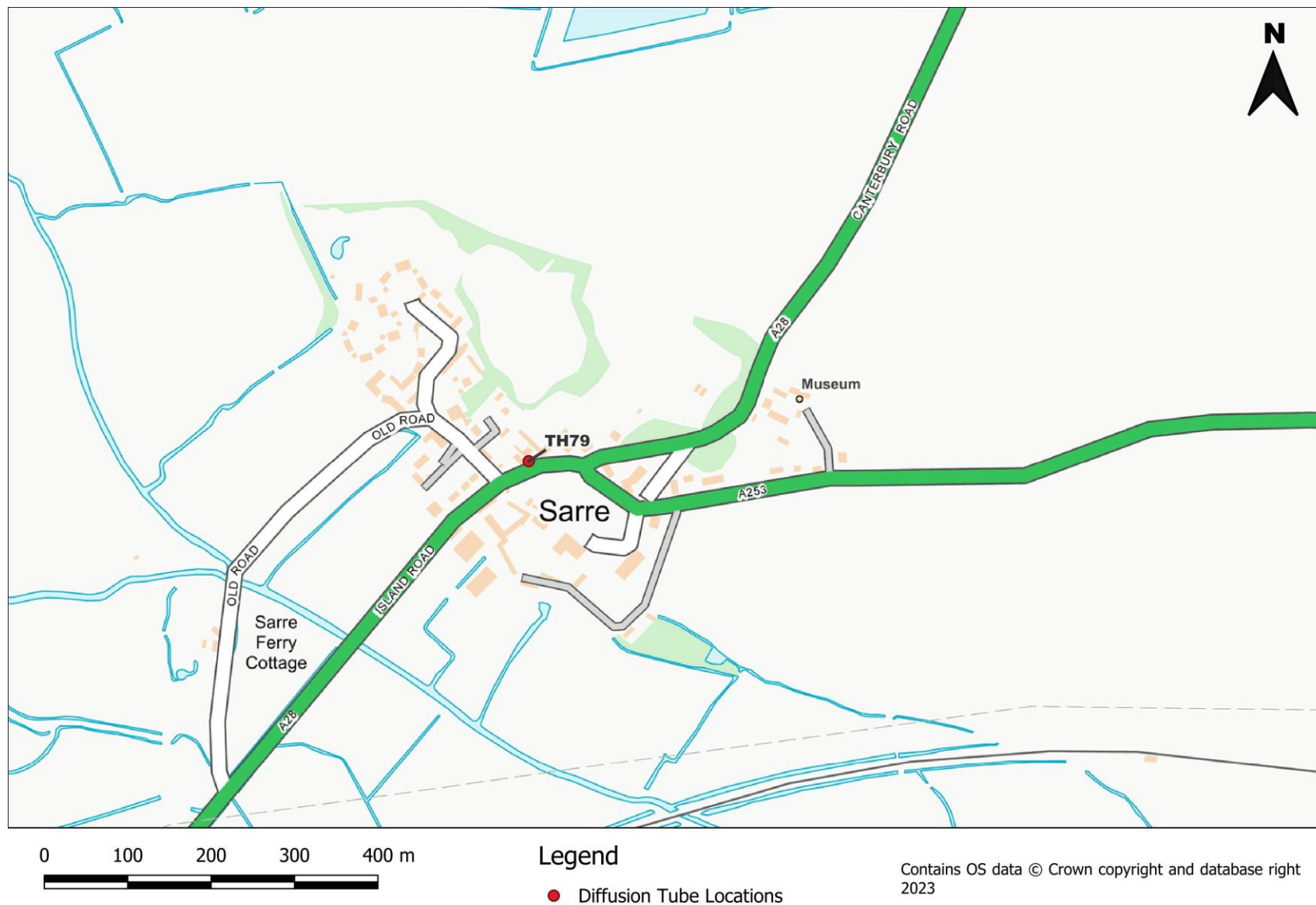


Figure D.11 – Map of Monitoring Locations in Sarre



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England⁸

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

⁸ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
KMAQP	Kent and Medway Air Quality Partnership
KCC	Kent County Council
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.
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