2024 Air Quality Annual Status Report (ASR)

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

June 2024

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Executive Summary: Air Quality in Our Area

Air Quality in North Hertfordshire

Breathing in polluted air affects our health and costs the National Health Service (NHS) and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer, and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year[1].

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are typically those most exposed to dangerous levels of air pollution[2].

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

Table ES 1 - Description of Key Pollutants

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

[1] UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

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

The latest traffic data as summarised in Figures 0.1 and 0.2 below, highlight that traffic levels post pandemic are close to pre-pandemic levels in 2023. The trends on some key local roads in Fig 0.2 follow the County-wide trends in Fig 0.1 for these years.

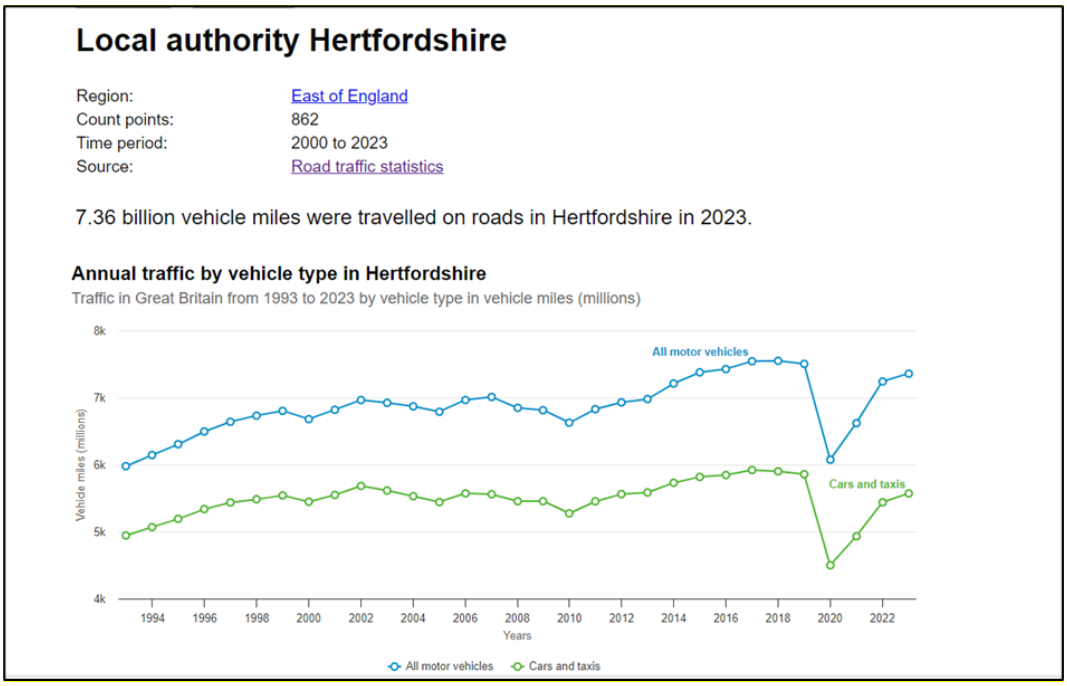

Figure 0.1: Annual traffic trends in Hertfordshire

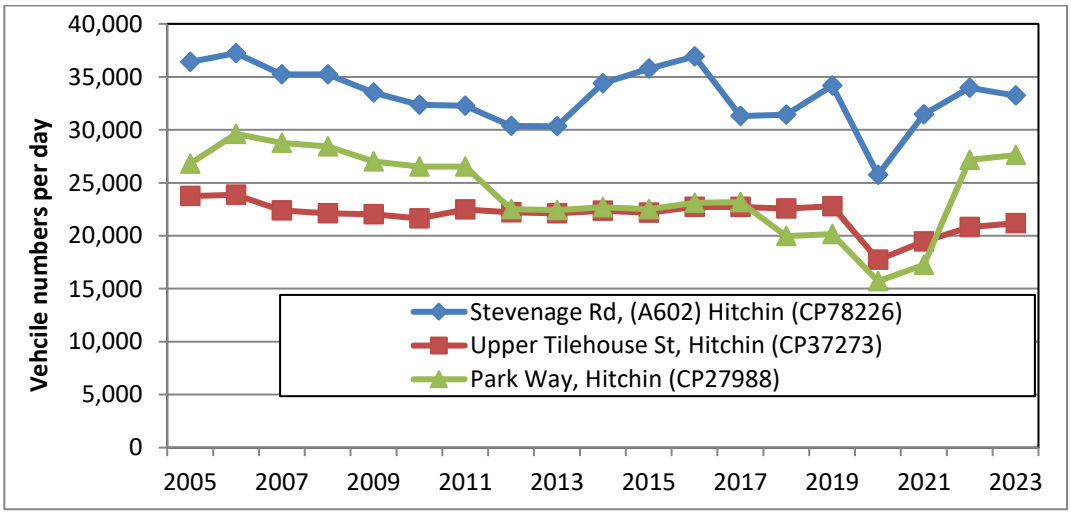

Figure 0.2: Annual traffic trends in roads adjacent to the Air Quality Management Areas in Hitchin

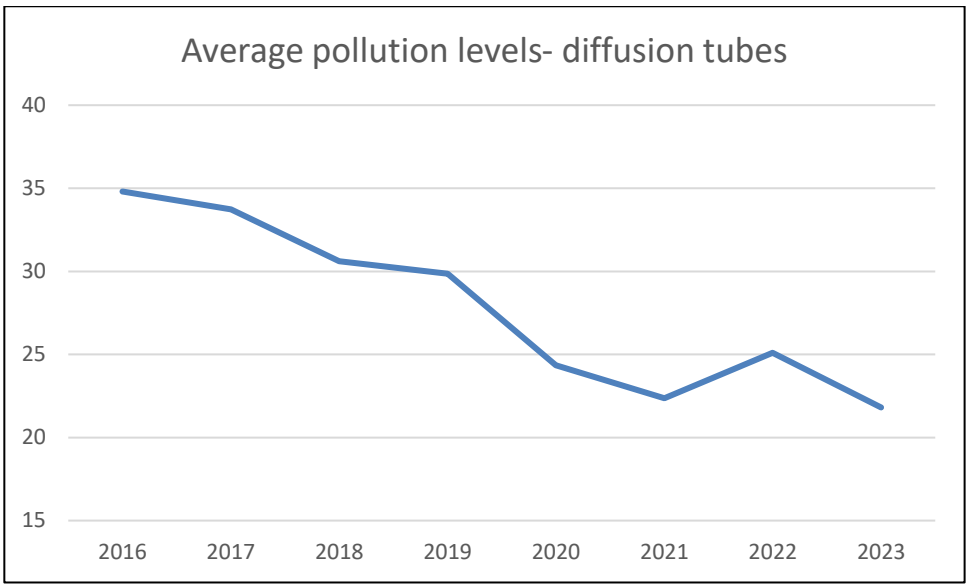

Figure 0.3: Averages of long-term diffusion tube measurements in North Herts

Despite the recent fluctuations in traffic levels due to the pandemic, apart from an increase in 2022 when traffic levels had significantly increased, Fig. 0.3 shows the overall trend to 2023 for the levels of pollution detected via the diffusion tube monitoring programme is a continued reduction. These averages of diffusion tube measurements are showing a reduction of just over 30% when comparing 2016-17 to 2022-23.

North Herts Council (the Council) currently has two Air Quality Management Areas (AQMA), and the local air quality monitoring strategy for these has continued, providing a strong basis for confirming that pollution levels in both AQMA's remain significantly below objective levels. As such, and in accordance with the requirements that the Department for Environment, Food & Rural Affairs (DEFRA), who oversee this intervention, have set, both AQMAs should be revoked.

The North Hertfordshire Local Plan 2011-2031 (NHLP) was adopted by the Council on 8 November 2022. The Local Development Scheme was approved at the same time.

The Council also carried out a Local Plan Review in 2023 and have agreed a full review and update of the NHLP is undertaken, commencing in 2024/5. This will ensure the NHLP will be in line with the new National Planning Policy Framework (NPPF).

As well as planning for approximately 11,600 new homes to meet the needs of the district and 1,400 to meet the needs of Luton, the NHLP sets out plans for new and expanded employment sites at Baldock and Royston. The plan also sets out the requirements for supporting roads, schools, retail, leisure, and community facilities to help our communities thrive.

The NHLP will encourage good design throughout the district and in particular highlight the need for environmental considerations, including:

- Encouraging walking and cycling, with strategic housing sites having to create integrated, accessible, and sustainable transport systems.
- Reducing water use in new properties.
- Providing appropriate spaces and new habitat for nature, known as biodiversity net gain (separate national legislation has mandated this should be 10%).

Policy IMR2: Local Plan Early Review commits the Council to undertake work on a whole plan review of the 2011 – 2031 Local Plan by the end of 2023. Work has already begun to assess the breadth of any review and decide how and when it should be updated in the future.

Hertfordshire County Council (HCC) adopted their Electric Vehicle (EV) Charging Strategy for on-street charging across the county in September 2023, after consultation with all Hertfordshire's district and borough Councils.

HCC has also been awarded £6,015,000 capital funding from the Local Electric Vehicle Infrastructure (LEVI) fund in March 2024, to support the county's charging infrastructure. This grant is in addition to the £720,000 of LEVI capability funding that had already been approved. This funding is expected to scale up delivery of chargepoints and assist residents without access to off-street parking to switch to electric vehicles.

The two historic sites declared as Air Quality Management Areas (AQMAs), Stevenage Road (AQMA 2012) and Payne's Park Roundabout (AQMA 2017) along the A602, both continue to show improved levels of air quality in 2023.

In summary: results of the latest monitoring data corrected for relevant exposure shows the following:

Stevenage Road, Hitchin AQMA

- No results above objectives for 7 years in succession (2017-2023 inclusive).
- No results within 10% of objective levels in the last 6 years (2018-2023 inclusive)

Payne's Park, Hitchin AQMA

- No results above objective levels for the last 5 years
- No results within 10% of objective levels in the last 4 years

- Two years with results above objectives in last 7 years (2018, 2017)
- 3 of last 7 years with results within 10% of objective levels (2019,2018,2017)

Based upon these results, and in accordance with DEFRA's requirements for the provision, both AQMA's should now be revoked.

The revocation process is expected to move forward during July/August 2024 following the recent Council elections.

In line with the revocation process, the Council has begun the process of developing an Air Quality Strategy in consultation with Hertfordshire County Council, and neighbouring Districts.

The locations of the AQMAs can be found in Appendix D, the formal designations can be found at https://www.north-herts.gov.uk/air-quality-management-areas and the AQMAs are also included within the national list of AQMAs that can be found at http://uk-air.defra.gov.uk/aqma/list.

As a result of the designation of the 2017 AQMA, the Council consulted on and published a joint Action Plan to identify measures that can be taken to attempt to reduce emissions of nitrogen dioxide and improve air quality at both AQMAs.

The original joint Action Plan can be found at http://www.north-herts.gov.uk/home/environmental-health/pollution/air-quality/air-quality-management-areas-north-hertfordshire and the latest update sits in Section 2 of this report.

The long-term trend of improving air quality continues to reflect policies operating at a national, regional, and local level.

Although traffic has almost returned to pre-pandemic levels, the encouraging trend is that despite this, average roadside pollution levels at the two AQMAs have continued to fall and remain significantly below objective and below pre-pandemic levels.

Measures to reduce emissions to the atmosphere are addressed by policies that are developed to tackle climate change, as well as air pollution. Transport policies that control congestion at pollution hotspots on urban roads closest to housing are also significant, and although tend to fall to HCC to develop and administer these, the Council does act to influence the objectives.

In May 2019, the Council passed a motion to declare a Climate Emergency. In this motion the Council pledged their commitment to do everything within its power to become carbon neutral by 2030. The Climate Change Strategy sets out actions that the council will take towards this goal.

In March 2021, the Council's Cabinet approved the adoption of an updated Climate Change Strategy 2021-2026 including appendices detailing achievements to date and proposed actions. It was also approved that the target date for the Council to become a Net Zero Carbon district be brought forward to 2040 from a previous date of 2050, as per the revised strategy; the objective for the Council to be carbon neutral by 2030 remains unchanged. The strategy also sets out the actions that the Council plans to take towards meeting both targets. In December 2022 an updated version of this Strategy was approved by Cabinet. This became the Climate Change Strategy 2022-2027 and builds upon the previous iteration of the strategy; no substantial changes were made to the direction of the Strategy or to the objectives, but the policy context was updated, additional information about climate adaptation was included, and some additional actions were created to address identified gaps.

The Strategy's Objectives are:

- Achieve Carbon Neutrality for the Council's own operations by 2030 (at least Scope 1 and Scope 2),
- Ensure all operations and services are resilient to the impacts of climate change,
- Achieve a Net Zero Carbon district by 2040,
- Become a district that is resilient to unavoidable impacts of climate change.

The Strategy's three priorities, under which the actions sit, are:

1. Taking Action – Taking direct action to reduce the Council's carbon emissions,
2. Enabling Carbon Savings – Ensuring that our policies enable citizens and businesses to reduce their emissions,
3. Inspiring the Community – Encouraging citizens and businesses to take action to go further and faster in cutting carbon emissions.

Action taken so far includes:

- Assessment of the Council's carbon emissions. We are currently working on establishing regular reporting of these to guide action to reduce emissions,
- Switched to a renewable electricity tariff for our buildings,

- Made a successful application for c.£7.7 million to the Public Sector Decarbonisation Scheme. The funding is planned to go towards decarbonising our three leisure sites,
- Made changes to the Taxi and Licensing Policy including: a no idling points system introduced to enforce against drivers who do not comply, and a requirement for all vehicles new or replaced from 2028 to be ultralow emission vehicles (ULEVs),
- Continued replacing Council vehicles with ULEVs or electric vehicles when the leases come up for renewal, in accordance with our 2019 Council resolution to do so,
- Installed more new EV chargers at the Council offices to support our transition to an electric fleet. The charging infrastructure will now allow 12 Council vehicles to be charged at the Council offices at any one time,
- Committed to using the Section 106 Sustainable Transport Funds we hold for measures that encourage cycling and walking as well as public transport,
- Worked with HCC to deliver new cycle stands in the district as part of the Department for Transport Emergency Active Travel Fun,
- Continued to work with HCC to develop a Local Cycling and Walking Infrastructure Plan,
- Worked with HCC to successfully bid for LEVI funding to delivery charging infrastructure for residents without off-street parking. This is currently at procurement stage,
- Given away 10,000 free trees to residents of the district, and participated in the HCC giveaway, topping up the budget to secure more free trees for our residents,
- Approved a Council motion to promote renewable energy and support the Government's Local Electricity Bill which if made law, would make the set up and running costs of selling local electricity to local customers affordable,
- Delivery of two rounds of a Solar Bulk Buy Scheme for residents – Solar Together,
- Promoting low emission fleet to Hitchin businesses through the ECO Stars Scheme, which helps businesses understand how they can better manage their fleet in terms of efficiency,
- The installation of Solar PV panels on the roof of the Council offices.

Further actions proposed by the Council's Climate Change Strategy and relating to air quality include:

- In accordance with the Council's 2019 resolution, continue replacing all future operational vehicles leased or purchased by the Council with ULEVs or zero emission vehicles until the last non-ULEV vehicle leases expire; and encourage contractors to adopt similar measures.
- Reduce staff and Councillor business travel through use of Zoom, Teams, or similar technologies as much as possible and reduce staff commuting through home working.
- Investigate low carbon solutions for the next waste contract which will commence in 2025. It is planned for vehicles 3.5tn and under to be electric and for Hydrated Vegetable Oil (recycled vegetable oil, usually from the food industry) to be utilised as part of the contract.
- Ensure our waste depot has the appropriate infrastructure to support low carbon solutions and our climate targets.
- Establish a process for ascertaining and reporting the carbon impact of proposed projects and decisions.
- Quantify the contribution that tree planting and soil sequestration within North Herts could make to offsetting the council's carbon emissions.
- Provide more EV charging facilities in our car parks.
- Explore the possibility of making it cheaper for zero emission vehicles to use Council car parks.
- Work with HCC to improve the provision of on-street EV charging.
- Work with other public and private entities/partners to improve provision of EV charging.
- Progress the implementation of a better cycle network in North Herts, linking the district and beyond.
- Ensure that masterplans and planning applications for new development are designed around streets and routes for active travel (rather than cars) and create walkable neighbourhoods.
- Encourage residents to make behaviour changes by highlighting positive actions that can be taken and informing them of more environmentally friendly options.

In May 2024 the council held all-out elections, which has resulted in an administration change from a Labour/Liberal Democrat joint-administration to a Labour minority

administration. As such, it is expected that the Council will revise and redraft the Climate Change Strategy during 2024 to take into account the priorities of the new 4-year administration as outlined in the upcoming Council plan.

Thus, to a significant extent, measures to address climate change can be considered in tandem with measures to address air pollution, and vice-versa.

Full details of the actions the Council has taken to date, and measures it proposes to take are presented in The Climate Change Strategy and its appendices, available on this webpage: https://www.north-herts.gov.uk/climate-change .

As reported in the 2023 Annual Status Report (ASR), the Council continues to work closely with a number of key partnerships, including:

- A number of key service areas of HCC, including the Transport Planning, Public Health, and Electric Vehicle and Future Transport Group services,
- Hertfordshire Climate Change and Sustainability Partnership (HCCSP),
- Herts & Bedfordshire Air Quality Forum,
- Council Officers for Strategic Planning, Transport Planning, and Development Management.

The challenges to maintaining reduced levels of air pollution within the district remain as previously reported; notably, the increased traffic related to housing and infrastructure growth, and the potential growth in traffic that would be stimulated by the proposed expansion to Luton Airport to the south-west of the district. The airport is substantially in the neighbouring district of Luton, and is indirectly owned and operated by Luton Borough Council, who are also the licensing and planning authority regulating the expansion. A small portion of the airport area lies within the NHC district, and the runway orientation requires the flight path for take-off or landing (weather dependant) to be immediately over parts of the Council greenbelt. This area, therefore, lies within the zone most affected by airplane noise and pollution discharge, and includes several small residential zones.

During 2023, the Council have been engaged in the final responses to the Secretary of State regarding the potential air quality and noise impacts of the proposed Luton Airport expansion on the Section 77 planning application to expand the operating capacity of London Luton Airport from 18 to 19 million passengers per annum.

Statutory consultations have taken place and are now completed.

London Luton Airport Ltd, rebranded as Luton Rising (LR), submitted their application to the Planning Inspectorate (PINS) for a Development Consent Order (DCO) involving the

expansion of Luton Airport from 18 million passengers per annum (mppa) to 32mppa (including a new terminal and associated infrastructure) on 27 February 2023. This was in addition to the request for the smaller increase from the permitted 18 mppa to 19 mppa previously referred to.

The application was accepted by the PINS in March 2023, with the examination of the application running for 6 months from August 2023 to February 2024. The report arising from this is expected to go to the Secretary of State within 3 months of this date, with a possible decision by mid-August 2024, although due to the election being called during this period, this timeframe will change. As part of the consideration of the likely impact of the expansion of the airport, the Council, together with HCC and the other districts surrounding, or likely to be affected by the increase, have actively engaged with LR regarding the proposals over the last year.

Full submission of all documents relating to both proposed expansions can be seen on the PINS website at: London Luton Airport Expansion | National Infrastructure Planning (planninginspectorate.gov.uk) .

As part of the larger airport expansion, the DCO proposes alterations to junctions on the A505 and A602 in Hitchin, within this district, to increase capacity for motor traffic which, if utilised, will have a negative impact on local air quality. If, however, the additional capacity is not utilised, the impact may be positive as traffic should be able to then move through the area more quickly, and with fewer stoppages. In either case, the proposals could undermine efforts to provide for and incentivise active travel as an attractive and safe alternative to driving, which would otherwise reduce traffic volumes and associated air pollution.

Officers, together with their legal advisors have manged to negotiate:

- That the Sustainable Travel Fund (STF) should exist in perpetuity and not be capped at the point the airport reaches its peak capacity as previously suggested by the Applicant,
- A definite commitment to fund expansion in bus and coach services up front and to then be endured through the STF,
- The continuation of the Community First Fund, or similar and its associated benefits to those local communities most likely to be impacted as the airport expands.

There are no other new current sources of air pollution from industry in the area.

Actions to Improve Air Quality

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

The Environmental Improvement Plan[3] sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter ($PM_{2.5}$), the pollutant of most harmful to human health. The Air Quality Strategy[4] provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero[5] details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel, and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations of air pollutants heavily influenced by transport emissions.

Actions to improve air quality can be linked to measures developed to combat climate change.

In May 2019 the Council declared a climate emergency and committed to take action to address the causes of climate change across the district. The Council pledged to do everything within its power to reduce carbon emissions from its own operations to a carbon neutral position by 2030. The Council's updated Climate Change Strategy 2022-27 sets out the actions that the Council will take to achieve this goal and states our other objectives of ensuring all operations and services are resilient to the impacts of climate change, achieving a net zero carbon district by 2040, and becoming a district which is resilient to the unavoidable impacts of climate change.

As part of the Council's Local Plan 2011-2031 the accompanying Transport Strategy was published in 2017, with the stated aim of focusing on the potential for solutions and mitigations to better reflect the new sustainable transport priorities, which is further reflected

[3] Defra. Environmental Improvement Plan 2023, January 2023

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

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

in HCC's LTP4[i]. This includes a commitment to a transport user hierarchy, which seeks to prioritise active and sustainable modes of travel.

Transport is recognised as one of largest contributors of Greenhouse Gases; as such, if the Council is to realise its aim of net zero carbon emissions across the district by 2040, then encouraging modal shift by residents in the District from private vehicles to greener modes of transport will be required. In addition, as part of reaching the target of net zero carbon emissions from its own operations by 2030, the Council is progressing opportunities to transition its fleet from ICE to EV vehicles or other alternatives for greener fuels where possible, thereby setting a positive example. Within this context it is proposed that the Council, working with partners, will continue to seek to provide a range of initiatives offering residents with realistic options for undertaking day-to-day travel, such that there is a genuine and attractive choice instead of using the car, all of which is under the banner of 'Sustainable North Hertfordshire'.

The updated Climate Change Strategy has three strategic priorities under which actions sit. These are:

- Taking Action – taking direct actions to reduce the Council's carbon emissions,
- Enabling Carbon Savings – ensuring that our policies enable citizens and businesses to reduce their emissions,
- Inspiring the Community – encouraging citizens and businesses to go further and faster in cutting carbon emissions.

Actions from the strategy that have been progressed or achieved by the Council, and which relate to transport emissions and air quality include:

- The approval of changes to the Taxi and Private Hire Licensing Policy, including:
    - No idling points system introduced to enforce against drivers who do not comply.
    - Restricted use taxi ranks – when the infrastructure is in place, it is intended to restrict use of prime location taxi ranks to environmentally friendly vehicles.
- Requiring all new and replaced Council vehicles from 2028 to be ultralow emission vehicles.
- Identifying the Council's current carbon footprint (including Council fleet and the fleet of our key contractors) and currently developing a process for regular reporting on this.

- Transitioning to a low-emission fleet. Herts Careline, part of the Council, have electric vans for their engineers who travel across the county to install community alarm and telecare equipment. Our fleet also includes EVs for our waste management team and additional plug-in hybrids which are considered ULEV compliant, for our parking and environmental enforcement teams.
- Providing for more EV charging sockets have been installed in Council office car park to support our transition to an electric fleet, meaning 12 vehicles can now we charged at any one time. In addition, there are two dedicated EV chargepoints in the adjacent public car park, which the Council leases.
- Achieving a five-star rating from the ECO STARS Fleet Recognition Scheme. The scheme also helps non-Council fleet operators manage their fleet more efficiently and our key contractors are also being helped by the scheme.
- Actively supporting Transport Forum meetings which are now taking place to engage with the local community about public transport.
- Carrying out a procurement exercise to appoint a contractor to install a number of EV chargepoints across the Councils car parks later in 2024/25.
- Committing to using the Section 106 Sustainable Transport Funds the Council holds for measures that encourage cycling and walking as well as public transport.
- Made a successful submission for Hitchin to be part of the Intalink Feasibility studies. This is a collaboration between HCC, bus rail operators, and District and Borough councils to seek to improve the bus network and user experience. Bus priority measures in Hitchin were introduced during 2022-2023.
- The Herts Lynx demand-responsive public transport geographical coverage and operating hours were expanded using BSIP grant money;
- The Sustainable Travel Towns (STT) (Letchworth Garden City and Royston) continue to develop options for interventions – infrastructure and behaviour change measures – and potential funding sources. Options received or developed will then be sifted via public engagement, consultation, and appraisal, to develop a delivery plan.
- The Council has worked with HCC to develop, consult on and, in 2023, adopt a Local Cycling and Walking Infrastructure Plan (LCWIP). This focuses on the five key urban centres of Hitchin, Letchworth Garden City, Baldock, Knebworth and Royston as well as key corridors and feeder routes.
- Working with HCC to develop a plan for a new active travel link over or under the railway line in Hitchin close to the railway station, to support active travel to the station, town centre and North Hertfordshire College.

- HCC won £29.7m in funding from DfT's Bus Service Improvement Plan fund in 2023/24 and consulted on two bus priority scenes in Hitchin in February 2024. The results are being used to agree with local Members a plan of action to be delivered in 2024/25. HCC was also awarded £6.7m in LEVI funding from OZEV in 2023/24 to support installation of EV chargepoints in more locations where residents do not have off-street parking. As part of this, HCC is working with the Council to develop a brief and to procure one or more charge point operators to deliver the new chargepoints in 2025/26, focusing on suburban and rural locations across North Herts, including Hitchin and surrounding villages.

The Climate Change Strategy, as previously highlighted, also has the following proposed actions due for delivery between 2022 and 2027 which relate to transport emissions and air quality:

- In accordance with the Council's 2019 resolution, continue replacing all future operational vehicles leased or purchased by the council with ULEV or zero emission vehicles until the last non-ULEV vehicle leases expire, and encouraging key contractors to adopt similar measures.
- Reduce staff and Councillor business travel through use of Microsoft Teams, Zoom or similar technologies as much as possible.
- Reduce staff commuting through home working as much as practical.
- Investigated low carbon solutions for the next waste contract which will commence in 2025. It is planned for vehicles 3.5tn and under to be electric on the contract and for use of HVO.
- Ensure our waste depot has the appropriate infrastructure to support low carbon solutions and our climate targets.
- Work to develop and support policies that encourage electric vehicle use and other 'cleaner air' initiatives across the district, including:
    - Providing more electric car charging facilities in our car parks,
    - Exploring the possibility of making it cheaper for zero emission vehicles to use Council car parks,
    - Working with HCC to improve the provision of on-street EV charging,
    - Exploring the opportunities for a holistic approach to a town-wide EV strategy which will include all users and operators, both public and private,
    - Working with other public and private entities/partners to improve provision of EV charging district wide,

    - Progressing the implementation of a better cycle network in North Herts, linking the district and beyond,
    - Working with the relevant portfolio holders to prepare an annual Electric Vehicle Action Plan.
- Further to the requirement for all new and replaced taxi vehicles to be ultra-low emissions from 2028, explore how the Council can support transitions to low emission vehicles before this date and to zero emission vehicles when the necessary infrastructure is in place.
- Ensure that masterplans and planning applications for new development are designed around streets and routes for active travel (rather than cars) and create walkable neighbourhoods.
- Enable residents to assess their carbon emissions, comparing them with the district and best practice.
- Encourage residents to make behaviour changes by highlighting positive actions that can be taken and informing them of more environmentally friendly options.
- Encourage alternative models of working to reduce commuting levels across the district.

The NHC Local Plan adopted in November 2022 also includes commitments to address climate change within the vision statement, which highlights important links with air quality plans to reduce transport emissions, particularly from private transport:

- *"The District will play its part in addressing climate change by improving opportunities for travelling by public transport, walking and cycling, using natural resources more efficiently, reducing the demand for water, securing high quality sustainable design and managing the risk of flooding."*

Further links between managing transport emissions and improving air quality are now embedded within the Local Transport Strategy for the Council. In this, it states:

- *"The focus should be on increasing the use of sustainable modes. A general increase in highway capacity into and through the towns is not recommended, the exception being where junction improvements can reduce AQMA issues without significantly increasing traffic through the town, or where they would have a more strategic function. The focus should instead be on managing the networks, smoothing flows, reducing speeds in the towns and providing better facilities for walking, cycling and buses."*

[Ref: NHDC Transport Strategy Section 5.9[ii]]

In addition, the following Local Plan policies also embed the objectives in the Council future development objectives:

- Policy SP6: Sustainable Transport seeks to improve and promote the use of sustainable transport modes across the District and within new developments.
- Policy D4: Air Quality refers to the requirement for air pollution impact assessment to be undertaken as part of any significant new development and its likely impacts on road traffic emissions.

During 2023, the Council has acted on the following:

- Engaging with Government Grant making body OZEV, Energy Savings Trust (EST), and the UK Power Network (UKPN) provider.
- Engaging with HCC and other Hertfordshire authorities in contributing towards the preparation of a county wide EV Strategy.
- Joined a Local Authority Procurement Framework for EV Charging Infrastructure (EVCI) and completed a procurement exercise to appoint a contractor for the supply of additional EV charging infrastructure in Council car parks in the 4 key towns in the district over 2024.
- Launched the EcoStars Programme, promoting the uptake of ULEV targeting local fleet vehicle operators in the district.
- The Herts & Bedfordshire Air Quality Forum.
- The Public Health Board at HCC.

Conclusions and Priorities

The current monitoring continues to support the proposal to revoke both AQMA1 and AQMA2. This conclusion is in line with DEFRA Guidelines requiring AQMA to be revoked when there has been compliance over a 5year period, which is the case here.

On this basis, The Council has prepared a report for submission to the Council recommending that both AQMA1 and AQMA2 are revoked.

Local Engagement and How to get Involved

The potential for the residents and businesses of North Herts to have a positive impact on air quality is considerable by choosing, where practical, to travel using:

- Public transport,
- Car sharing / car clubs including e-car clubs,
- More sustainable private modes of transport, i.e., not petrol or diesel engine vehicles, particularly electric vehicles,
- More modern models of petrol and diesel engine vehicles, which emit lower levels of pollution,
- Walking or cycling.

Potentially useful sources of further information include:

https://www.goultralow.com/ = Central Government website about low emission vehicles

https://www.zap-map.com/live/ = Locations of EV charging points across UK

http://www.hertsdirect.org/services/transtreets/ltplive/ = HCC Local Transport Plan

In addition, the Hertfordshire and Bedfordshire Air Pollution Notification System is still operational, and the Council is part of this group. By signing up for free at https://www.airqualityengland.co.uk/local-authority/knr-subscription the public are notified in advance of periods of moderate, high, or very high air pollution in the district. It is hoped that as well as offering help and a degree of protection, this will increase awareness and encourage behaviours that have a lower adverse impact on local air quality as well as enabling those that are particularly vulnerable to poor air quality to take measures to avoid or mitigate its negative impacts on their health.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Protection & Housing Team of North Herts District Council with the support and agreement of the following officers and departments:

List officers/departments involved in the preparation of the ASR

- Climate and Sustainability Officer Group (CSOG) (NHC)
- Policy & Strategy Team Leader (NHC)
- Strategic Infrastructure & Projects Manager (NHC)
- Senior Transport & Policy Officer (NHC)
- Active and Safe Travel Team, Environment & Transport (HCC)
- Highways Strategy & Implementation, Environment & Transport (HCC)

This ASR has been approved by:

Service Director – Housing and Environmental Health, in consultation with the relevant Executive Member for Housing and Environmental Health, Councillor Dave Winstanley.

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:

Environmental Health
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NG6 6DW

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1 Local Air Quality Management

This report provides an overview of air quality in North Hertfordshire during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act, 1995, as amended by the Environment Act, 2021, and the relevant Policy and Technical Guidance documents applicable to these.

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 the 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., in Appendix E of this report.

2 Actions to Improve Air Quality

2.1 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 North Hertfordshire can be found in Table 2.1. The table presents a description of the two AQMAs that are currently designated within the district.

Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of the AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are as follows:

- NO_2 annual mean

The two AQMAs within the district are in Hitchin, on sections of the A602, which is a major urban road linking the town with the A1; the road is also used to carry traffic to Luton, and Luton Airport in the adjoining district.

Stevenage Road AQMA1 (Declared June 2012)

Payne's Park AQMA2 (Declared January 2017)

We propose to:

- Revoke both AQMA1 and AQMA2 in 2024,
- Continue monitoring within the locations of both AQMAs throughout and beyond 2024.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
AQMA 1 Stevenage Road HITCHIN	29th June 2012	NO2 Annual Mean	Properties on the south side of Stevenage Road, Hitchin, fronting on to the road, between the Hitchin Hill Three Moorhens PH roundabout and 94-98 Stevenage Road	NO	41.8µg/m3	35.3**ug/m3 **Annualized result from continuous monitoring	7 years	Joint Action Plan Stevenage Road & Payne's Park, Hitchin AQMAs Jan-18	https://www.north-herts.gov.uk/home/environmental-health/pollution/air-quality/air-quality-management-areas-north-hertfordshire
AQMA 2 Payne's Park HITCHIN	9th January 2017	NO2 Annual Mean	One residential property located adjacent to the Paynes Park Roundabout. The south east facade of which is exposed to nitrogen dioxide concentrations above the annual mean	NO	44.5µg/m3	27.2/m3** **Annualized Diffusion tube monitoring	5years	Joint Action Plan Stevenage Road & Payne's Park, Hitchin AQMAs Jan-18	https://www.north-herts.gov.uk/home/environmental-health/pollution/air-quality/air-quality-management-areas-north-hertfordshire

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
			Air Quality Objective						

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

☒ **NHDC confirm that all current AQAPs have been submitted to Defra.**

2.2 Progress and Impact of Measures to address Air Quality in North Hertfordshire

DEFRA's appraisal of last year's ASR confirmed that the conclusions reached were acceptable for all sources and pollutants. Following the completion of this report, the Council will again submit this ASR for 2024.

Arising from DEFRA's appraisal of the 2023 ASR, there were no significant comments recorded, requiring further attention.

As part of its obligations to improve local air quality, the Council has taken forward a number of direct measures during the current reporting year of 2023. Details of all measures completed, in progress or planned are set out in Table 2.2. 23 measures are included within the table, with the type of measure and the progress the Council has made on them during the reporting year presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented.

More detail on these measures can be found in the Action Plan, referred to and indexed in the summary to this report.

The Climate Change Strategy 2022-2027 remains a key driver for actions that will influence emissions reductions and contribute to improved air quality.

The recently adopted North Hertfordshire Local Plan 2011-2031 contributes by supporting initiatives for walking and cycling and promoting sustainable transport systems.

The Hertfordshire EV Charging Strategy will promote the continued procurement of EV Charging Infrastructure for on-street charging.

The ongoing work of the STT programme in Letchworth and Royston aims to identify and deliver programmes to promote sustainable transport modes.

HCC initiated the STT programme, which started in the two named towns in 2022. The initial stages involve drawing up a list of schemes to be progressed and cover measures to address data collection, behaviour change, key schemes including wide ranging Travel Plans (for Schools, Business, Supermarkets, Railway Station), cycle initiatives, promotional initiatives, active travel infrastructure schemes, bus & rail improvements, town centre traffic and parking management review, and EV charging provision.

The outline plans for Royston can be viewed here.

The outline plans for Letchworth can be viewed here.

The Countywide Active Travel Strategy can be viewed here.

The Countywide Air Quality Strategy can be viewed here

There is an additional initiative with HCC to include action plan measures within the prioritisation process for highways schemes that is reviewed annually, and air quality improvement proposals will feed into this to minimise conflicting road traffic developments inadvertently contributing to air pollution levels.

Air Quality is declared as a priority in the Sustainable Hertfordshire Strategy Cleaner Air Programme.

Progress on the various active travel projects is set out here:

Improving walking and cycling across Hertfordshire (Active Travel Fund) | Hertfordshire County Council

There are currently 14 schools in North Herts that are registered with Modeshift STARS. This is a recognised centre of excellence for the delivery of Effective Travel Plans in Education, Business and Community settings. 9 schools currently hold a Good Travel Plan accreditation, and the remaining 5 are registered and engaging with their Modeshift STARS travel plan, but are not yet accredited at the higher level. 10 schools were engaged with Walk to School week and Clean Air Day in 2023. A further 6 schools have engaged in the Sustrans Big Walk and Wheel 2024.

Key completed measures are:

- Local Cycling and Walking Infrastructure Plan. The LCWIP was taken through North Herts panel process in June 2023 and adopted by HCC in September 2023,
    - For further information (including the document) can be found on the LCWIP website North Hertfordshire Local Cycling and Walking Infrastructure Plan | Hertfordshire County Council ,
- The tender exercise, and selection of a supplier for the procurement of additional EV Charging Infrastructure in Council Car Parks in Letchworth, Hitchin, Baldock and Royston has been completed. The Council was awarded a grant of £135,000 from OZEV under the On-street Residential Chargepoint Scheme (ORCS) to support installation of EV chargepoints in locations close to housing without off-street parking,

- It is expected that this contract will be signed mid-2024, and delivery will follow later in the year.

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

- The continuation in the development of schemes in support of the STT Programme for Royston and Letchworth. Develop options for interventions – infrastructure and behaviour change measures – and potential funding sources. Options will then be sifted, through public engagement, consultation, and appraisal, to develop a delivery plan,
- Completion of the procurement programme for EV Charging Infrastructure in Council car parks in Letchworth, Hitchin, Baldock and Royston,
- Continue to deliver a programme of further introductions of ULEV into all areas of the Council vehicle fleet,
- Develop joint programme with HCC, using OZEV LEVI funding, to procure chargepoints for electric vehicles on-street, in more district car parks, and other locations, e.g., social housing sites.

The Council also worked to implement these measures in partnership with HCC and local businesses in Hitchin during 2023.

The principal challenges and barriers to the implementation of all of the identified measures that the Council anticipates are associated with the potential lack and uncertainty surrounding funding for all of the major programmes. The result of the Government elections in 2024 is likely to significantly affect this matter, but impact of which is currently unknown.

Progress on the following measures has been slower than expected due to the EV Charging Infrastructure procurement requiring engagement with procurement, legal, finance and estates teams that have no prior experience of this type of topic and has involved protracted negotiations with the appointed supplier.

The Council anticipates that the measures stated above and in Table 2.2 have made a significant contribution to the achievement for compliance in AQMA 1 and AQMA2, and will continue to benefit these areas even after the revocation of the AQMAs, which is due to take place during 2024.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Intro to & uptake of ECO Stars scheme in Hitchin industrial estates	Freight and Delivery Management	Delivery & Service Plans / Route Management Plans	2021	2022	Local Authority Environmental Health, Local Authority Transport Dept.	NHDC locally financed	NO	Funded	£10k - 50k	Completed	Reductions in emissions due to take up of ULEVs	Number of companies signed up	1 year programme completed January 2022	None
2	Intro to & uptake of ECO Stars scheme in Hitchin Town Centre	Freight and Delivery Management	Delivery & Service Plans / Route Management Plans	Postponed for the short-medium term	Not actioned	Local Authority Environmental Health, Local Authority Transport Dept.	None	NO	Not Funded	£10k - 50k	No further work planned at present	Reductions in emissions due to take up of ULEVs	Number of companies signed up	Option for extension if measure 1 successful	Funding
3	Engage with & promote school travel plans in Hitchin schools	Promoting Travel Alternatives	School Travel Plans	2019	2024	Hertfordshire County Council	LA internally financed	NO	Partially Funded	< £10k	Ongoing. Road safety Officers promote Mode shift Stars travel plans and road safety initiatives across the County. Active promotion of: Walk to school week; Park & Stride and anti-idling. Modeshift accreditation take place 3 times a year;	Reduction in private car journeys to school & associated reduction in vehicle emissions	Number of schools with updated Travel Plans & proactively engaging with travel planning	The following schools are holding an accredited Modeshift STARS travel plan in North Herts: Ashwell – Good Travel Plan accreditation – expires December 2024 Codicote – Good Travel Plan accreditation – expires July 2024 Hillshott Infants – Good Travel Plan accreditation – expires July 2024 Knebworth Primary – Good Travel Plan accreditation – expires July 2024 Offley Primary – Good Travel Plan accreditation – expires December 2024 Pixmore Junior – Approved Travel Plan accreditation – St Thomas More Primary – Good Travel Plan accreditation – expires December 2024 William Ransom Primary – Good Travel Plan accreditation – expires December 2024 Wymondley JMI – Good Travel Plan accreditation – expires July 2024 The following school are registered and engaging with their Modeshift STARS travel plan but not holding an accreditation in North Herts: Ickleford Primary Icknield Infant Kimpton Primary Mary Exton JMI Samuel Lucas	Work with Active & Safer Travel Team & contractors & schools to optimise existing or introduce new plans Staff time at both HCC and NHDC Environmental Protection Team to prepare & then implement work programme.
4	Promotion of walking & cycling for commuting in North Hertfordshire	Promoting Travel Alternatives	Promotion of walking and cycling	2019	LCWIP was adopted in 2023. Delivery tba.	NHDC & HCC	Active Travel England, developer contributions	NO	Not Funded	£>150m	Awaiting funding for delivery	Reduced emissions due to modal shift	Number and percentage of trips made by active travel	Some work is ongoing to develop LCWIP schemes into detailed plans.	Delivery of the LCWIP will depend on future funding from Active Travel England and developer contributions from large development sites.
14	Baseline survey state of cycling provision in Hitchin	Transport Planning and Infrastructure	Cycle network	2018	Addressed by LCWIP, (Local Cycling and Walking Infrastructure Plan) in partnership with HCC for the District	North Hertfordshire Environmental Protection Team & Hertfordshire County Council	Not defined	NO	n/a	n/a	Completed	Reduced emissions due to modal shift	Number and percentage of trips made by active travel	Completed	None

				Introduced in AQAP	Completion Date	Involved	Source	Grant Funding	Costs	Measure		Emission from Measure	Indicator		Implementation
5	Increasing/ improving publicly available re-charging for Electric Vehicles (EV) in car parks	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure	2020-1	2025	NHDC & HCC	OZEV (ORCS & LEVI) and chargepoint operators	NO	Funding secured	~£300k	Finalising first contract.	Reductions in emissions due to take up of ULEVs	Number of EV chargepoints in NHDC car parks	ORCS and LEVI grants received. HCC preparing to procure county-wide suppliers.	Oxford DPS procurement portal no longer available; direct procurement considerably more complex
6	Increasing/ improving publicly available re-charging for on-street EV	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure	Planned 2020-21	2032	NHDC & HCC	OZEV (LEVI) and chargepoint operators	NO	Not Funded	~£700k	Procurement	Reductions in emissions due to take up of ULEVs	Number of on-street EV chargepoints	LEVI grant received. Preparing to procure county-wide suppliers.	Oxford DPS procurement portal no longer available; direct procurement considerably more complex
7	Increasing private availability of recharging infrastructure for Electric Vehicles	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure	2018 onwards	2032	North Hertfordshire Planning Department	Developers	NO	Active	~£500 per dwelling	Required for all new dwellings	Reductions in emissions due to take up of ULEVs	Number of EV dwellings in NHD with EV chargepoints	Ongoing	Grid capacity and DNO resourcing
8	Dedicated parking bays for EVs at charging points	Promoting Low Emission Transport	Priority parking for LEV's	Ongoing	2032	NHDC	NHDC	NO	See action 5	See action 5	Integral to action 5	Reductions in emissions due to take up of ULEVs	See action 5	See action 5	See action 5
9	NHDC fleet review diesel to low emission vehicles	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2019 and ongoing	2022 (ULEVs)	North Hertfordshire District Council	NHDC	NO	Partially covered by reduced fuel costs, remainder subject to annual budget growth bids	£10-£20K	Implementation	Reductions in emissions due to take up of ULEVs	Numbers of ULEV as part of Council Fleet	2 Leased vehicles replaced with ULEVs in 20212 more leased EV vehicles on order for Dec 2021 Quotation being sought for 3 more leased EV vehicles for replacement in 2022	Lease expiry, range and cost. Availability of EV charging points within Council car parks across the district.
10	Establish legal status of anti-idling provision (S.42 Road Traffic Act 1988) & application by NHDC	Traffic Management	Anti-idling enforcement	Not actioned	N/A	North Hertfordshire Environmental Protection Team and Strategic Planning Team	NHDC	NO	Not defined	Not defined	Not Actioned	Reduction in emissions due to idling	N/A	No action	Local budget to enable enforcement actions
11	Review on-street parking designation & enforcement at Stevenage Road & Upper Tilehouse Street	Traffic Management	Parking Enforcement on Highway	2019	2020-21	North Hertfordshire Environmental Protection Team and Strategic Planning Team	Not defined	No	Not defined	Not defined	Not Actioned	Changes to parking controls & enforcement activity. Reduced queuing	Not defined	Not progressed due to lack of reaching a suitable consensus amongst residents	Not defined
12	Hitchin Industrial Estate Connectivity/ Relief Road	Transport Planning and Infrastructure	Strategic Highway Improvement	Not yet actioned	Not Actioned	Hertfordshire County Council	Not defined	No	Not defined	Not defined	Included in the North Hertfordshire Growth and Transport Plan	Reduction in numbers of HGV passing through AQMAs	Numbers of HGV passing through AQMAs	The A505 Corridor Study has produced a Stage 3 report, for which an addendum is being written to update the context before it is published (the study was started pre-COVID). It identifies challenges and opportunities, primarily, to afford buses greater priority in moving east-west along the A505 corridor, but does not recommend any specific interventions.	Subject to further investigation by HCC, and funding options to be considered.

				Introduced in AQAP	Completion Date	Involved	Source	Grant Funding	Costs	Measure		Emission from Measure	Indicator		Implementation
13	Engage with Herts CC on development of LTP4 & Local Growth & Transport Plan	Traffic Management	Strategic highway improvements, Re-prioritising Road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2017	2022	North Hertfordshire Environmental Protection Team via Hertfordshire County Council	LTP = 2018/19 & GTP = 2019	No	Via LTP/GTP	Not defined	Fifteen packages of schemes and projects, concerning areas in North Central Hertfordshire, were identified in GTP implementationpaper May 2022	Not defined	Not defined	Consultation responses have strengthened presence of Air Quality as an issue and the importance of mitigation and benefits of specific projects including some relevant to Hitchin in the LTP. North Central Hertfordshire area GTP was adopted	NHDC is only able to influence decision making by way of representation and provision of data. NHDC projects may not be prioritised on a county wide basis.
15	Workplace & School based car sharing including consideration of preferential parking	Alternatives to private vehicle use	Car & lift sharing schemes	2019	Ongoing	North Hertfordshire Environmental Protection with Hertfordshire County Council Travel Planning Team	Not defined	No	Not defined	Not defined	Informal car share for schools. Workplace and Residential Carshare promoted in Travel Plan Guidance	Not defined	Engagement by schools and businesses	Schools encouraged to consider promotion of car sharing between parents/carers where practicable. Linked directly to Measure 3	Lift share no longer promoted at County level due to safeguarding issues. Carsharing not actively promoted.
16	Car clubs for new developments	Alternatives to private vehicle use	Car & lift sharing schemes	2018	Not defined	North Hertfordshire Environmental Protection with Hertfordshire County Council Travel Planning Team	Developer contributions from Planning Conditions	No	Not defined	Not defined	Ongoing	Not defined	Prevalence of car clubs in North Herts & number of Travel Plans with Car Clubs specified by condition	Standard conditions available & supported by Local Plan Policy & guidance document. Planning permissions being granted with Travel Plans in place	Co-operation from developers
17	Participate in National Clean Air Day	Public Information	Via the Internet	Ongoing annual event	Ongoing	Hertfordshire County Council and North Hertfordshire District Council	Funded by Herts and Beds air Quality Group of Local Authorities	No	Ongoing	Not defined	Focus on uptake of Air Pollution Notification System	Not defined	Increased uptake of the Air Pollution Notification System	Air Quality workshop at Healthy Hertfordshire conference in October 2023 inc Schools ventilation and clean air project Countywide Let's clear the air campaign	Restarting in 2023
18	Air Quality Notification System	Public Information	Air Pollution Alert	2018	Ongoing	North Hertfordshire DC, other Herts local authorities & Herts County Council Public Health	LAs in Herts, HCC, Public Health	No	Ongoing	Set-up cost £1122.73 annual cost £113.64	Ongoing	Not defined	Number of participants in scheme. 116 signed up	AQ alert launched 2019. Consideration of future projects to increase uptake with communications campaign.	Ability to get sign up will depend on access to vulnerable and interested groups and therefore publicity and support from partners.
19	Reducing emissions from public transport	Vehicle Fleet Efficiency	Enhanced Partnership Plan Objectives: Prioritising bus and coach services in traffic Upgrading Infrastructure Integration of the bus network Smarter use of data and information	No progress	None	North Hertfordshire District Council & Herts CC & bus companies	Not defined	No	Not defined	Not defined	Intalink Partnership adopted in April 2023	NO2 reduction of 0.009g/km per Euro 5 bus	Number of buses retrofitted	Intalink Enhanced Partnership between HCC, Districts and public transport operators, managed by HCC https://www.hertfordshire.gov.uk/media-library/documents/highways/transport-planning/local-transport-plan-live/intalink-enhanced-partnership-plan-and-scheme-feb-2020.pdf	Previous voluntary partnership replaced by Enhanced Partnership Plan and Scheme for Hertfordshire
20	Engage with schools to raise awareness of air pollution	Public Information	Other	2020 onwards	Ongoing	North Hertfordshire in liaison with Herts CC Active & Safer Travel Team	Not defined	No	Not defined	Not defined	Ongoing	Not defined	Number of schools in Hitchin utilising the Air Pollution teaching toolkit	3 additional schools joined Anti – Idling Campaign. 3 schools taken part in Sustrans Big Walk and Wheel. 12 registered for our Walk to School Week and Clean Air Day campaigns,	Toolkit is available needs to be effectively publicised within North Hertfordshire

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
21	Local Plan Policy and Air Quality Planning Guidance Document	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Delivered 2018	2018	North Hertfordshire's Environmental Protection and Planning Teams	NHDC	No	Completed	Not defined	Completed, in active use	Not defined	Recommendations for developers to include EV charging	Ongoing. It is actively used for all relevant planning applications	Planning consultations need to be continually responded to, to ensure developments are appropriate and mitigation is implemented
22	Herts & Beds Air Quality Forum including Public Health, Transport Planners & Development Control representation	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	Ongoing	Ongoing	Hertfordshire and Bedfordshire Local Authorities	NHDC	No	Ongoing from local budgets	Not defined	Ongoing	Not defined	County-wide initiatives and joint working on bids and projects	Active & well-established Forum, regular meetings.	Participation from Local Authority partners with County Council

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

The Local Air Quality Management (LAQM) Policy Guidance (PG22) issued by DEFRA, Chapter 8: $PM_{2.5}$ sets the requirements local authorities need to consider when addressing the impact and levels of $PM_{2.5}$ particles, and, supplemented by the requirements of the Air Quality Strategy[6], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$). There is clear evidence that $PM_{2.5}$ i.e., particulate matter smaller 2.5 micrometres, has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

To meet these obligations, the Council is taking the following measures to address the impact of $PM_{2.5}$:

- Continuation of the effective partnership working arrangements with the HCC Public Health team that have been in place since 2014/15. This has occurred as a result of these key drivers:
    - An increased evidence and awareness of the harm from exposure to $PM_{2.5}$,
    - The transfer of central government funding from a central public health body to County Councils, and,
    - The existence of the Public Health Outcome Framework (PHOF) for the fraction of mortality attributable to particulate air pollution measured as fine particulate matter $PM_{2.5}$ (3.3 D01);
- The County Council's Air Quality Strategy and Implementation Plan was published in 2019;
- Legislative changes to air quality targets have been published setting new annual average limit levels for England to be achieved by 2040 and population exposure reduction targets for fine particulates (PM2.5);
- HCC's Corporate Plan and Health and Wellbeing Strategy, reference clean air as an area for action;

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

- Air pollution is the UK's largest environmental risk to the public's health, contributing to cardiovascular disease, lung cancer and respiratory diseases. The fraction of mortality for those aged 30+, attributable to particulate air pollution in Hertfordshire in 2019 was 5.7%, higher than the East of England average at 5.5% and the England average at 5.1%.
- Air Quality is a standing item on the HCC Health Protection and Transport Planning Boards where relevant topics and discussions can take place.

Due to a systems failure with the equipment associated with the AQMA's monitoring units, the monitoring for PM_{10} and $PM_{2.5}$ were suspended in November 2023. As such, no data is presented for $PM_{2.5}$ due to the level of data capture being below 25%. All other indicators show there to have been no significant change in the overall levels of air pollutants; as such, this omission is not considered significant, and this development will support the revocation of AQMA's during 2024.

The Council has not yet identified or been advised of appropriate of measures targeted specifically at reducing $PM_{2.5}$ that fall within its scope of influence, and it is considered unlikely that any such measures will be identified over the coming years. Instead, and in line with LAQM Technical Guidance(TG22), it is anticipated that:

- Measures to reduce emissions of NOx by encouraging a move away from internal combustion engine vehicles to ULEV will also reduce $PM_{2.5}$ emissions from exhausts,
- Measures to reduce road travel altogether will reduce $PM_{2.5}$ emissions, including those not directly from the combustion process, e.g., brake use, tyre wear or dust re-suspension.
- Thus, all measures that are in place and being developed in relation to sustainable transport, particularly the promotion of low or zero emission public transport options are expected to make significant contributions to reducing emissions of $PM_{2.5}$.

The above is considered the most pragmatic and viable approach and it has also taken into account how the Council ranks in terms of PHOF indicators alongside other areas of Hertfordshire and Bedfordshire (Table 2.3).

The Council has Smoke Control Areas designated in Letchworth Garden City, which date from the 1960s.

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

This section sets out the monitoring undertaken by the Council during 2023 and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2019 and 2023 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Automatic (continuous) monitoring at 2 co-located sites during 2023 took place. Both sites are located in Stevenage Road, Hitchin, but went off-line in November 2023, following the failure of a safety audit, and the subsequent electrical disconnection required to make both monitoring stations safe; that both AQMA sites will be revoked during 2024 mitigates the impact of these disconnections.

Table A.1 in Appendix A shows the details of the automatic monitoring sites, with the automatic monitoring results also 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.

3.1.2 Non-Automatic Monitoring Sites

The Council also undertook passive monitoring of NO_2 at 37 sites in the district during 2023. This represents a reduction in numbers of sites, with those sites regularly showing very low pollution levels being discontinued. Table A.2 in Appendix A presents the details of these 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, i.e., the annualisation and/or distance correction, are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

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

For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B. Note, that the concentration data presented in Table B.1 includes distance corrected values, but only where this is relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, showing the number of occasions of exceedances during the years (zero times).

The following figures F3.1 and F3.3 show trend data for AQMA monitoring sites without corrections for distance.

Figure 3.2 highlights the application of distance corrections as applied to the two monitoring sites in the Stevenage Road AQMA for those nearest to residential premises in the area.

Overall, within the AQMA, there are 6 monitoring points: one as part of the automatic site and 5 additional diffusion tube points. Following increases in the amount of traffic flow during 2022, all sites showed a continuation of the long-term trend in reductions in measured pollution levels, with results remaining significantly below objective levels.

When corrected for distance, there are no monitoring results within the Stevenage Road AQMA above, nor within 10% of the AQ objective.

On this basis continued monitoring for 2024 and 2025 is proposed as a monitoring baseline for future proposed developments.

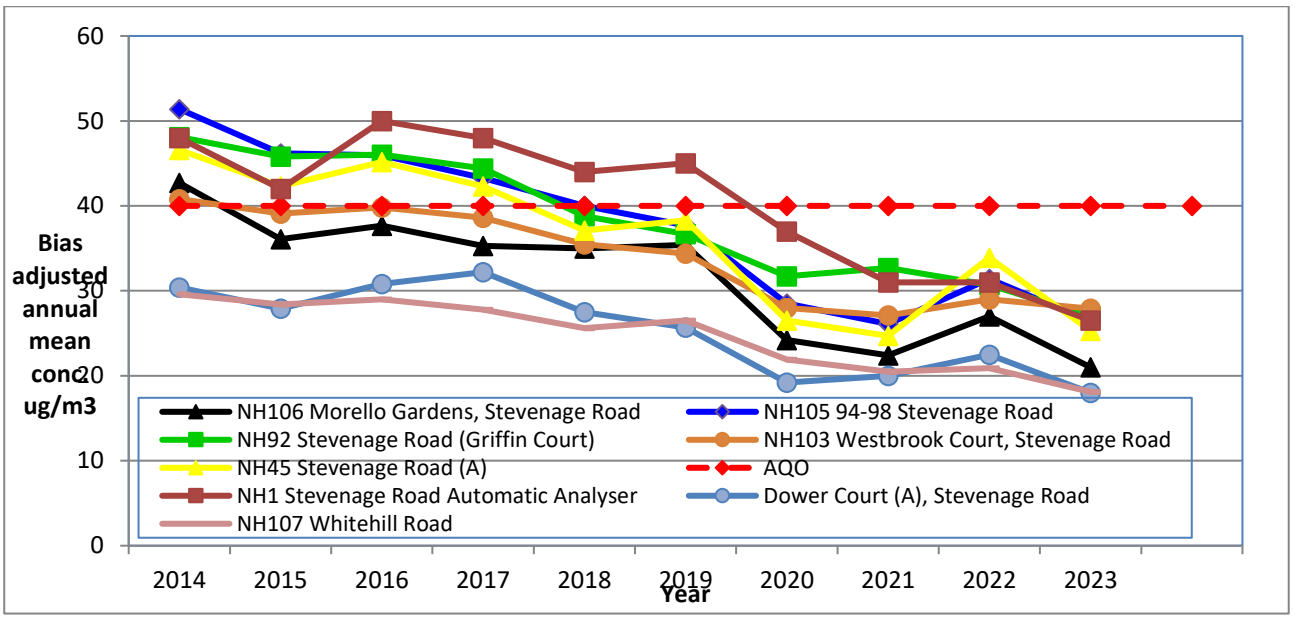


Figure 3.1: Trends in NO_2 concentrations at monitoring sites (all except NH106) located within the AQMA at Stevenage Road, Hitchin

The continued trend in reductions of monitored pollution levels can also be seen at two sites which had previously shown exceedances, are highlighted in Figure 3.2 below. These results have been significantly below objective levels for many years, and continue to remain so.

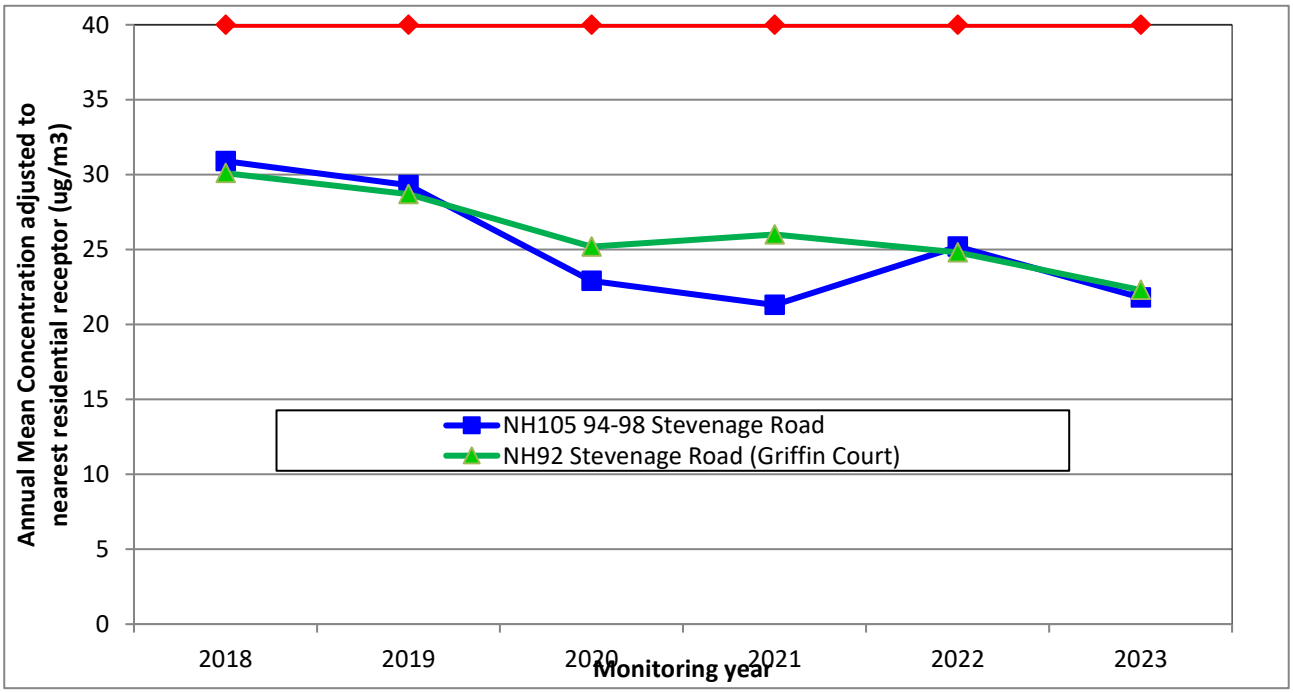


Figure 3.2: Trends in NO_2 concentrations monitored at NH105 and NH92 adjusted to be relevant to the nearest residential receptors.

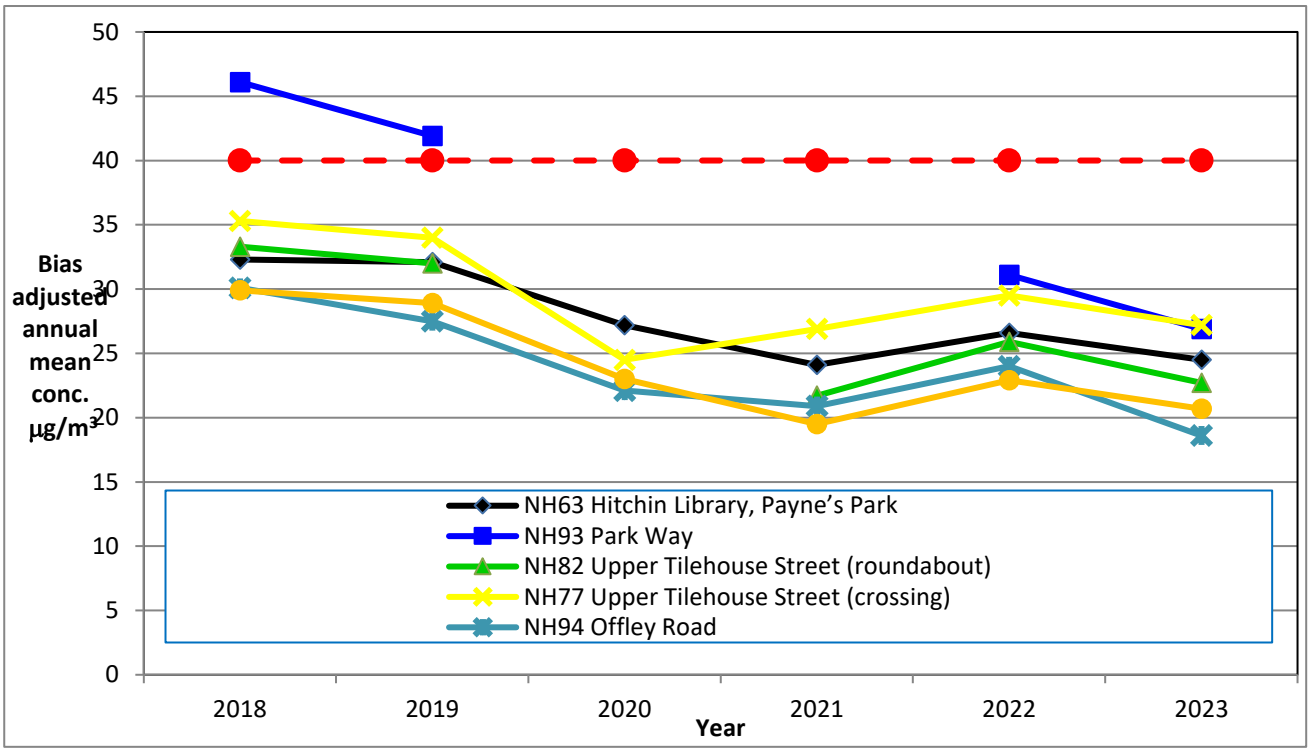


Figure 3.3: Trends in NO2 concentrations at monitoring sites at Payne's Park, Hitchin

These results continue to confirm that pollution levels within this AQMA remain significantly below objective levels.

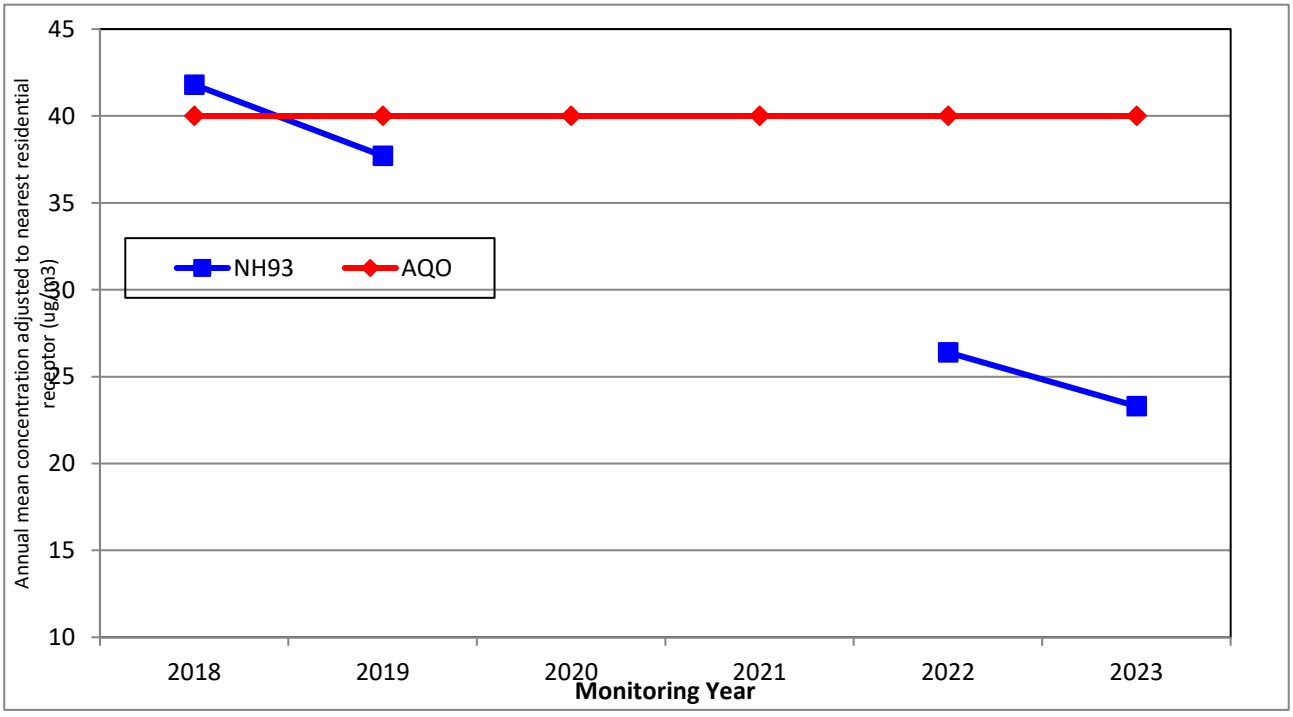


Figure 3.4: Trends in NO_2 concentrations monitored at NH93 adjusted to be relevant to the nearest residential receptor (41 Upper Tilehouse Street).

3.2.2 Particulate Matter (PM_{10})

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

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

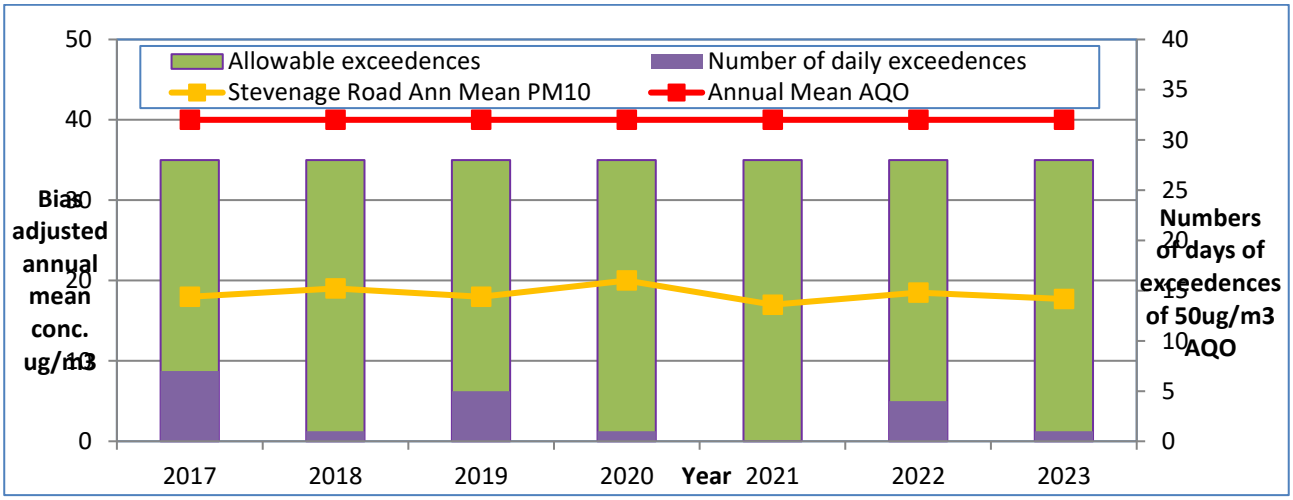


Figure 3.5: PM10 concentrations measured at Stevenage Road, Hitchin

2023 was the eighth full year of PM_{10} monitoring at the Stevenage Road location. The data from 2017 are displayed in Figure 3.5 and show that the mean average concentrations for all years were significantly below the 40µg/m^3 AQO. The number of daily exceedances of the 50µg/m3 AQO are also shown in Figure 3.5 as displayed with the number of allowable exceedances in a calendar year. This too confirms that there have been no exceedances of any objectives for PM_{10}, based upon results of continuous monitoring.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table A.8 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years, all significantly below objective levels.

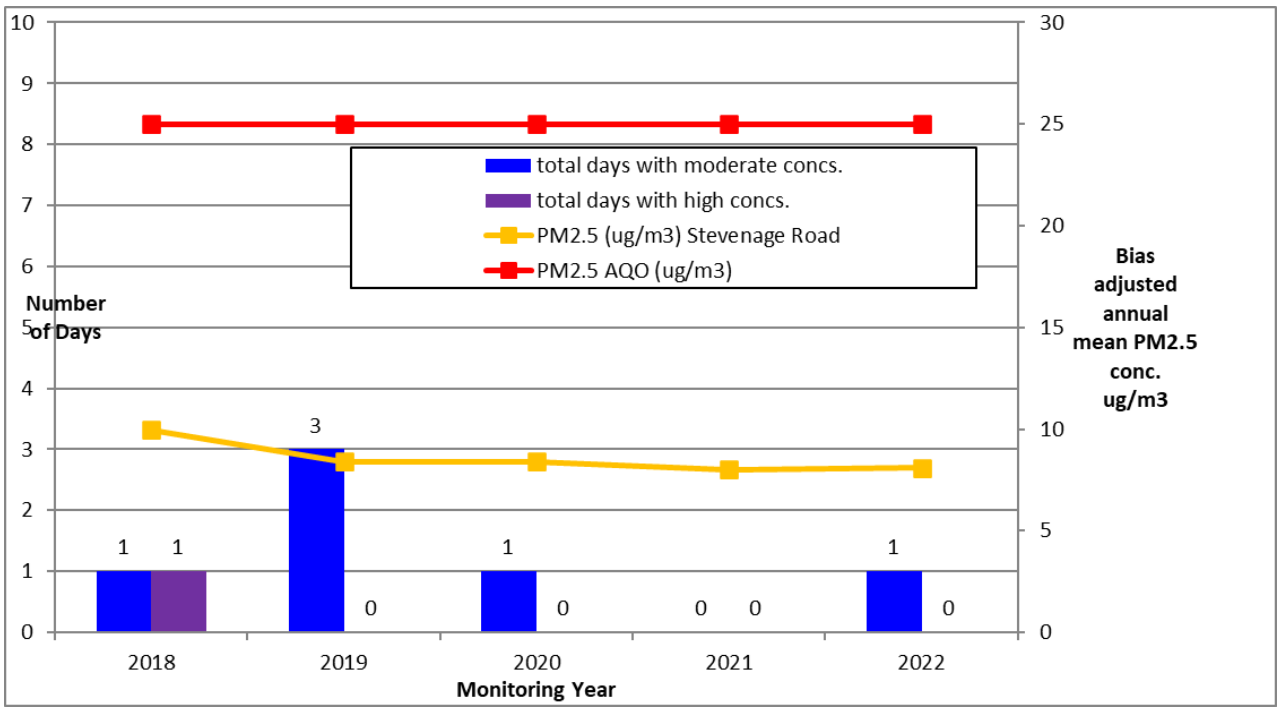


Figure 3.6: PM2.5 concentrations measured at Stevenage Road, Hitchin

2023 was the eigth full year of $PM_{2.5}$ monitoring at the Stevenage Road location. However, due to the previously describe systems failure during 2023, the data for this year has not been included. The data in figure F3.6 above has not been updated from the 2023 ASR.

The data displayed in Figure 3.6, for the five years from 2018 to 2022 show that the mean average concentrations for each year continue to be below the non-statutory target value of 25µg/m^3. The number of days when moderate and high (as defined by the Defra Daily Air Quality Index) concentrations of $PM_{2.5}$ were measured is also displayed in Figure 3.6, and again remain very low throught the respective years. There is no limit or objective in place specifying how many, if any, days of exceedences of a given $PM_{2.5}$ concentration are allowed, and the annual mean concentrations continue to exhibit a trend of falling values, significantly below objective levels.

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)
NH1	Stevenage Road NOx	Roadside	518740	228348	NO2	YES	Chemiluminescent	11	2	1.5
NH2	Stevenage Road PM	Roadside	518713	228349	PM10, PM2.5	YES	TEOM, BAM	19	2	1.5

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.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)
S2/NH45	Stevenage Road A, Hitchin	Roadside	518708	228347	NO2	AQMA1	19.0	2.0	No	2.5
S6/NH63	(NH02a) Library Hitchin	Roadside	518160	229092	NO2	AQMA2	30.0	3.5	No	2.5
S10/NH103	Westbrook Court, Hitchin	Roadside	518773	228342	NO2	AQMA1	10.0	2.4	No	2.5
S11/NH77	Upper Tilehouse Street, Hitchin (traffic lights)	Roadside	518006	229032	NO2	AQMA2	5.0	1.5	No	2.5
S13/NH82	Upper Tilehouse Street, Nr Roundabout	Roadside	518129	229065	NO2	AQMA2	7.0	1.5	No	2.5
S19/NH92	Stevenage Road (Griffin), Hitchin	Roadside	518872	228305	NO2	AQMA1	5.0	2.0	No	2.5
S20/NH93	Park Way, Hitchin	Roadside	518130	229036	NO2	AQMA2	3.0	1.6	No	2.5
S29/NH104	Dower Court (A), Stevenage Road, Hitchin	Roadside	518757	228334	NO2	AQMA1	0.0	3.3	No	2.5
S30/NH105	94-98 Stevenage Road, Hitchin	Roadside	519067	228255	NO2	AQMA1	7.0	3.5	No	2.5
S36/NH114	Old Park Road, Hitchin (number 20)	Roadside	518150	229160	NO2	AQMA2	0.0	2.5	No	2.5
S33,S34, S35/NH110, NH111, NH112	Stevenage Road, AQ Analyser 3, Hitchin	Roadside	518740	228348	NO2	AQMA1	11.0	2.0	Yes	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
S1/NH06	Melbourn Road, Opposite Town Hall, Royston	Roadside	535906	240794	NO2	-	7.0	1.1	No	2.5
S3/NH59	(NH04a) Clothall Road, Baldock	Roadside	524649	234061	NO2	-	11.0	3.0	No	2.5
S4/NH60	(NH13a) Willian Road, Hitchin	Roadside	519916	230099	NO2	-	29.0	1.1	No	2.5
S5/NH61	(NH53a) Whitehorse Street, Baldock (nr town hall)	Roadside	524428	233882	NO2	-	35.0	2.0	No	2.5
S7/NH67	Cadwell Court, Hitchin	Roadside	519225	230553	NO2	-	12.0	2.0	No	2.5
S8/NH127	64 Grove Road, Hitchin	Roadside	518821	229993	NO2	-	0.0	7.0	No	2.5
S9/NH72	Opp Rose Crown, Whitehorse Street, Baldock	Roadside	524502	233948	NO2	-	27.0	2.0	No	2.5
S15/NH87	11 Stevenage Road, Hitchin	Roadside	518731	228362	NO2	-	0.0	15.0	No	2.5
S16/NH88	Church St, Baldock (Opp. Town Hall)	Kerbside	524448	233898	NO2	-	13.0	0.5	No	2.5
S17/NH89	London Road, Hitchin	Roadside	518706	228293	NO2	-	20.0	1.9	No	2.5
S18/NH91	BP Garage Stevenage Rd, Hitchin	Roadside	518997	228297	NO2	-	5.0	7.9	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
S41/NH82, S38	BP Garage Stevenage Rd, Hitchin	Roadside	518997	228297	NO2	-	5.0	7.9	No	2.5
S21/NH94	Offley Road, Hitchin	Roadside	517915	228967	NO2	-	7.0	2.3	No	2.5
S22/NH95	Pirton Road, Hitchin	Roadside	517886	228975	NO2	-	22.0	1.3	No	2.5
S24/NH98	Walsworth/Radcliffe Road, Hitchin	Roadside	519080	229510	NO2	-	4.0	1.5	No	2.5
S25/NH99	Nightingale Road, Hitchin	Roadside	518953	229786	NO2	-	5.0	1.7	No	2.5
S27/NH108	Hitchin - Hermitage Road (97)	Roadside	518534	229302	NO2	-	3.0	0.8	No	2.5
S31/NH106	Morello Gardens, Stevenage Road, Hitchin	Roadside	519250	228218	NO2	-	5.0	1.4	No	2.5
S32/NH107	Whitehill Road, Hitchin	Roadside	518720	228335	NO2	-	26.0	2.3	No	2.5
S26/NH115	Old North Road, Royston	Roadside	535373	241466	NO2	-	9.0	1.0	No	2.5
S23/NH116	6 Horseshoe, Park Street, Hitchin	Roadside	518492	228669	NO2	-	0.0	2.4	No	2.5
S12/NH131	Turnpike Lane, Ickleford	Roadside	518215	231528	NO2	-	0.5	2.0	No	2.5
S39	38 Stevenage Rd, Hitchin	Roadside	518995	228295	NO2	AQMA1	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)
S37	Station Road, Baldock	Roadside	524599	234124	NO2	-	5.0	2.2	No	2.5
S40/NH121	1 Hadrians Way, Baldock	Roadside	523849	233497	NO2	-	5.0	11.0	No	2.5
S42NH123	Birds Hill, Letchworth	Roadside	522289	232985	NO2	-	0.0	5.3	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 NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
NH1	518740	228348	Roadside	46.7	46.7	45	37	31	31	26.5**

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

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

☒ **Where exceedances of the NO_2 annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2023.**

Notes:

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

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 NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
S2/NH45	518708	228347	Roadside	91.7	91.7	38.3	26.5	24.7	33.9	25.3
S6/NH63	518160	229092	Roadside	91.7	91.7	32.1	27.2	24.1	26.6	24.5
S10/NH103	518773	228342	Roadside	91.7	91.7	34.4	28.0	27.1	29.0	27.9
S11/NH77	518006	229032	Roadside	83.3	83.3	34.0	24.5	26.9	29.5	27.2
S13/NH82	518129	229065	Roadside	91.7	91.7	32.0		21.7	25.9	22.7
S19/NH92	518872	228305	Roadside	91.7	91.7	36.7	31.7	32.7	30.7	27.0
S20/NH93	518130	229036	Roadside	91.7	91.7	**41.9**		-	31.1	26.9
S29/NH104	518757	228334	Roadside	91.7	91.7	25.7	19.2	20.0	22.5	18.0
S30/NH105	519067	228255	Roadside	91.7	91.7	37.7	28.5	26.1	31.4	26.4
S36/NH114	518150	229160	Roadside	91.7	91.7	25.2	20.7	18.6	21.8	20.7
S33,S34,S35/NH110, NH111, NH112	518740	228348	Roadside	91.7	91.7	**44.9**	35.4	36.8	39.3	35.3
S1/NH06	535906	240794	Roadside	66.7	66.7	24.8	21.7	20.5	27.4	24.3
S3/NH59	524649	234061	Roadside	91.7	91.7	23.4	18.5	18.8	19.7	16.3
S4/NH60	519916	230099	Roadside	83.3	83.3	24.5	17.6	21.6	21.2	18.3
S5/NH61	524428	233882	Roadside	66.7	66.7	26.8		25.8	26.5	23.8
S7/NH67	519225	230553	Roadside	91.7	91.7	23.5	20.0	19.3	20.8	16.4
S8/NH127	518821	229993	Roadside	75.0	75.0	21.0		17.7	20.6	15.6
S9/NH72	524502	233948	Roadside	83.3	83.3	26.8	24.2	20.5	21.5	21.3
S15/NH87	518731	228362	Roadside	91.7	91.7	23.7	33.5	18.7	19.9	26.2
S16/NH88	524448	233898	Kerbside	75.0	75.0	35.7	32.3	-	25.6	22.0
S17/NH89	518706	228293	Roadside	91.7	91.7	23.6	19.4	18.2	19.3	15.0
S18/NH91	518997	228297	Roadside	83.3	83.3	29.8	26.7	21.8	23.4	19.5
S41/NH82, S38	518997	228297	Roadside	66.7	66.7	32.0		21.7	25.9	22.9
S21/NH94	517915	228967	Roadside	75.0	75.0	27.5	22.1	20.9	24.0	18.6
S22/NH95	517886	228975	Roadside	91.7	91.7	28.9	23.0	19.5	22.9	20.7
S24/NH98	519080	229510	Roadside	91.7	91.7	26.6	22.6	18.2	21.9	17.3
S25/NH99	518953	229786	Roadside	75.0	75.0	28.0	18.1	21.4	22.9	18.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
S27/NH108	518534	229302	Roadside	83.3	83.3	31.8	23.9	24.4	26.4	23.0
S31/NH106	519250	228218	Roadside	83.3	83.3	35.4	24.2	22.4	27.0	21.0
S32/NH107	518720	228335	Roadside	91.7	91.7	26.5	21.9	20.5	20.9	18.1
S26/NH115	535373	241466	Roadside	91.7	91.7	24.3	21.5	17.5	19.2	16.5
S23/NH116	518492	228669	Roadside	91.7	91.7	31.2	20.5	21.3	24.8	23.1
S12/NH131	518215	231528	Roadside	41.7	41.7		38.0	28.9	29.1	15.4
S39	518995	228295	Roadside	58.3	58.3					24.5
S37	524599	234124	Roadside	58.3	58.3					24.6
S40/NH121	523849	233497	Roadside	75	75	20.9	16.6	18.5	16.9	16.6
S42NH123	522289	232985	Roadside	75	75	19.0		18.8	19.7	17.0

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

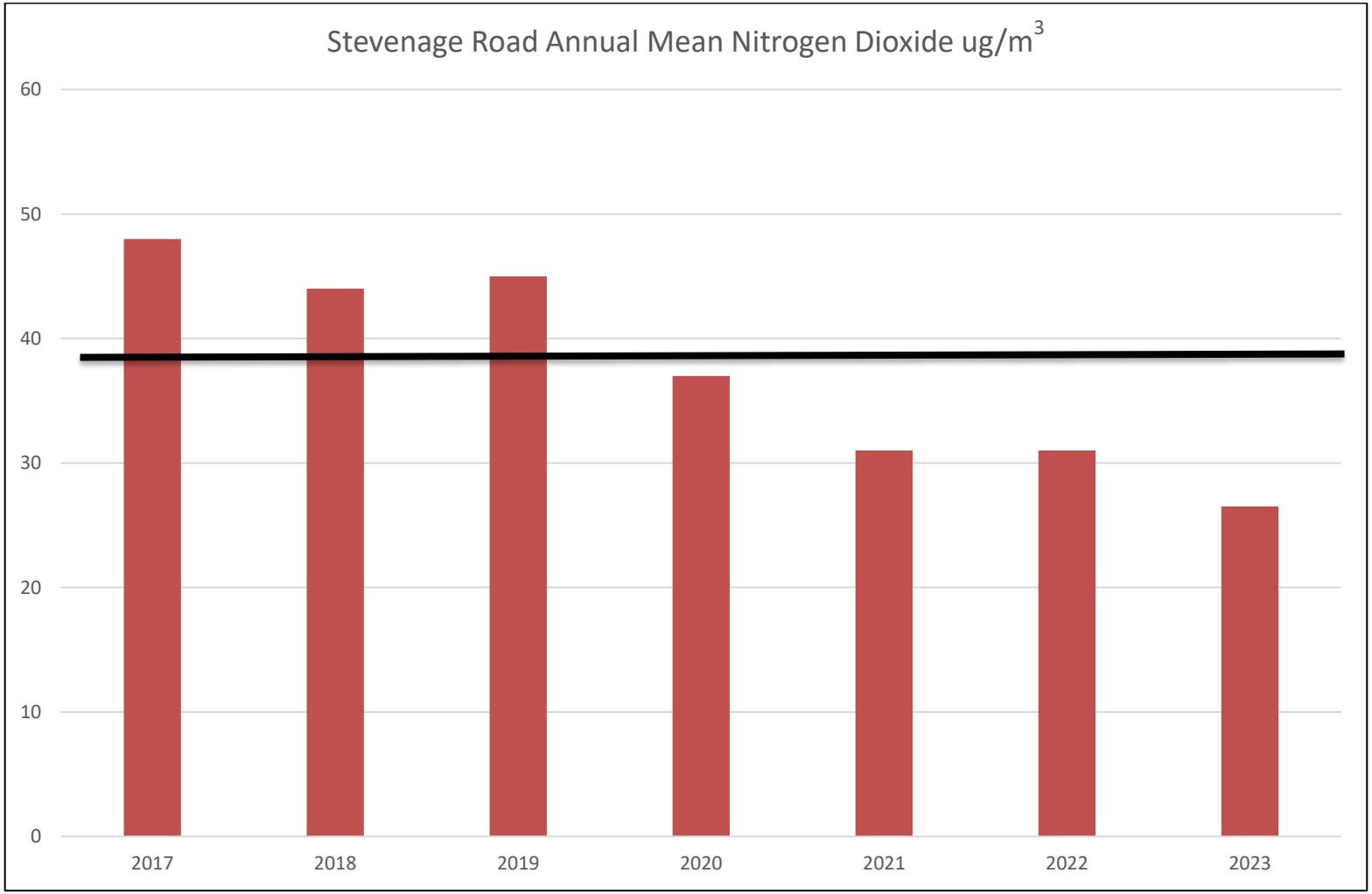
☒ **Diffusion tube data has been bias adjusted.**

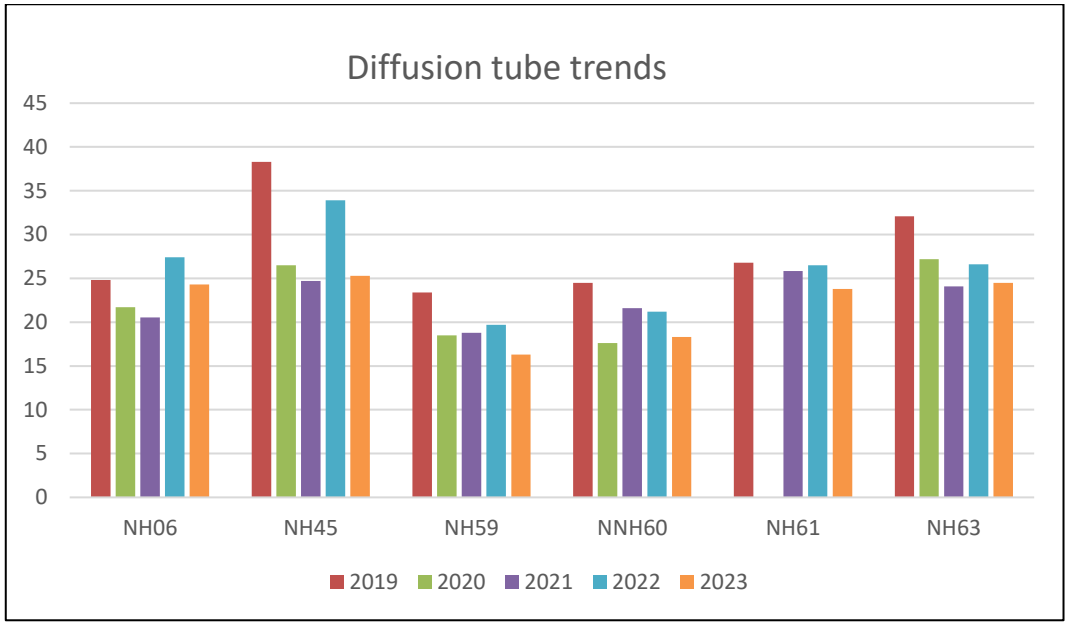
☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

The annual mean concentrations are presented as µg/m^3.
Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.
NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.
Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.1 – Trends in Annual Mean NO_2 Concentrations




Diffusion tube trends
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35
30
25
20
15
10
5
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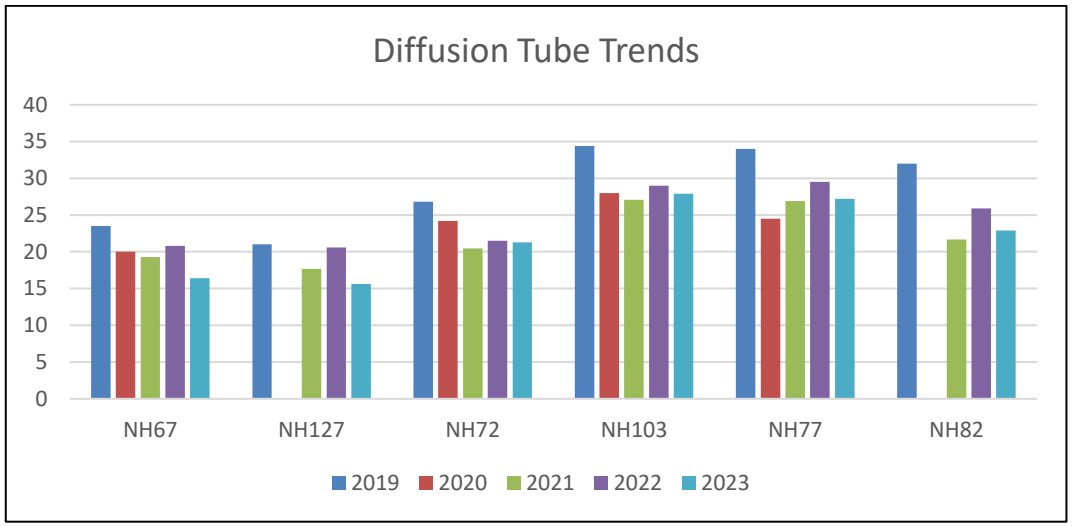
NH06
NH45
NH59
NNH60
NH61
NH63
2019
2020
2021
2022
2023


Diffusion Tube Trends
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NH72
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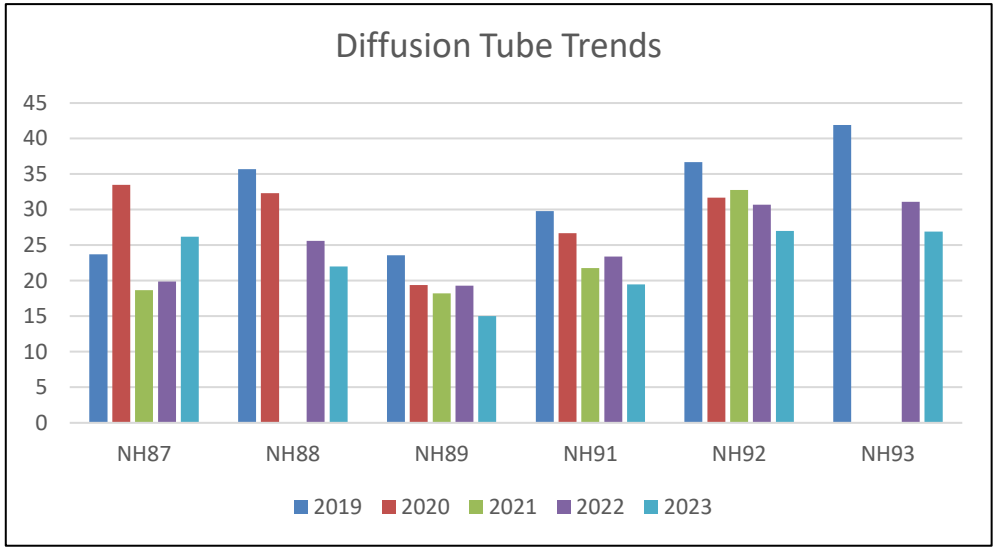
NH77
NH82
2019
2020
2021
2022
2023


Diffusion Tube Trends
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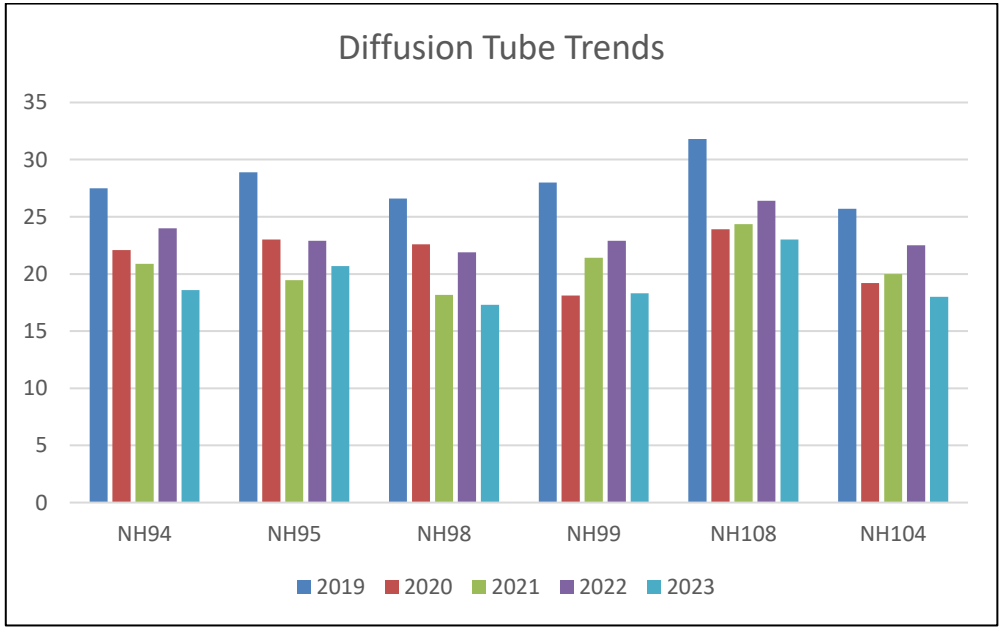
NH92
NH93
2019
2020
2021
2022
2023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NH99
NH108
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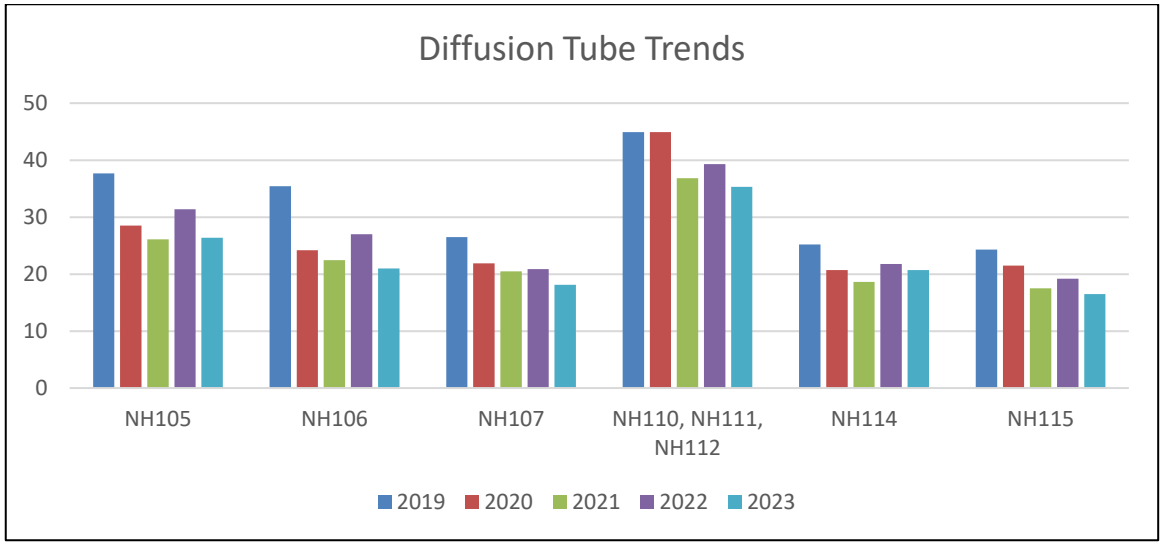
2022
2023


Diffusion Tube Trends
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NH106
NH107
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NH114
NH115
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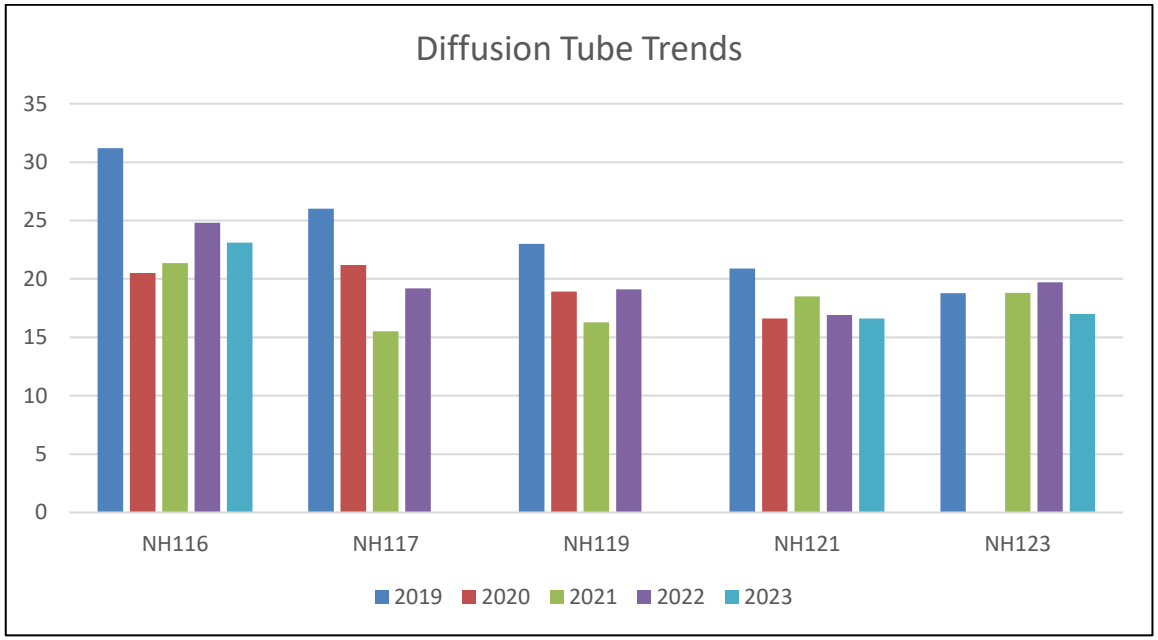
2020
2021
2022
2023


Diffusion Tube Trends
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20
15
10
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NH116
NH117
NH119
NH121
NH123
2019
2020
2021
2022
2023

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
NH1	518740	228348	Roadside	47	47	0	0	0	0	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m^3 have been recorded.
Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.
If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.2 – Trends in Number of NO_2 1-Hour Means > 200µg/m^3

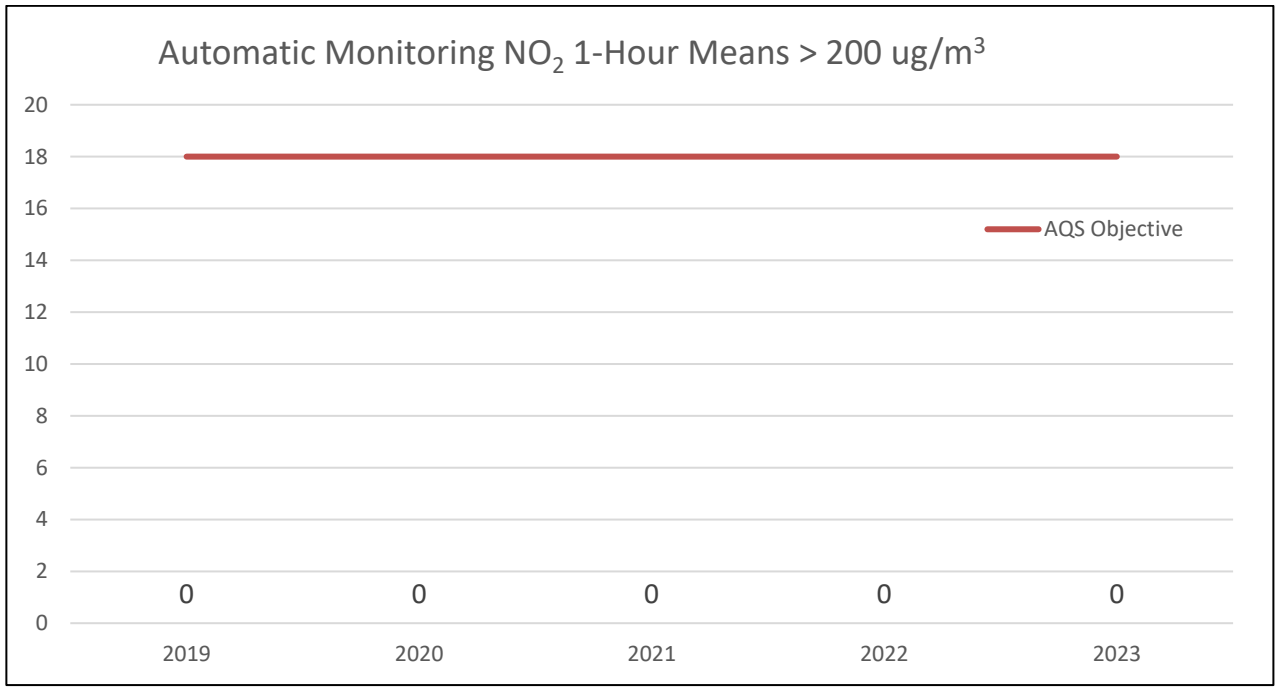


Table A.6 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
NH2	518713	228349	Roadside	51	51	20.4	19.7	17	18.5	17.7**

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

Notes:

The annual mean concentrations are presented as $\mu g/m^3$.
Exceedances of the PM_{10} annual mean objective of $40\mu g/m^3$ are shown in **bold**.
All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.3 – Trends in Annual Mean PM_{10} Concentrations

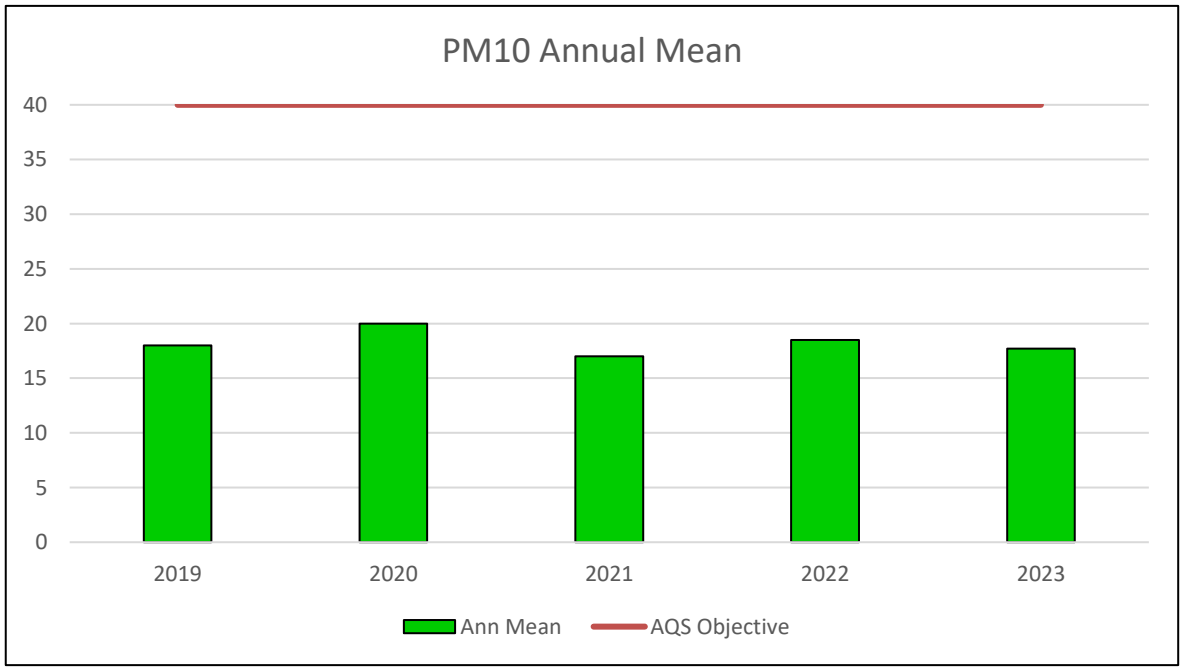


Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
NH2	518713	228349	Roadside	51 (31.7)	51	5	1	0	4	1

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m^3 have been recorded.
Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.
If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.4 – Trends in Number of 24-Hour Mean PM_{10} Results > 50µg/m^3

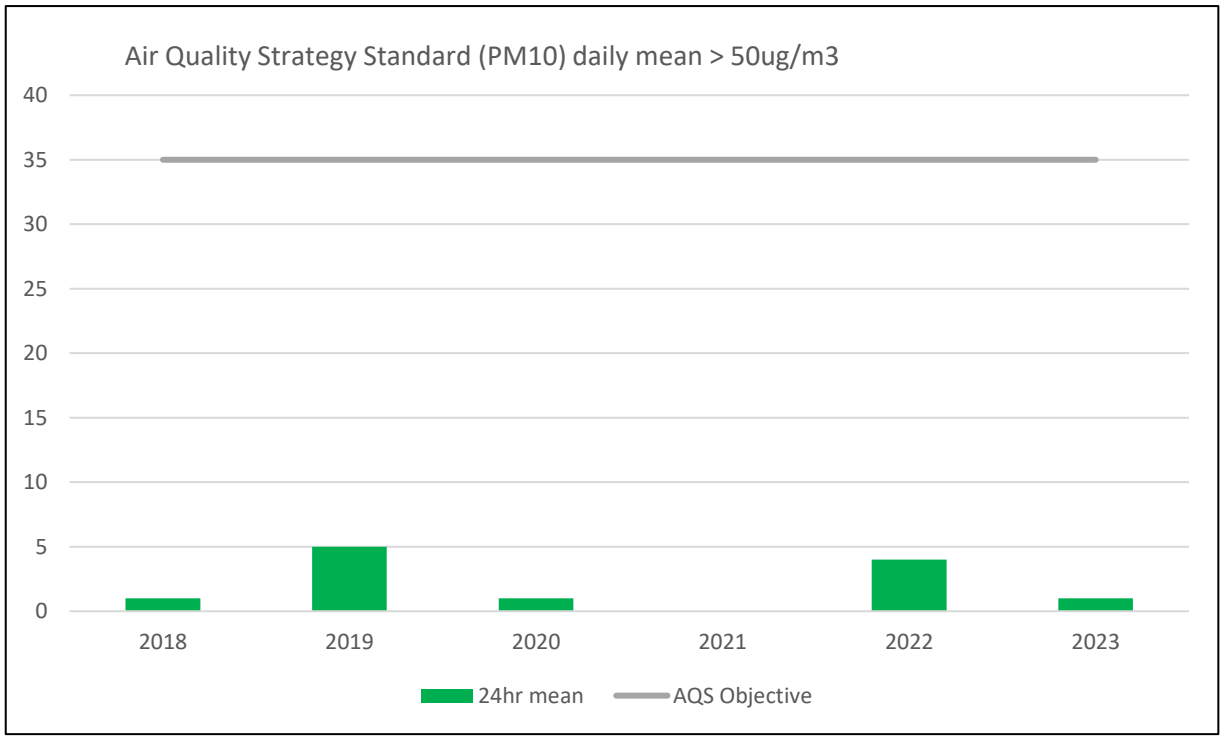


Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
NH2	518713	228349	Roadside	12	12	8.4	8.4	8	8.1	N/A

NOTE: No data reported for 2023 due to low data capture below the minimum level of 25%

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

(No data reported due to low Data Capture)

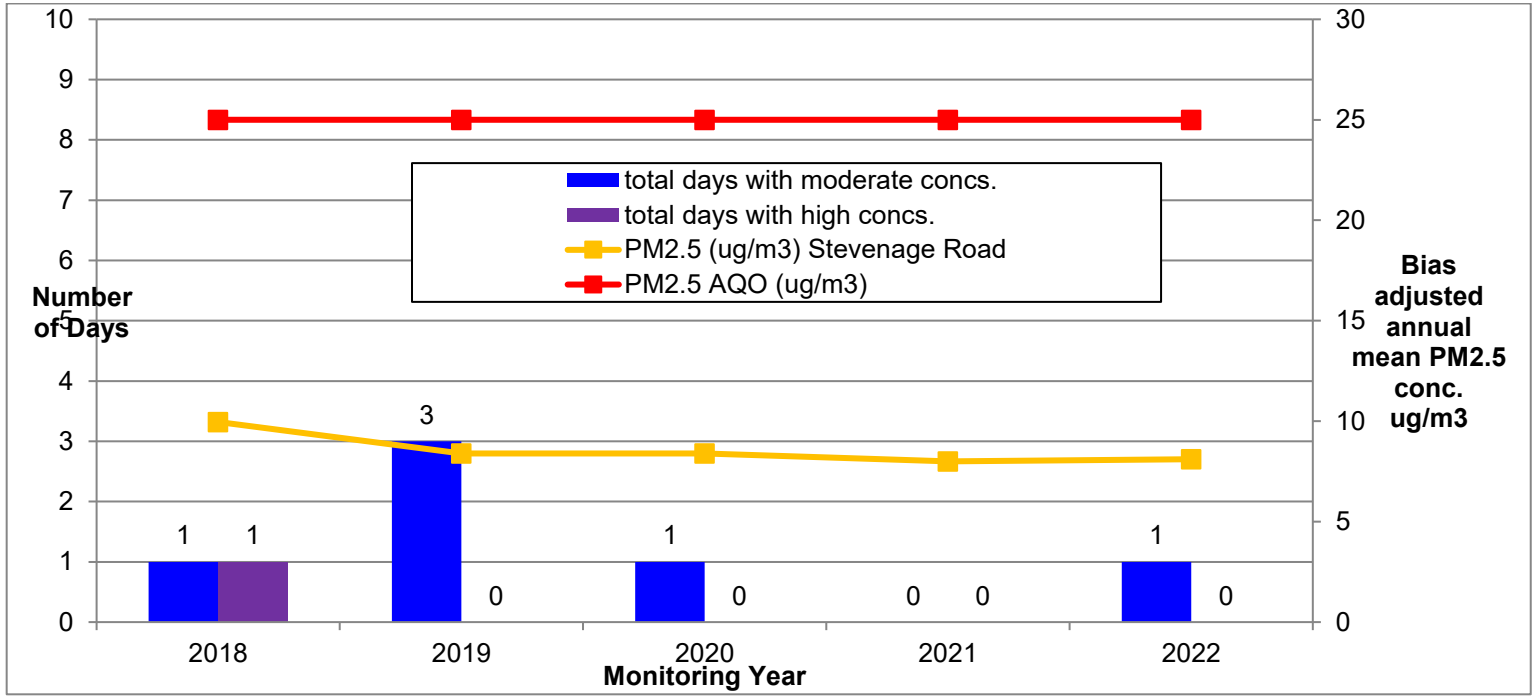
Notes: The annual mean concentrations are presented as $\mu g/m^3$.

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

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

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

Figure A.5 – Trends in Annual Mean PM2.5 Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO2 2023 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 <x.x>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
S2/NH45	518708	228347		32.1	35.4	29.4	28.0	31.2	29.1	33.3	38.7	41.6	32.1	34.4	32.9	25.3		
S6/NH63	518160	229092		37.5	36.5	36.8	31.8	36.1	33.2	20.0	22.7	37.0	35.2	35.7	31.8	24.5		
S10/NH103	518773	228342		47.3	36.2	34.5	35.3	28.0	26.2	34.5	37.8	33.6	45.1	41.5	36.2	27.9		
S11/NH77	518006	229032		50.1	35.1	21.7	37.5	30.6	27.9		39.9	35.3	34.8	38.2	35.3	27.2		
S13/NH82	518129	229065		40.0	32.6	27.8	27.7	28.7	25.3	32.7	31.0	26.9	16.5	32.4	29.5	22.7		
S19/NH92	518872	228305		51.4	41.5	21.4	27.0	39.7	31.0	27.8	35.7	32.8	47.0	46.6	35.1	27.0		
S20/NH93	518130	229036		44.7	37.4	24.4	31.7	36.5	34.0	34.5	38.0	34.8	33.0	38.2	34.9	26.9		
S29/NH104	518757	228334		34.6	24.0	19.0	19.7	23.3	20.3	22.6	16.7	22.2	34.7	29.3	23.3	18.0		
S30/NH105	519067	228255		42.2	40.0	25.8	28.1	34.3	29.9	35.4	31.0	34.9	40.7	42.6	34.2	26.4		
S36/NH114	518150	229160		33.6	26.2	24.8	17.0	23.9	18.7	36.3	31.8	34.8	20.2	31.5	26.8	20.7		
S33,S34,S35/NH110, NH111, NH112	518740	228348		62.9	48.1	42.6	36.9	46.7	37.5	47.7	45.9	46.1	51.1	51.0	45.9	35.3		
S41/NH82	518129	229065			32.5	32.7	29.7	28.8	21.3	32.1	31.3	30.5	31.6	23.8	-	-		Duplicate Site with S41/NH82 and S38 - Annual data provided for S38 only
S1/NH06	536906	240794		38.6	25.1	23.5	18.8	28.7	39.8			31.1	51.5		30.5	24.3		
S3/NH59	524649	234061		29.4	20.3	23.4	21.0	20.2	16.7	20.7	17.5	22.1	27.7	18.4	21.1	16.3		
S4/NH60	519916	230099		34.4	22.8	25.3	24.8	23.6	17.2	22.6	25.1	14.0	27.7		23.7	18.3		
S5/NH61	524428	233882		34.3	29.9		19.1	36.5		32.7	34.4	35.6	41.5		31.2	23.8		
S7/NH67	519225	230553		33.8	25.9	20.6	17.8	18.5	13.2	18.1	23.6	26.0	29.5	15.3	21.3	16.4		
S8/NH127	518821	229993			27.3	15.1	17.8	16.5	13.6	21.1	26.6	25.9		18.7	20.3	15.6		
S9/NH72	524502	233948		35.5	36.2	33.1	17.1	26.0		22.2	27.8	26.3	32.4	30.3	27.7	21.3		
S15/NH87	518731	228362		47.0	39.8	38.6	23.0	34.5	28.7	34.9	36.4	39.7	35.2	27.6	34.0	26.2		
S16/NH88	524448	233898		45.9		26.9	25.9	24.2		26.6	26.9	32.8	31.9	21.3	28.6	22.0		
S17/NH89	518706	228293		28.1	21.6	18.6	14.1	18.1	14.0	16.7	19.2	29.6	28.2	17.5	19.4	15.0		
S18/NH91	518997	228297			29.3	28.0	23.4	23.0	19.6	24.6	27.6	25.3	31.3	22.8	25.3	19.5		
S38	518997	228297				29.9		25.4	17.0	34.3	33.5	28.2	26.6	40.2	29.8	22.9		Duplicate Site with S41/NH82 and S38 - Annual data provided for S38 only
S21/NH94	517915	228967			27.4	22.2	17.1	29.9	20.4	25.7	25.2		35.0	25.0	24.2	18.6		

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 <x.x>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
S22/NH95	517886	228975		28.6	28.7	25.0	20.1	27.6	25.6	24.9	40.0	29.1	28.2	20.9	26.8	20.7		
S24/NH98	519080	229510		35.6	25.6	20.2	17.1	21.8	17.5	19.2	24.2	26.7	30.5	18.8	22.5	17.3		
S25/NH99	518953	229786			28.6	24.7	22.3	21.2	19.2		26.2	20.7	34.1	18.6	23.8	18.3		
S27/NH108	518534	229302		42.6	33.9	32.1	22.5	29.2	27.4		27.3	33.9	32.8	26.5	29.9	23.0		
S31/NH106	519250	228218		41.3	23.0	26.0	27.8	23.5	18.5	29.8	26.2	24.7	34.5		27.3	21.0		
S32/NH107	518720	228335		32.9	24.9	15.2	19.1	20.7	18.9	23.8	26.6	27.9	33.5	21.4	23.5	18.1		
S26/NH115	535373	241466		34.8	27.1	24.5	16.2	17.7	16.4	20.9	21.5	28.8	27.1	9.2	21.5	16.5		
S23/NH116	518492	228669		43.0	33.1	31.3	33.4	28.2	22.4	33.3	22.7	27.8	30.1	23.8	30.0	23.1		
S12/NH131	518215	231528				20.0	15.1	17.7			19.5		21.2		18.2	15.4		
S39	518995	228295						28.9	28.8	26.8	28.0	38.4	35.5	26.9	29.7	24.5		
S37	524599	234124				24.7	33.1	30.3			28.1	28.7	37.2	24.9	29.6	24.6		
S40	523849	233497		25.3	27.1	25.2	33.1	11.3	10.4	15.0	17.2	21.4			21.5	16.6		
S42	522289	232985				23.7	22.1	22.0	19.5	24.8	19.9	28.3	25.9	15.8	22.1	17.0		

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

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

☒ **National bias adjustment factor used.**

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

☒ **NHDC confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within North Hertfordshire During 2023

The Council has not identified any new sources relating to air quality within the reporting year of 2023.

Additional Air Quality Works Undertaken by North Hertfordshire Council During 2023

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

QA/QC of Diffusion Tube Monitoring

Non-Automatic Monitoring:

The diffusion tubes are 50% triethanolamine (TEA) in acetone and are supplied and analysed by SOCOTEC Didcot. SOCOTEC follows the procedures set out in the Harmonisation Practical Guidance. SOCOTEC also participates in the Workplace Analysis Scheme for Proficiency (WASP) and is currently ranked as a Category Satisfactory laboratory. This information was used in selecting the below bias adjustment factor.

Data from the diffusion tubes has been compared and bias corrected to the factors produced from the UK co-location database. The bias adjustment factor has been taken from the latest version of the Diffusion Tube Bias Adjustment Factors spreadsheet available from the Defra Review and Assessment website (http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html).

According to the above database the bias adjustment factor for SOCOTEC in 2023 was 0.77.

Diffusion Tube Annualisation

Short-term to Long-term Data adjustment (Annualisation):

Where it has only been possible to carry out monitoring at a location, whether automatic or non-automatic, at a site for less than 75% of the 12 months the results need to be adjusted to enable an estimate of the annual mean for that location to be calculated. The following

locations were where less than 75% data were collected during 2023, so annualisation was required for these locations.

S1/NH06; S5/NH61; S16/NH88; S25/NH99; S12/NH131; S39 (NEW); S37(NH130).

It should be noted that a minimum 6-month (50%) period is still necessary for this process to be valid.

The diffusion tube processing tool was used to carry out the annualisation as detailed below in Table C1:

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

Diffusion Tube Annualisation (from Diffusion Tube Processing Tool)

Diffusion Tube ID	Annualisation Factor Stevenage St Georges Way South	Annualisation Factor Hertsmere Borehamwood Roadside	Annualisation Factor Hatfield West View	Annualisation Factor East Herts Hertford Gascoyne Way	Average Annualisation Factor	Raw Data Time Weighted Annual Mean (µg/m3)	Annualised Data Time Weighted Annual Mean (µg/m3)
S1/NH06	1.0228	1.0443	1.0352	1.0332	1.0339	30.5	31.5
S5/NH61	0.9878	1.0011	0.9999	0.9740	0.9907	31.2	30.9
S16/NH88	1.0208	1.0197	1.0197	0.9983	1.0146	28.6	-
S25/NH99	1.1217	1.1174	1.1060	1.0697	1.1037	23.8	-
S12/NH131	1.1197	1.1062	1.1178	1.0649	1.1022	18.2	20.1
S39	1.1305	1.0727	1.0368	1.0452	1.0713	29.7	31.8
S37	1.0922	1.0851	1.0973	1.0469	1.0804	29.6	32.0

Continuous Monitoring Annualisation

Annualisation was carried out on the Continuous monitoring data at site NH1 for AQMA1 in Hitchin. Data from East Herts, Hatfield, Stevenage and Dacorum were used in accordance with the procedures described in the Technical Guidance TG22. A factor of 0.854 as the average for these sites of the Annual Mean/ Period Mean was applied. The Annual Mean at Site NH1 of 30.9 was adjusted to 26.5 following application of the 0.854 factor.

PM_{10} Annualisation

Annualisation was carried out on the PM_{10} annual mean data due to data capture falling below 75% as detailed below:

Background Site	Annual Mean 2023 (Am)	Period Mean 2023(Pm)	Ratio (Am/Pm)
Dacorum Northchurch High St	14.8	16.0	0.92
Sandy Roadside	15.5	16.7	0.93
Milton Keynes	10.3	10.5	0.97
Average Ratio			**0.94**

Diffusion Tube Bias Adjustment Factors

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

The Council have applied a national bias adjustment factor of 0.77 to the 2023 monitoring data. A summary of bias adjustment factors used over the past five years is presented in Table C.2.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2023	National	03/24	0.77
2022	National	03/23	0.76
2021	National	09/20	0.78
2020	National	03/21	0.76
2019	National	03/20	0.75

NO_2 Fall-off with Distance from the Road

All annual monitoring results were below 36. As such, no corrections for fall-off with distance were calculated.

QA/QC of Automatic Monitoring

The R&P 1400a Tapered Element Oscillating Measurement (TEOM) monitor at Stevenage Road, Hitchin is subject to calibration visits and filter checks and changes on a monthly basis by Council staff. In addition, the consultants, Air Monitors, are employed to undertake two service/maintenance visits (one minor and one major service) and to respond in the event of any maintenance issues encountered during daily operation. The calibration readings are reported to Ricardo Energy and Environment who are retained by the Council to verify and ratify the data generated by the monitor. This process includes the application of the volatile correction model (VCM) and the results of the data reported have had this applied and have been demonstrated as equal to the gravimetric equivalent.

The Met-One Smart Heated BAM 1020 $PM_{2.5}$ monitor at Stevenage Road requires no periodic calibration checks, only a tape change approximately once every six weeks which is undertaken by Council staff. In addition, Air Monitors are employed to undertake two service/maintenance visits (one minor and one major service) and to respond in the event of any maintenance issues encountered during daily operation. The outcome of the servicing and the associated performance of the monitor are reported to Ricardo Energy and Environment who are retained by the Council to verify and ratify the data generated by the monitor.

The Teledyne-API T200A chemiluminescence monitor at Stevenage Road is subject to calibration checks and filter checks and changes on a monthly basis by Council staff. In addition, Air Monitors are employed to undertake two service/maintenance visits (one minor and one major service) and to respond in the event of any maintenance issues encountered during daily operation. The calibration readings are reported to Ricardo Energy and Environment who are retained by the Council, as part of the larger Hertfordshire and Bedfordshire Air Quality Network, to verify and ratify the data generated by the monitor.

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

VCM corrections have been applied to the raw PM data by Ricardo Energy & Environment, who process and ratify continuous monitoring data, on behalf of the Council.

Automatic Monitoring Annualisation

The PM_{10} automatic data capture was below the 75% level, and the annualisation data is presented in Table C1 above. No data was reported for $PM_{2.5}$ due to the data capture falling below 25% (12%).

NO_2 Fall-off with Distance from the Road

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

No automatic NO_2 monitoring locations within the district required distance correction during 2023.

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

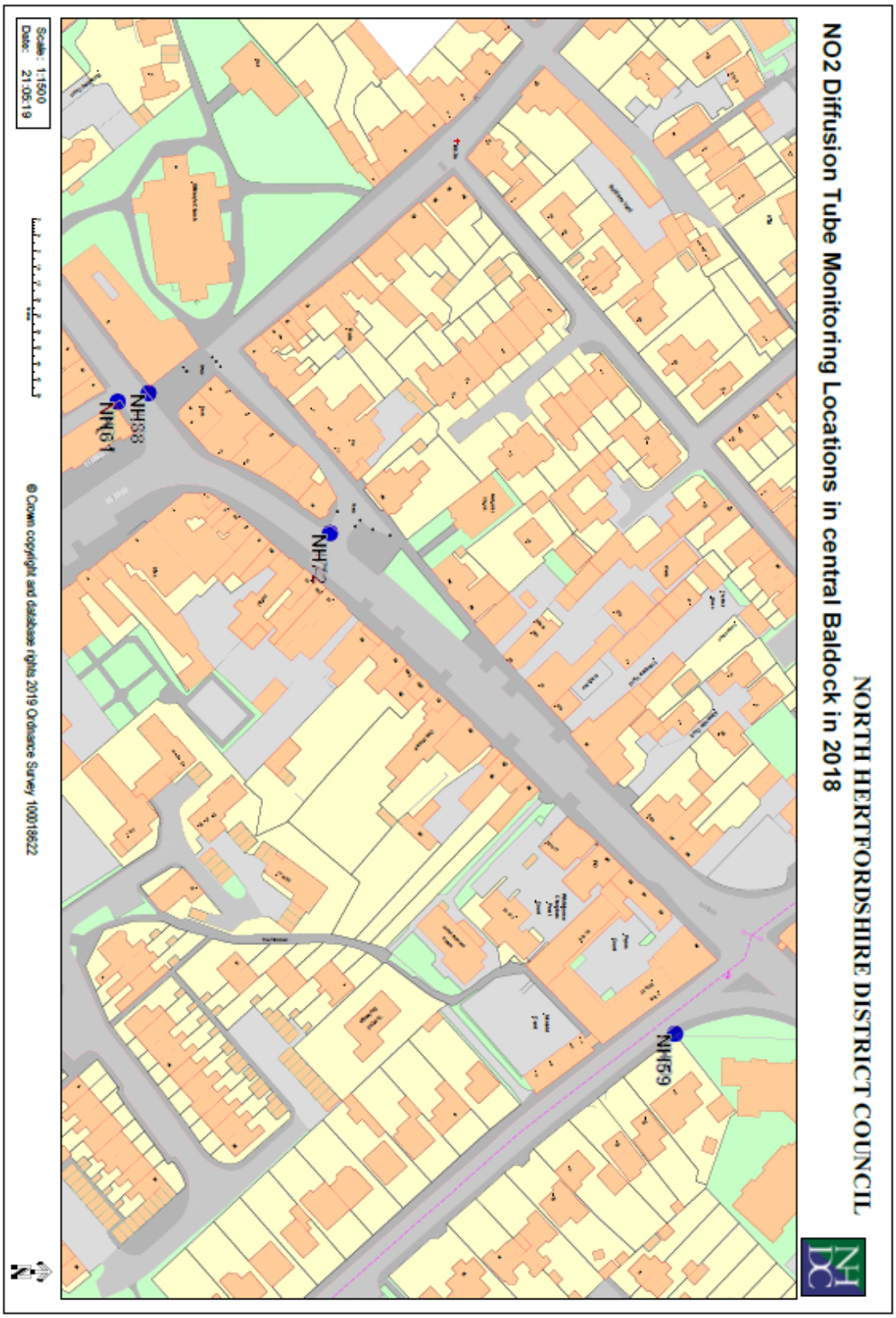


Figure D.1 Diffusion Tube Monitoring Locations (NH72, NH88, NH59 & NH61) in central Baldock – 2023

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Nitrogen Dioxide Diffusion Tube Location, Station Road, Baldock 2023

Figure D.2 Diffusion Tube Monitoring Locations Station Road, Baldock

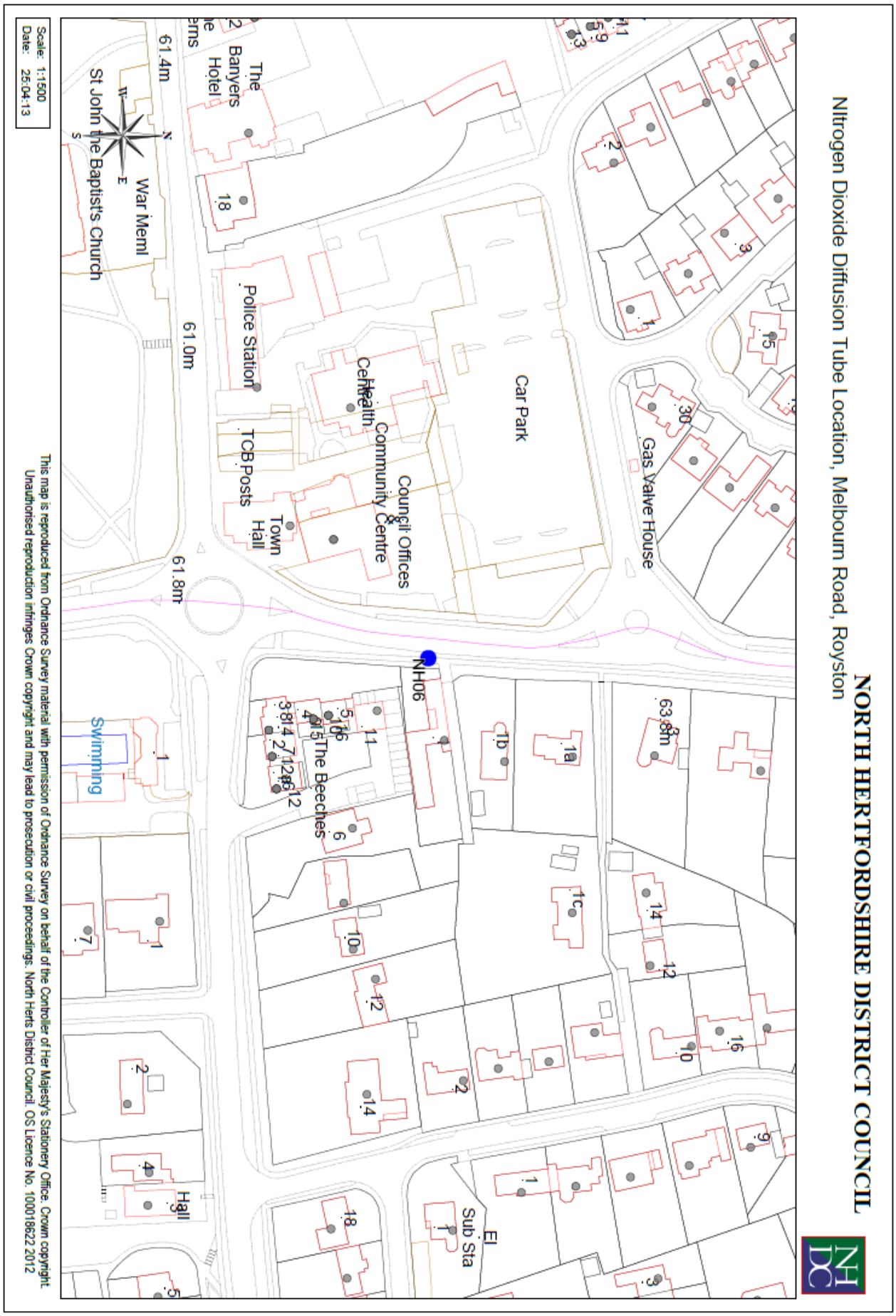

Figure D3: Diffusion Tube Monitoring Location (NH06) at Melbourn Road, Royston - 2023

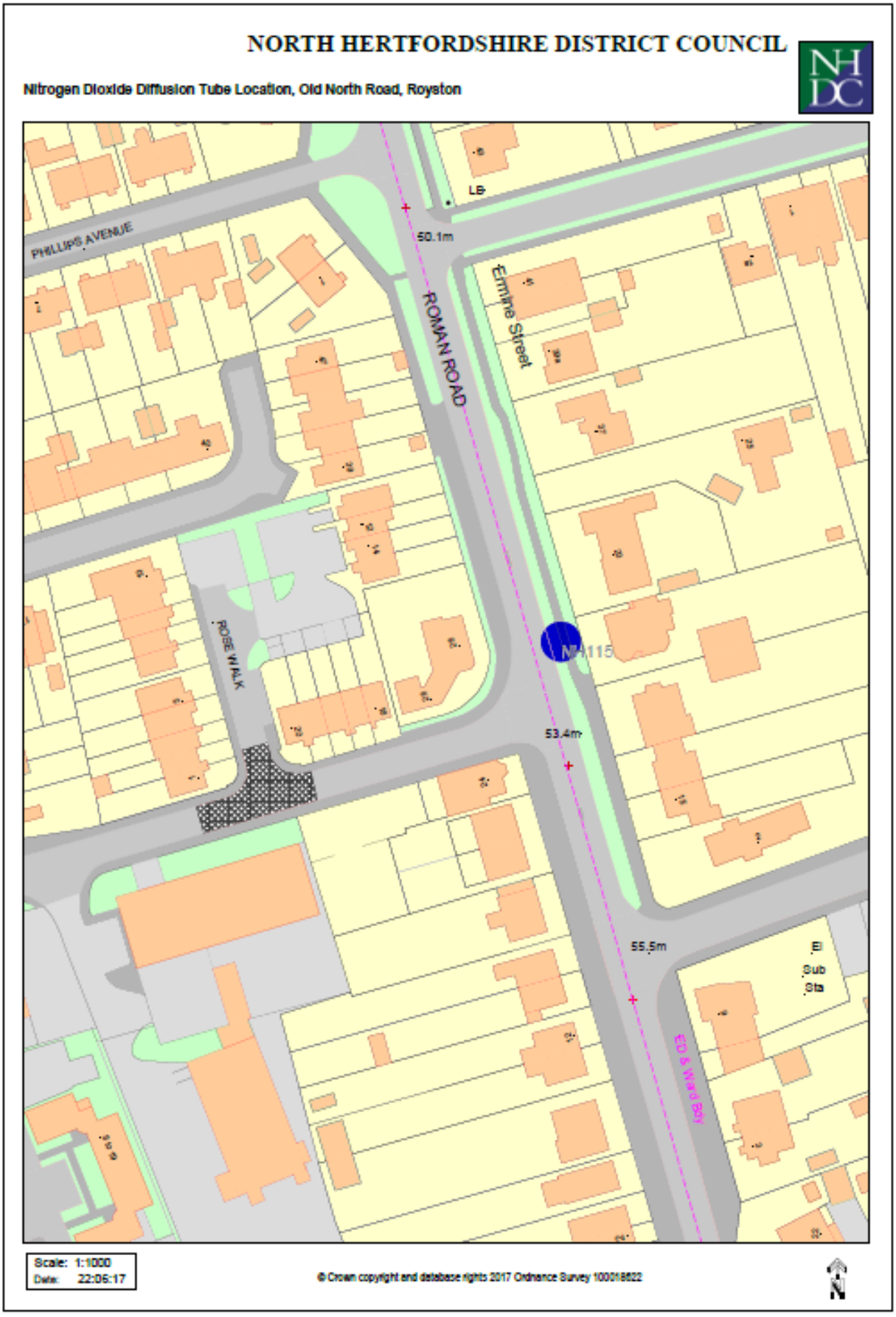

Figure D4: Diffusion Tube (NH115) Monitoring Location at Old North Road, Royston - 2023

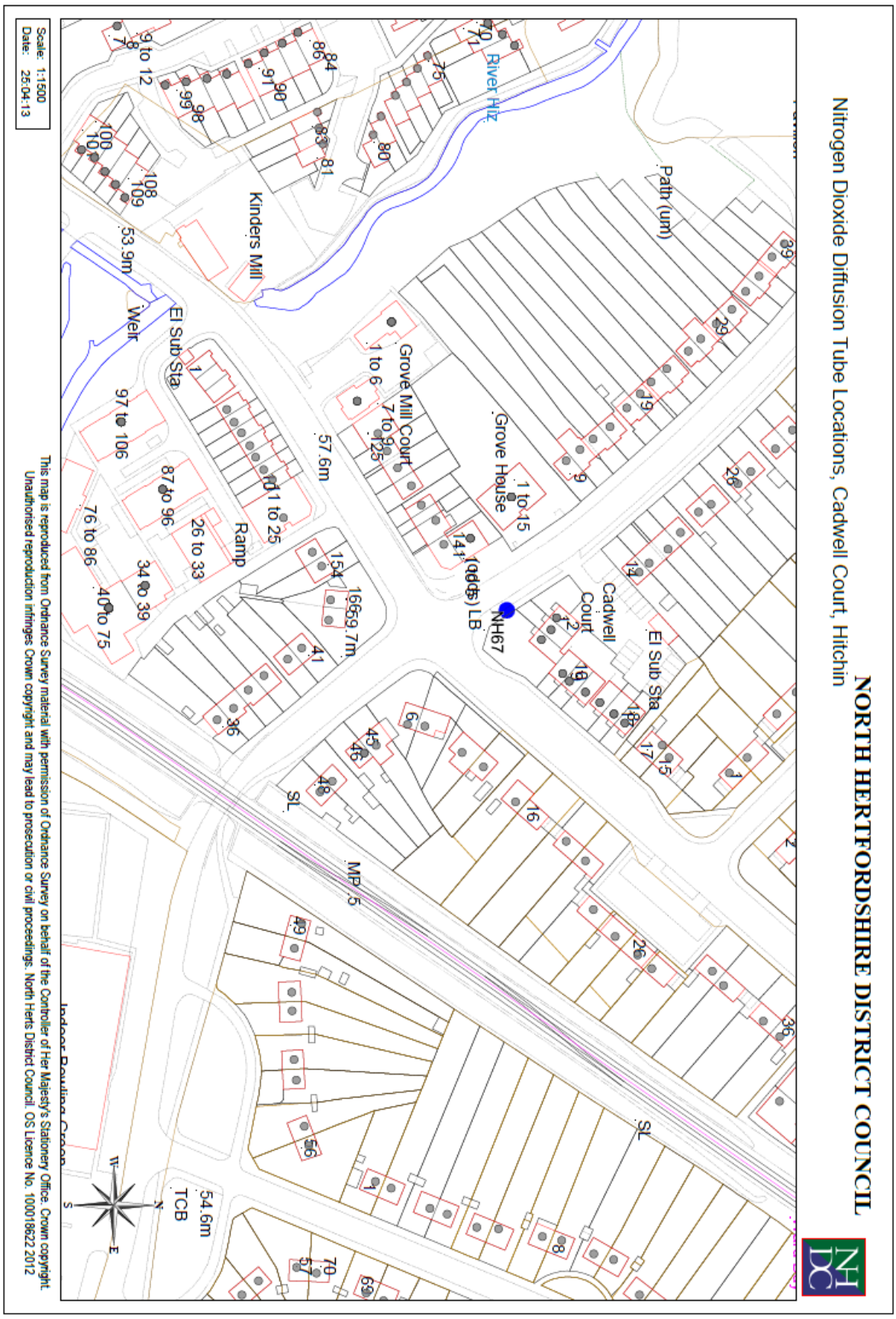

Figure D5: Diffusion Tube (NH67) Monitoring Location at Cadwell Court, Hitchin - 2023

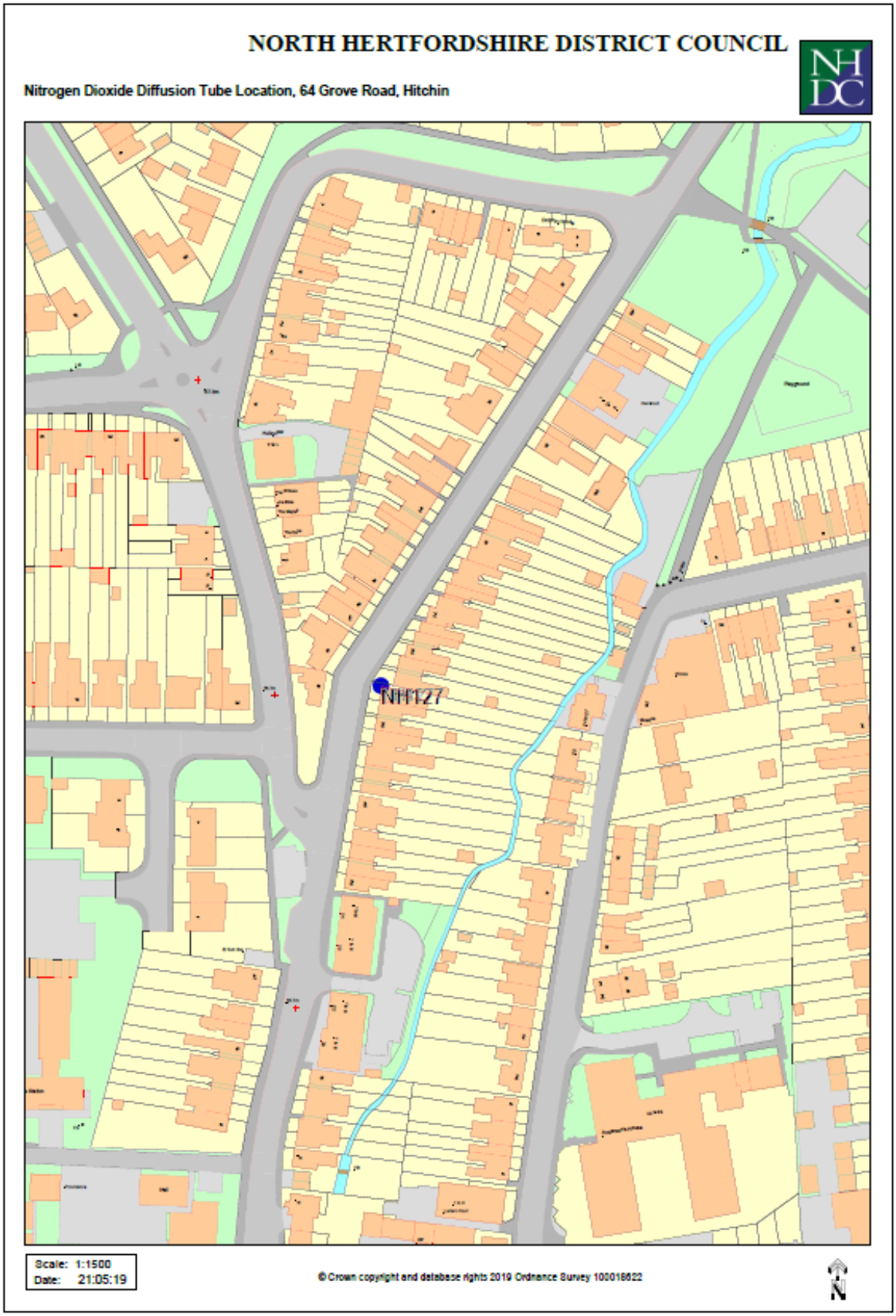

Figure D6: Diffusion Tube (NH127) Monitoring Location at Grove Road, Hitchin - 2023

Figure D7: Diffusion Tube Monitoring Locations (NH99 & NH98) in the Nightingale Road Area of Hitchin – 2023

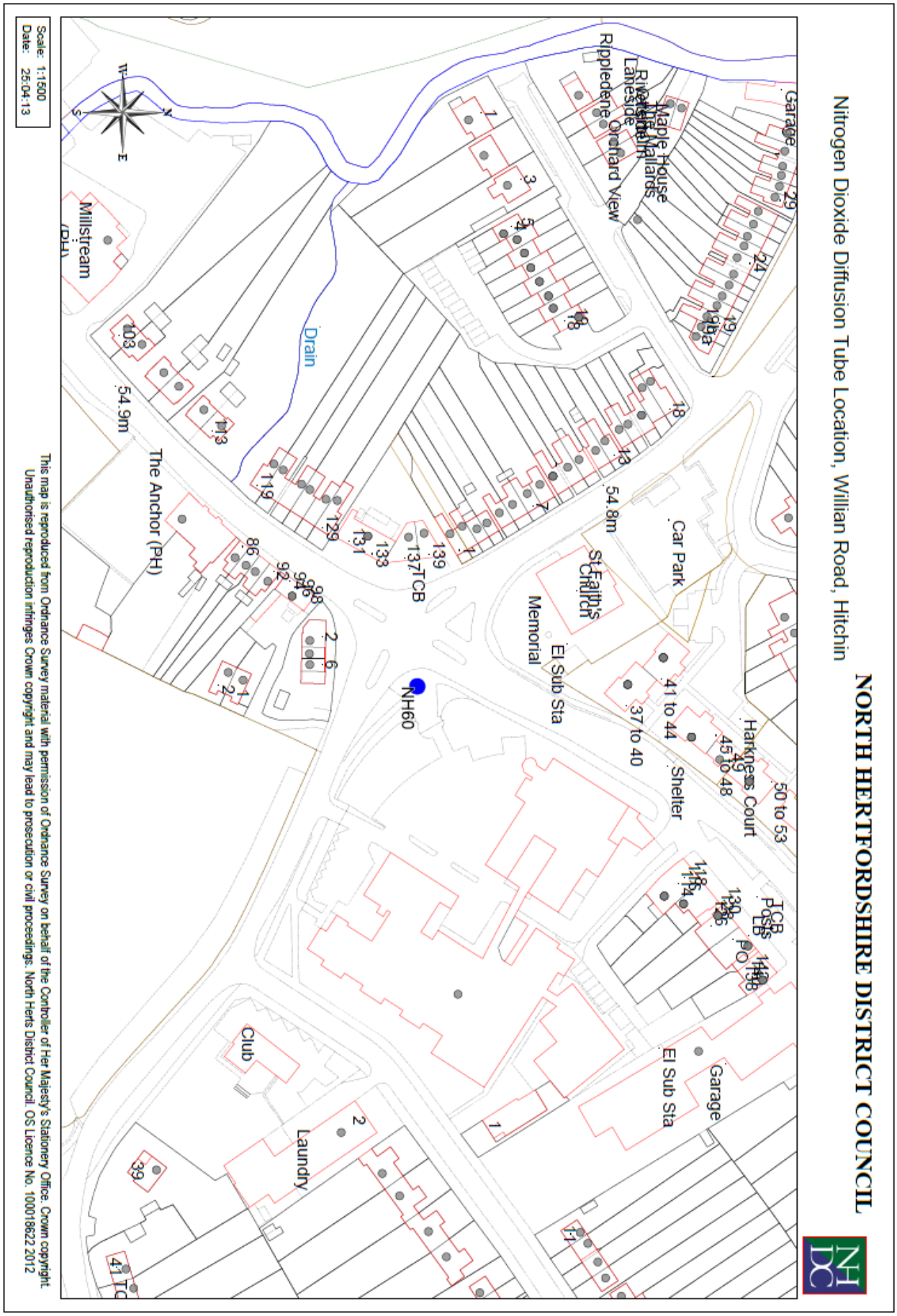

Figure D8: Diffusion Tube Monitoring Location (NH60) at Willian Road, Hitchin - 2023

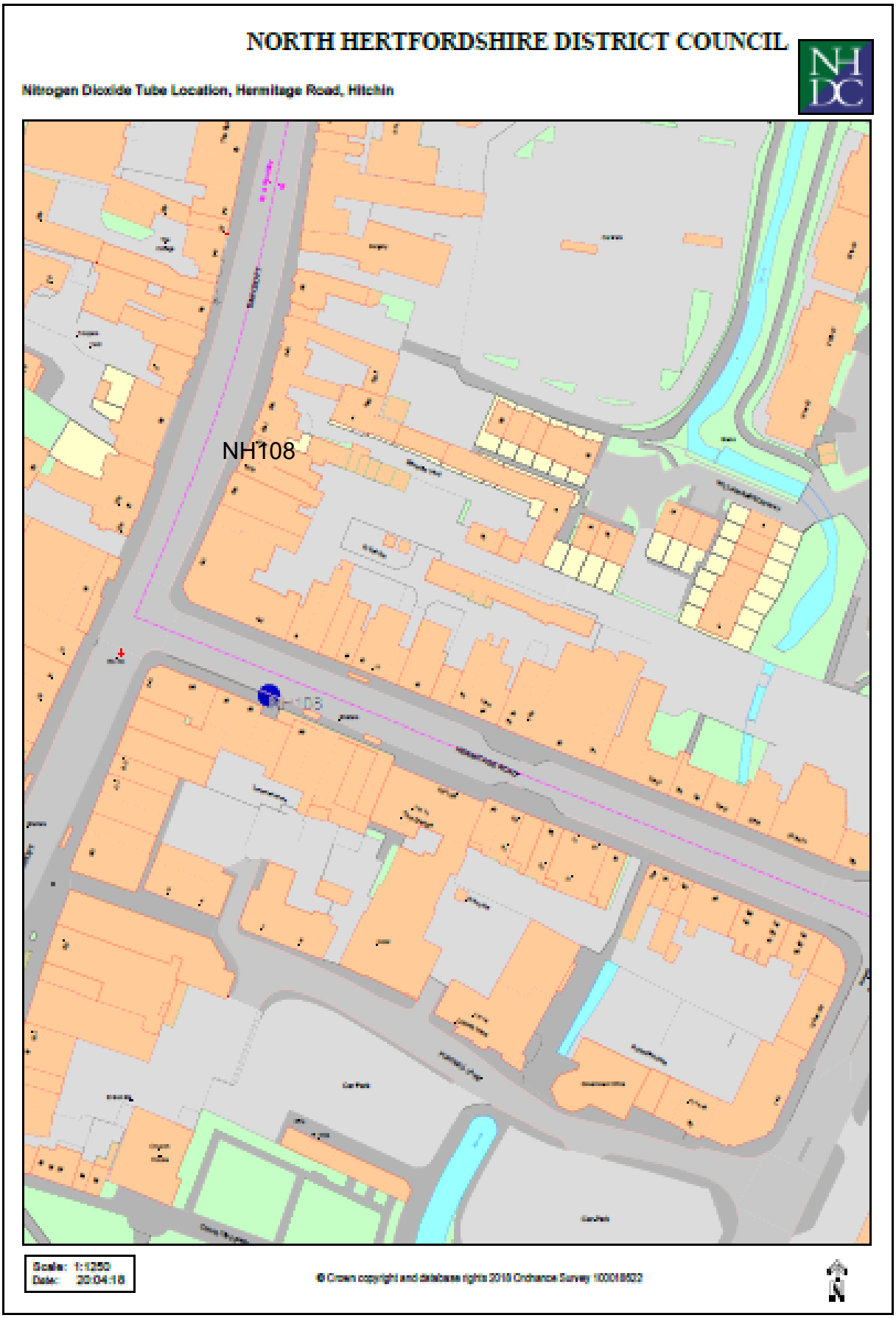

Figure D9: Diffusion Tube Monitoring Location (NH108) at Hermitage Road, Hitchin – 2023

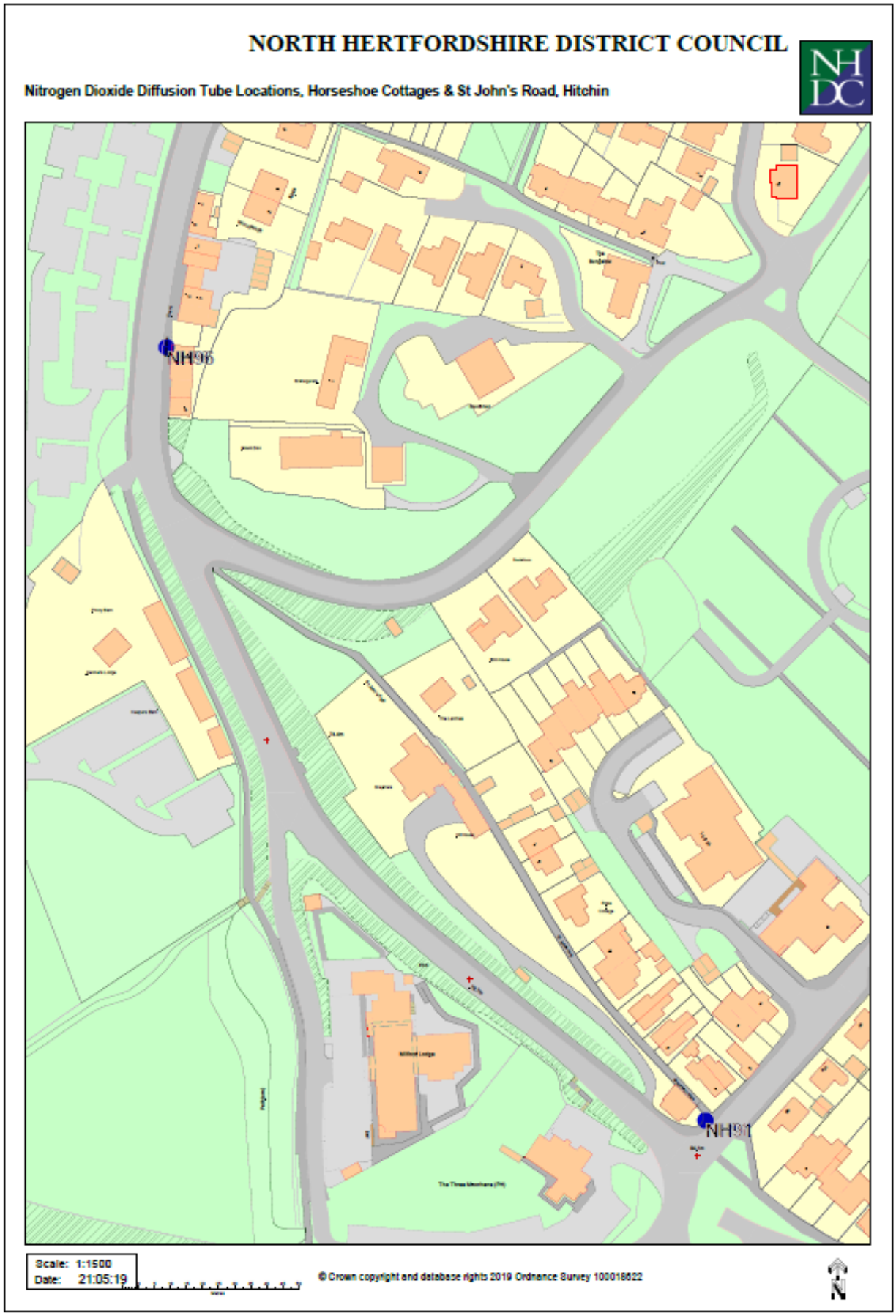

Figure D10: Diffusion Tube Monitoring Locations (NH116) at 6 Horseshoe Court, Park Street and (NH91) at St John's Road, Hitchin - 2023

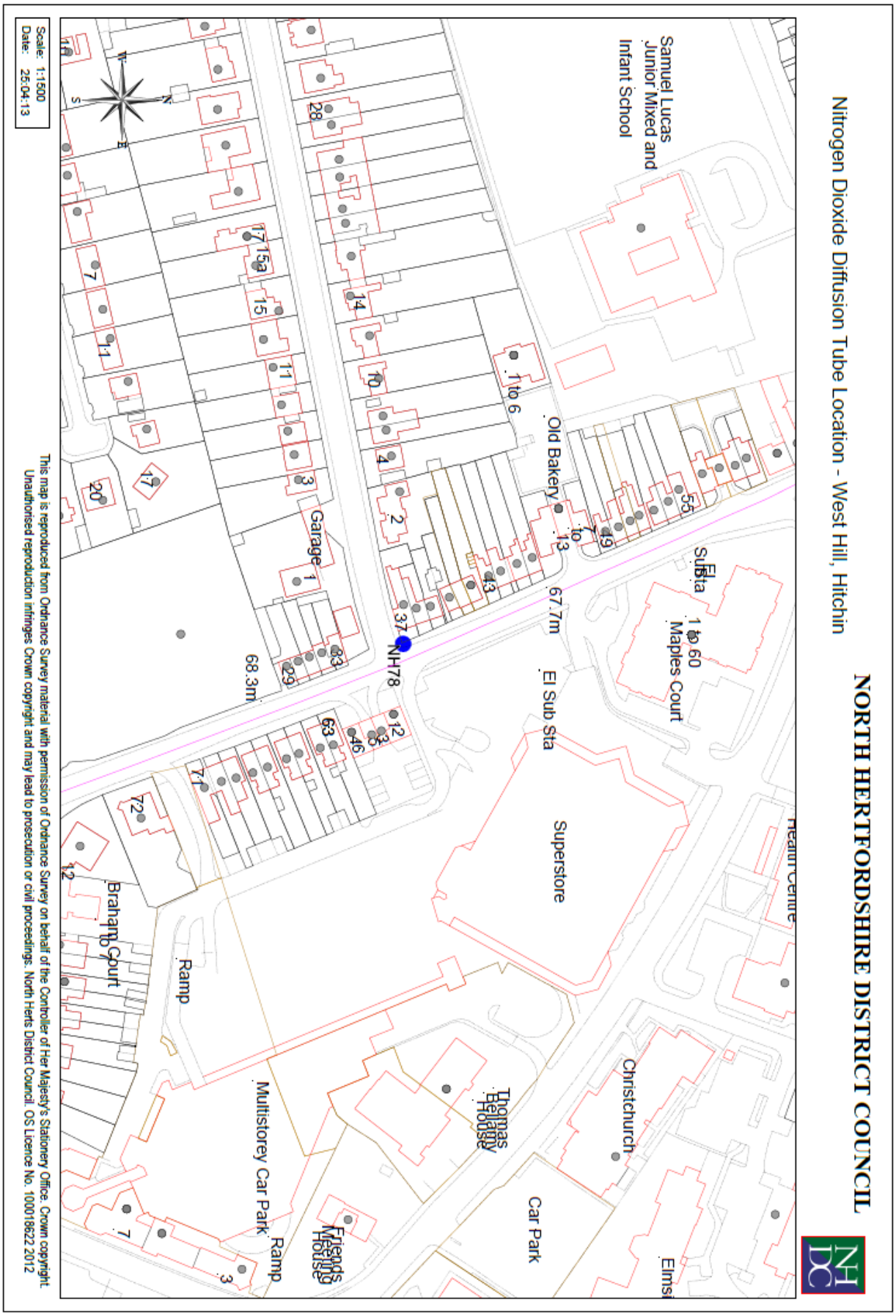

Figure D11: Diffusion Tube Monitoring Location (NH78) at West Hill Hitchin – 2023

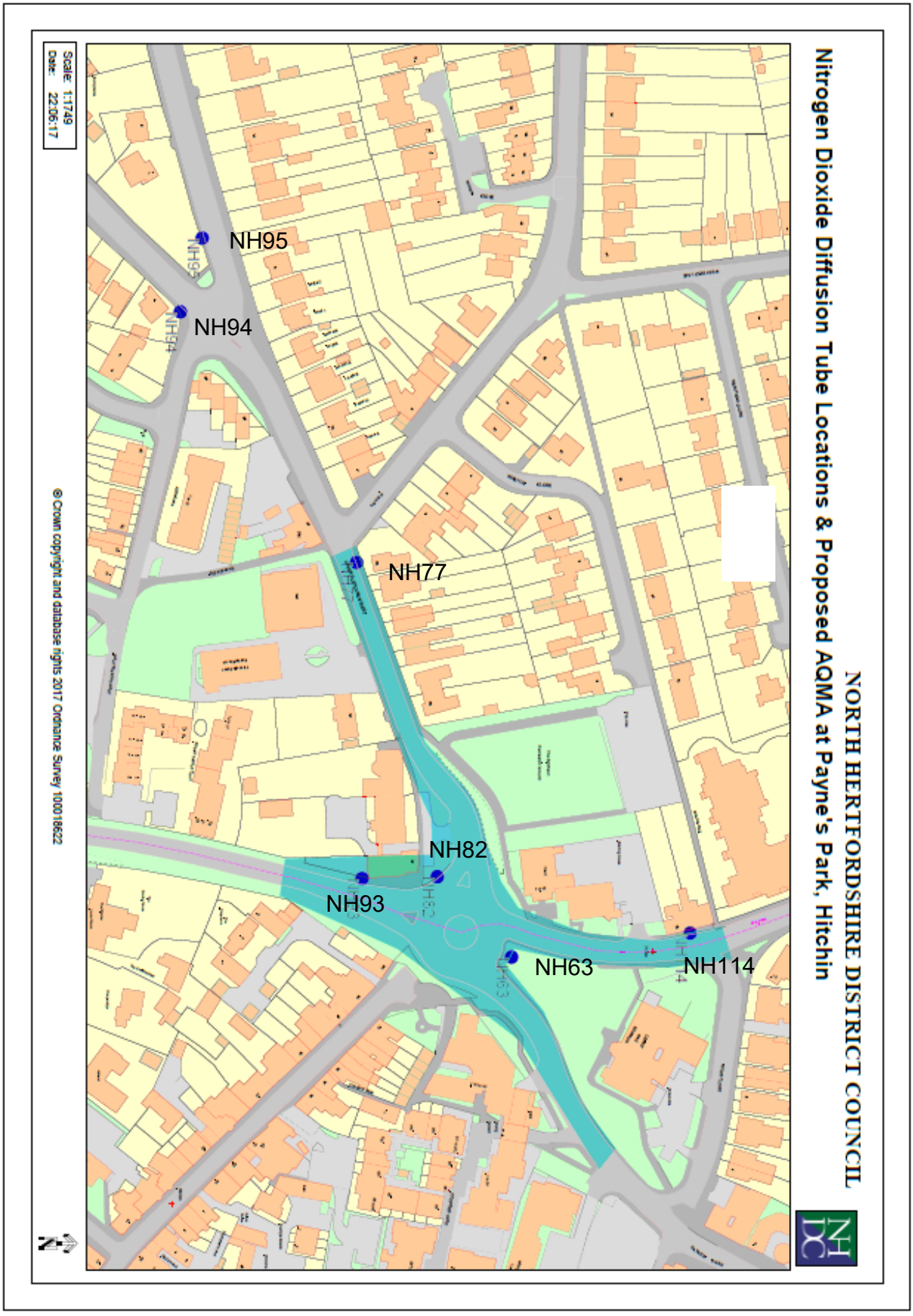

Figure D12: Diffusion Tube Monitoring Locations (NH93- NH95, NH77, NH82, NH63 & NH114) & Extent of AQMA at Payne's Park, Hitchin – 2023

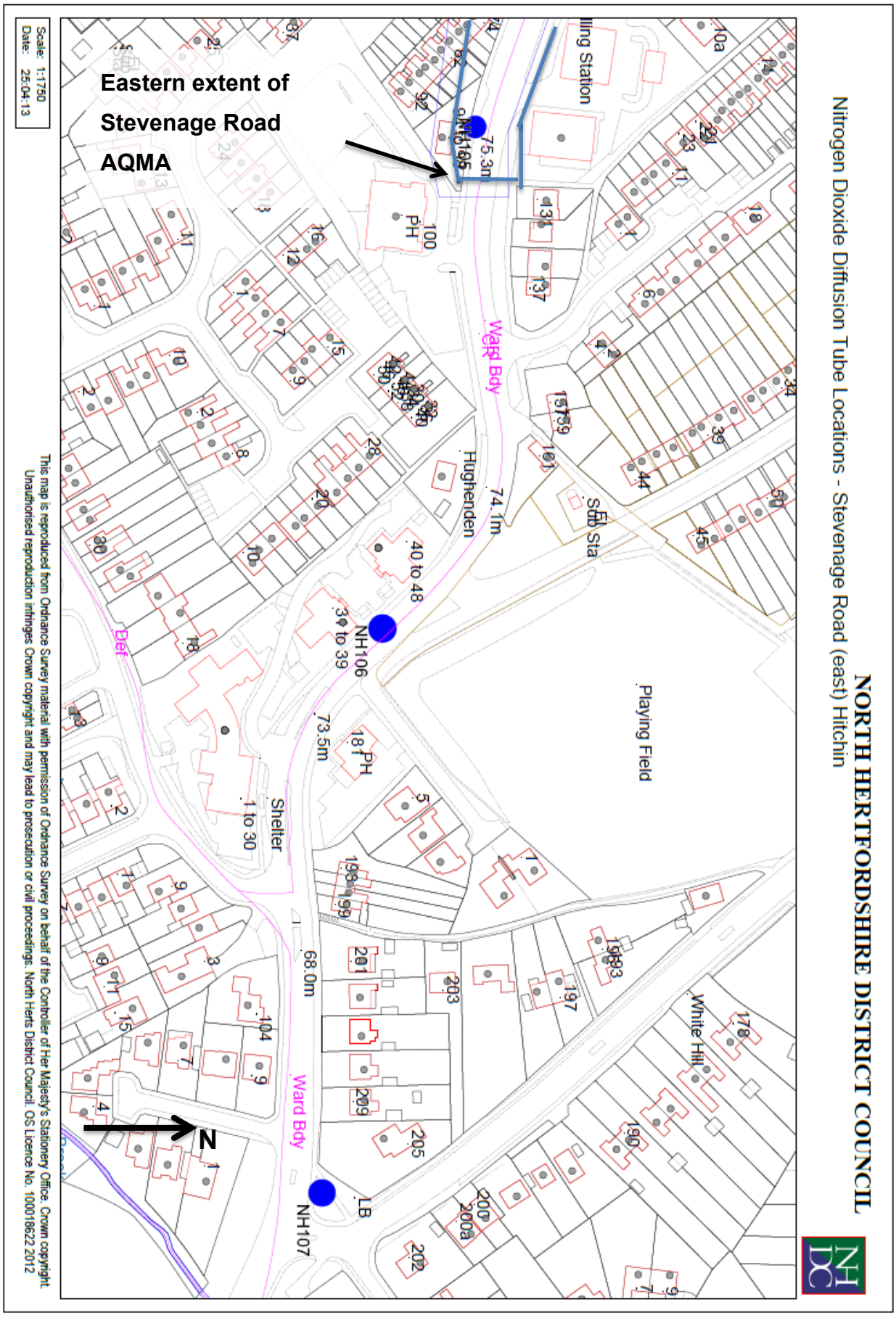

Figure D13: Diffusion Tube Monitoring Locations (NH105, NH106 & NH107) & Eastern Extent of the Stevenage Road AQMA at Stevenage Road, Hitchin – 2023

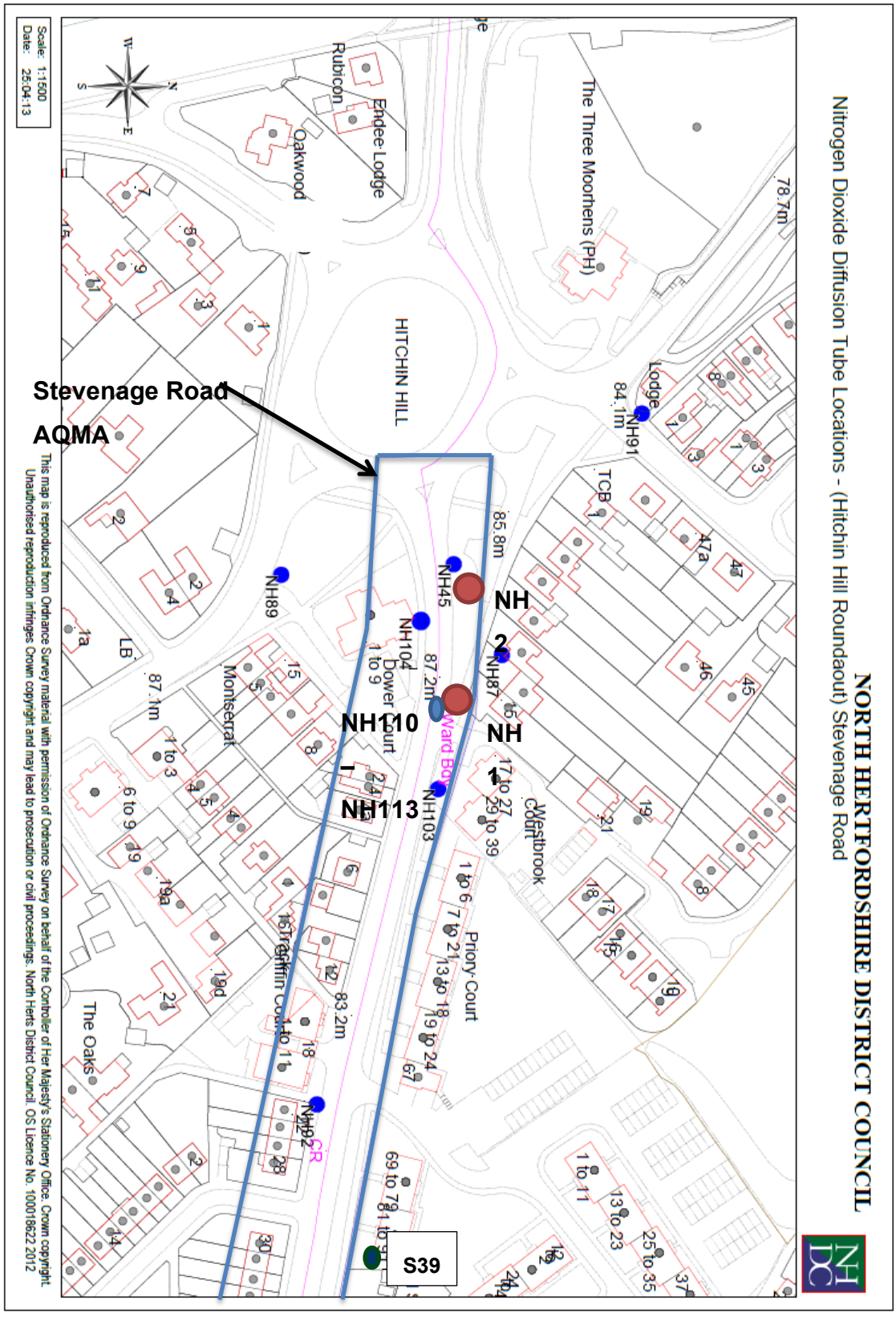

Figure D14: Diffusion Tube Monitoring Locations (NH45, NH87, NH89, NH91, NH92, NH103, NH104 & NH110-112, S39), Real-Time Analyser Locations (NH1 and NH2) & the Stevenage Road AQMA at Stevenage Road, Hitchin – 2023

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[7]

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

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

Glossary of Terms

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

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- 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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- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency.
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- [1] https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/planning-in-hertfordshire/transport-planning/local-transport-plan.aspx
- [1] https://www.north-herts.gov.uk/files/ed14-nhdc-transport-strategy-october-2017pdf-0

[i] https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/planning-in-hertfordshire/transport-planning/local-transport-plan.aspx

[ii] https://www.north-herts.gov.uk/files/ed14-nhdc-transport-strategy-october-2017pdf-0