

Annual Progress Report (APR)

FALKIRK COUNCIL



2026 Air Quality Annual Progress Report (APR) for Falkirk Council

In fulfilment of Part IV of the Environment Act 1995, as amended by the
Environment Act 2021

Local Air Quality Management

June 2026

Information	Falkirk Council Details
Local Authority Officer	John Millar
Department	Environmental Protection
Address	Falkirk Stadium, Suite 1b, 4 Stadium Way, Falkirk FK2 9EE
Telephone	07701005862
E-mail	JohnA.Millar@falkirk.gov.uk
Report Reference Number	Annual Progress Report 2026
Date	June 2026

Executive Summary: Air Quality in Our Area

Air Quality in Falkirk Council

In 2025, the air quality within the Falkirk Council area continued to be good.

There were no National Air Quality Strategy (NAQS) objective exceedances recorded throughout Falkirk Council's air quality monitoring network in 2025.

Falkirk Council endeavours to help reduce all airborne emissions by completing agreed Air Quality Strategy (AQS) aims, Air Quality Action Plan (AQAP) long-term key point measures, promotion of alternative / sustainable modes of transport and to educate / inform the public on relevant local air quality issues.

In 2025, Falkirk Council published its first ever [Air Quality Strategy 2025-2029](#). This AQS allows air quality objectives, aims and measures to be established and reported on in future Annual Progress Reports (APR). The AQS focuses on nine key areas where the Council can actively improve air quality and in doing so commits to the following aims:

1. Health: Educate and raise awareness of the health impact of air pollution and the benefits of reducing emissions.
2. Integrated Policy: Work collaboratively with partners and key stakeholders to create effective policy and a comprehensive approach to air pollution control and other environmental issues.
3. Placemaking: Integrate good air quality practices into the planning decision making process.
4. Data: Continue to monitor air quality and provide high quality, consistent data for public health.
5. Public Engagement and Behaviour Change: Encourage the local community and visitors to the area to contribute to improving air quality.
6. Industrial: Minimise emissions from industry and communicate with local residents on any concerns.

7. Non-Transport Emissions: Tackle emissions from domestic combustion consistent with Scottish Government (SG) guidance and funding.
8. Transport: Support sustainable transport modes such as walking, cycling, car sharing and public transport.
9. Governance: Provide long-term commitment to deliver and fund air quality improvements within the area.

The overarching AQS vision is stated as follows:

“This is the first AQS for Falkirk Council to cover the period 2025-29. We aim to make this detailed, robust and ambitious to ensure that the Falkirk Council area endeavours to regularly achieve the best air quality in Scotland. This will help protect the health and wellbeing of residents and visitors to the area into the future.”

In 2025, Falkirk Council revoked the Falkirk town centre (FTC) Air Quality Management Area (AQMA) for NO₂ (annual mean). A detailed air quality report [2026 Falkirk Town Centre NO₂ AQMA Revocation Report](#) was developed throughout 2025 and published to support this revocation.

Falkirk Council currently does not have any active AQMAs, they are now all revoked. This significant milestone was widely reported [here](#).

Since the FTC AQMA was declared in 2013, there had been one exceedance of the NO₂ (annual mean) NAQS objective recorded in 2014 at the Falkirk West Bridge Street monitoring site (41µg/m³). No further NAQS objective exceedances had been recorded since 2013 at any other automatic monitoring site. Between 2013 until the present day, monitoring results from all sites display a decreasing trend in annual mean concentration results, most notable from 2020 onwards. Most of the FTC located NO₂ (non-automatic) diffusion tubes have not exceeded the NAQS (annual mean) objective during the period 2013 to 2025. The Falkirk West Bridge Street had observed the most diffusion tube exceedances, with six in total, the last of these occurring in 2019. The diffusion tube results also display a decreasing trend in annual mean concentration results over the past decade. These results demonstrate that the annual mean NO₂ concentrations for the past five years (since 2020) have complied with the NAQS objective. Falkirk Council expects that NO₂

annual mean concentrations will remain within the objective for many years in the future due to the ongoing work detailed in the aforementioned AQS.

Falkirk Council undertook extensive public and stakeholder consultation in accordance with relevant LAQM guidance and finally revoked the AQMA on 15th April 2026.

In 2025, Falkirk Council (using SG provided Local Air Quality Management (LAQM) funding) installed three new Teledyne N200 continuous, reference method oxides of nitrogen (NO_x) analysers at the Falkirk Hope Street, Falkirk West Bridge Street and Haggs air quality stations, respectively. These important equipment upgrades (Teledyne T200 series to N200) will provide reference method / consistent / high quality air quality monitoring (road traffic emissions) data into the future.

Falkirk Council made significant progress in implementing relevant AQAP measures in 2025. To illustrate, there are now over one-hundred charging bays providing various charging capacities (7, 22, 50 and 150kW) with additional bays being planned to be installed in various locations throughout the Falkirk Council area in 2025. More information can be found on the [Falkirk Council Electric Vehicles](#) webpage. Part of a Council-wide [Green Fleet](#) initiative to achieve zero-emission fleet, the newly added electric vehicles (EV) in 2025 will replace their ageing diesel counterparts.

The Falkirk Council fleet now uses hydrogenated vegetable oil (HVO) in seventeen heavy goods vehicles (HGV) since the start of 2022 – fourteen refuse collection vehicles and three roads vehicles now run on HVO. The fuel is made from cooking / vegetable oils and performs exceptionally well in cold environments. HVO is a low carbon, low emission, fossil-free and sustainable alternative to conventional fossil fuels. It is fully interchangeable with conventional diesel and can be mixed at any percentage. Using HVO instead of using traditional fossil fuels such as diesel saves a huge 90% on Falkirk Council's carbon footprint and supports [Scotland's Net Zero](#) targets.

The Council also promoted a variety of active and sustainable travel measures such [Take the Right Route](#) and [Falkirk's Active Travel Strategy 2023-33](#) to help reduce overall local road traffic emissions. Full details of the progress Falkirk Council are making towards these measures are outlined in 'Actions to Improve Air Quality.'

The Falkirk Council Climate Change team have also been making significant progress on many projects to help achieve the aforementioned SG net zero targets. For more information on Falkirk Council Climate Change can be found [here](#).

Summary of Falkirk Council's Air Quality Monitoring Results

Nitrogen Dioxide (NO₂)

The 2025 air quality monitoring results (as displayed in Appendix A Table A.3' and Table A.5) show that all seven automatic nitrogen dioxide (NO₂) analysers in Falkirk Council's air quality monitoring network achieved both NO₂ NAQS (1hr and annual mean) objectives.

Particulate Matter (PM₁₀)

Falkirk Council measured PM₁₀ concentrations at nine locations during 2025. The relevant Scottish NAQS objectives for PM₁₀ were met at all nine locations. Mean corrected and uncorrected PM₁₀ results are displayed in Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³) and Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³) for monitoring sites with Palas Fidas 200 analysers in operation. The site with the highest recorded annual mean PM₁₀ concentrations in 2025 (but within the Scottish NAQS PM₁₀ objective) was: A7 Falkirk West Bridge Street (14.3µg/m³). The sites with the lowest PM₁₀ (annual mean) concentrations were: A3 Bo'ness, A8 Grangemouith AURN and A11 Grangemouth Zetland Park (all recording 9.9µg/m³).

Particulate Matter (PM_{2.5})

Falkirk Council measured particulate matter (PM_{2.5}) concentrations at nine site locations during 2025 (as displayed in Table A8). The relevant Scottish NAQS (annual mean) objective for PM_{2.5} was achieved at all nine locations. The PM_{2.5} analyser: Palas Fidas 200, mean corrections were applied and shown within the above table. Further information on adjusted PM data can be found in Appendix C "QA/QC of Automatic Monitoring".

Sulphur Dioxide (SO₂)

In 2025, Falkirk Council monitored SO₂ at six site locations. There were no exceedances of the SO₂ NAQS objectives (15-min, hourly or daily) recorded at any of the Falkirk Council monitoring locations during 2025 (as displayed in Table A9).

Benzene and 1,3-Butadiene

The benzene and 1, 3-butadiene diffusion tube monitoring completed by Falkirk Council in 2025 met the NAQS (annual running mean) objectives for each pollutant, respectively.

Actions to Improve Air Quality

Falkirk Council made significant improvements to its air quality monitoring network during 2025.

1. Three New Nitrogen Dioxide (NO₂) Analysers Installed

Three new continuous, reference method Teledyne N200 series (NO₂) analysers were installed at the Falkirk Hope Street, West Bridge Street and Hags air quality stations in November 2025. These important equipment upgrades (T200 series to N200) will provide reference method / consistent / high quality air quality (traffic emissions) monitoring data into the future.

Photo 1: New NO₂ Analyser at the Falkirk Hope Street Air Quality Site



2. New 5G Data Router – Grangemouth Municipal Chambers

A new, high-quality router (Teltonika RUT956) was installed at the above site in July 2025 after the previous router experienced multiple technical faults resulting in data loss. This new router will provide high quality, consistent data capture rates for all of the site's continuous analysers for many years into the future.

Photo 2: New 5G Data Router at the Grangemouth MC Site



3. Annual Air Conditioning Service and Maintenance Contract

Falkirk Council have annual service and maintenance contracts in place for many years for all monitoring site's air conditioning units. This is important to ensure each site is operating at the correct temperature throughout the year. This also helps prevent any analyser breakdowns due high or low seasonal temperatures. This also prolongs the life of each analyser and reduces the need for costly replacements. The contract covers many different types, brands and models of air conditioning units in the Falkirk Council network such as the wall mounted air conditioning unit at the Grangemouth Zetland Park site below.

Photo 3: Wall Mounted Air Conditioning Unit at Grangemouth Zetland Park



Local Priorities and Challenges

In 2025, Falkirk Council developed our engagement with local schools through promotion of air quality education resources such as the [Learning About Air Quality](#) teaching package, promoting the [Clean Air Day Scotland](#) and working closer with the Falkirk Council Transport Planning and Climate Change departments on promoting alternative, sustainable local transport and clean energy solutions.

Low Emission Zones

Low Emission Zones (LEZ) are currently in operation in Glasgow, Edinburgh, Aberdeen and Dundee. There are no current plans for any form of LEZ in the Falkirk Council area. Falkirk Council has undertaken the 'Stage 1 Screening Exercise (clause 2.2.25)' assessment in the [2020 APR](#) in accordance with the Scottish Government's [National Low Emission Framework](#) to inform this process.

How to Get Involved

To obtain further information on air quality within the Falkirk Council area, please visit our [Air Quality](#) webpage.

There are nine automatic air quality monitoring sites across the Falkirk Council area. The air quality data from all the monitoring sites can be viewed on the [Air Quality in Scotland](#) website.

To learn more about the ECOSTars Fleet Recognition Scheme and for details of how to join if you are a commercial fleet operator please visit [ECOSTars Fleet Sustainability Solutions](#) website. Information on Falkirk Council's participation in the ECOSTars fleet recognition scheme can be found [here](#).

Table of Contents

Executive Summary: Air Quality in Our Area	i
Air Quality in Falkirk Council.....	i
Actions to Improve Air Quality	vi
Local Priorities and Challenges	viii
How to Get Involved	viii
1 Local Air Quality Management.....	1
2 Actions to Improve Air Quality.....	2
2.1 Air Quality Management Areas	2
2.2 Implementation of Air Quality Action Plan(s) and/or Measures to Address Air Quality	5
2.3 Air Quality Complaints Relating to Activities and / or Smoke Emissions	10
3 Air Quality Monitoring Data and Comparison with Air Quality Objectives	11
3.1 Summary of Monitoring Undertaken	11
3.1.1 Automatic Monitoring Sites	11
3.1.2 Non-Automatic Monitoring Sites	11
3.1.3 Other Monitoring Activities	12
3.2 Individual Pollutants.....	15
3.2.1 Nitrogen Dioxide (NO ₂).....	15
3.2.2 Particulate Matter (PM ₁₀)	16
3.2.3 Particulate Matter (PM _{2.5})	17
3.2.4 Sulphur Dioxide (SO ₂)	18
3.2.5 Carbon Monoxide, Lead, 1,3-Butadiene and Benzene	19
4 New Local Developments	20
4.1 Road Traffic Sources.....	20
4.2 Other Transport Sources	21
4.3 Industrial Sources.....	22
4.4 Commercial and Domestic Sources.....	24
4.5 New Developments with Fugitive or Uncontrolled Sources	26
5 Planning Applications.....	26

6 Conclusions and Proposed Actions.....	27
6.1 Conclusions from New Monitoring Data.....	27
6.2 Conclusions relating to New Local Developments	29
6.3 Proposed Actions	29
Appendix A: Monitoring Results	30
Appendix B: Full Monthly Diffusion Tube Results for 2025	94
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC	101
New or Changed Sources Identified Within Falkirk Council During 2025	101
Additional Air Quality Works Undertaken by Falkirk Council During 2025	101
QA/QC of Diffusion Tube Monitoring	101
Diffusion Tube Annualisation	102
Diffusion Tube Bias Adjustment Factors	102
NO ₂ Fall-off with Distance from the Road	103
QA/QC of Automatic Monitoring	108
PM ₁₀ and PM _{2.5} Monitoring Adjustment (Palas Fidas 200 Analyser).....	110
Appendix D - Additional Air Quality Works Undertaken by Falkirk Council During 2025.....	119
Glossary of Terms	115
References	117

List of Tables

Table 1.1 – Summary of Air Quality Objectives in Scotland.....	1
Table 2.1 – Progress on Measures to Improve Air Quality.....	6
Table A.1 – Details of Automatic Monitoring Sites	30
Table A.2 – Details of Non-Automatic Monitoring Sites	33
Table A.3 – Annual Mean NO ₂ Monitoring Results (µg/m ³)	37
Table A.4 - Annual Mean NO ₂ Monitoring Results: Non-Automatic Monitoring (µg/m ³).....	38
Table A.5 – 1-Hour Mean NO ₂ Monitoring Results, Number of 1-Hour Means > 200µg/m ³	44
Table A.6 – Annual Mean PM ₁₀ Monitoring Results (µg/m ³)	53
Table A.7 – 24-Hour Mean PM ₁₀ Monitoring Results, Number of PM ₁₀ 24-Hour Means > 50µg/m ³	56
Table A.8 – Annual Mean PM _{2.5} Monitoring Results (µg/m ³)	65
Table A.9 – SO ₂ 2025 Monitoring Results, Number of Relevant Instances	74
Table A.10 – 1,3 Butadiene Annual Mean Diffusion Tube Results for 2025.....	81
Table A.11 – Benzene Annual Mean Diffusion Tube Results for 2025.....	82
Table A.12 – Pumped Benzene Annual Mean Results for 2025.....	83
Table B.1 – NO ₂ 2025 Monthly Diffusion Tube Results (µg/m ³).....	94
Table B.2 - 1,3 Butadiene Monthly Diffusion Tube Results for 2025.....	100
Table B.3 – Benzene Monthly Diffusion Tube Results for 2025.....	100
Table C.1 – Bias Adjustment Factor	102
Table C.2 - Comparison of Local vs National Bias Factor Summary.....	103
Table C.3 - Local Bias Adjustment Calculations.....	108
Table C.4 - Details of the QA / QC at the Automatic Monitoring Stations in 2025.....	111

List of Figures

Figure 1 – Strathclyde University / Falkirk Council PhD Poster.....	14
Figure 2 – A4 Falkirk Haggs Long Term NO ₂ Concentrations.....	46
Figure 3 – A5 Falkirk Hope St Long Term NO ₂ Concentrations.....	47
Figure 4 – A7 Falkirk West Bridge St Long Term NO ₂ Concentrations.....	48
Figure 5 – A8 Grangemouth AURN Long Term NO ₂ Concentrations.....	49
Figure 6 – A9 Grangemouth Moray Long Term NO ₂ Concentrations.....	50
Figure 7 – A10 Grangemouth Municipal Chambers Long Term NO ₂ Concentrations.....	51
Figure 8 – A15 Main St, Bainsford Long Term NO ₂ Concentrations.....	52
Figure 9 – A4 Haggs Long Term PM ₁₀ (Hourly Measured) Concentrations.....	58
Figure 10 – A5 Falkirk Hope St Long Term PM ₁₀ (Hourly Measured) Concentrations.....	59
Figure 11 – A7 Falkirk West Bridge St Long Term PM ₁₀ (Hourly Measured) Concentrations.....	60
Figure 12 – A8 Grangemouth AURN Long Term PM ₁₀ (Hourly Measured) Concentrations.....	61
Figure 13 – A10 Grangemouth Municipal Chambers Long Term PM ₁₀ (Hourly Measured) Concentrations.....	62
Figure 14 – A11 Grangemouth Zetland Park Long Term PM ₁₀ (Hourly Measured) Concentrations.....	64
Figure 15 – A15 Main St, Bainsford Long Term PM ₁₀ (Hourly Measured) Concentrations.....	65
Figure 16 – A4 Falkirk Haggs Long Term PM _{2.5} Concentrations.....	68
Figure 17 – A7 Falkirk West Bridge St Long Term PM _{2.5} Concentrations.....	69
Figure 18 – A8 Grangemouth AURN Long Term PM _{2.5} Concentrations.....	70

Figure 19 – A10 Grangemouth MC Long Term PM _{2.5} Concentrations.....	71
Figure 20 – A11 Grangemouth Zetland Park Long Term PM _{2.5} Concentrations.....	72
Figure 21 – A15 Main Street, Bainsford Long Term PM _{2.5} Concentrations.....	73
Figure 22 – A3 Bo'ness Long Term SO ₂ Concentrations.....	75
Figure 23 – A5 Falkirk Hope St Long Term SO ₂ Concentrations.....	76
Figure 24 – A8 Grangemouth AURN Long Term SO ₂ Concentrations.....	77
Figure 25 – A9 Grangemouth Moray Long Term SO ₂ Concentrations.....	78
Figure 26 – A10 Grangemouth Municipal Chambers Long Term SO ₂ Concentrations.....	79
Figure 27 – A11 Grangemouth Zetland Park Long Term SO ₂ Concentrations.....	80
Figure 28 – Map of the AQMA Boundary in the Falkirk Council Area.....	84
Figure 29 – Maps Showing Automatic Monitoring Locations A)-I).....	85-93

List of Photos

Photo 1: New NO ₂ Analyser at the Falkirk Hope Street Site.....	vi
Photo 2: New 5G Data Router at the Grangemouth MC Site.....	vii
Photo 3: Wall Mounted Air Conditioning Unit at Grangemouth Zetland Park.....	vii

1 Local Air Quality Management

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

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an AQMA and prepare an AQAP setting out the measures it intends to put in place in pursuit of the objectives. This APR summarises the work being undertaken by Falkirk Council to improve air quality and any progress that has been made.

Table 1.1 – Summary of Air Quality Objectives in Scotland

Pollutant	Air Quality Objective Concentration	Air Quality Objective Measured as	Date to be Achieved by
Nitrogen dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
Nitrogen dioxide (NO ₂)	40 µg/m ³	Annual mean	31.12.2005
Particulate Matter (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
Particulate Matter (PM ₁₀)	18 µg/m ³	Annual mean	31.12.2010
Particulate Matter (PM _{2.5})	10 µg/m ³	Annual mean	31.12.2021
Sulphur dioxide (SO ₂)	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
Sulphur dioxide (SO ₂)	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
Sulphur dioxide (SO ₂)	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	3.25 µg/m ³	Running annual mean	31.12.2010
1,3 Butadiene	2.25 µg/m ³	Running annual mean	31.12.2003
Carbon Monoxide	10.0 mg/m ³	Running 8-Hour mean	31.12.2003

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 must prepare publish and implement an AQAP within the shortest possible time and no later than 12 months of the date of AQMA Designation Order. The AQAP must set out measures the local authority intends to put in place in pursuit of the objectives within the shortest possible time. Measures should be provided with milestones and a final date for completion. The AQAP itself should have a timescale for completion and for the revocation of the AQMA. Where measures to reduce air pollution may require a longer timescale an action plan shall be reviewed and republished within five years of initial publication and then five-yearly thereafter.

Falkirk Council currently does not have any active AQMAs, they are all revoked.

In 2025, Falkirk Council published its first [Air Quality Strategy 2025-2029](#).

1. Falkirk Town Centre AQMA - Declared on 31st January 2013 for NO₂ (annual mean).
Revoked on 15th April 2026

Since the Falkirk town centre (FTC) AQMA was declared in 2013, there was one exceedance of the NO₂ (annual mean) NAQS objective recorded in 2014 at Falkirk West Bridge Street (41µg/m³). No further NAQS objective exceedances have been recorded since 2013 (until 2025) at any other automatic monitoring site within the FTC AQMA. Between 2013 until the present day, monitoring results from both automatic sites display a decreasing trend in annual mean concentration results, most notable from 2020 onwards.

Most of the Falkirk Council diffusion tubes have not exceeded the NO₂ (annual mean) NAQS objective during the period 2013 to 2024. The West Bridge Street (Location 27) had observed the most exceedances, with six in total, the last of these occurring in 2019. As with the automatic monitoring results, results from all non-automatic (diffusion tube) sites display a decreasing trend in annual mean concentration results over the past decade.

These results demonstrate that NO₂ concentrations for the past five years (since 2020) have complied with the NAQS (annual mean) objective. Falkirk Council expects that NO₂

concentrations will remain within the NAQS objective for many years in the future due to the ongoing work detailed in the AQS.

Throughout 2025/26, Falkirk Council developed and published the [2026 Falkirk Town Centre NO₂ AQMA Revocation Report](#). This document formed the evidence required to progress the revocation of the FTC AQMA for NO₂ (annual mean). Falkirk Council undertook extensive public and key stakeholder consultation in accordance with relevant LAQM guidance and finally revoked the AQMA on 15th April 2026.

2. Grangemouth AQMA - Declared on 1st November 2005 SO₂ (15-min mean). Revoked on 27th September 2024

There had been over ten years where the SO₂ (annual mean) results at all Grangemouth AQMA automatic monitoring locations (Grangemouth AURN, Moray, Municipal Chambers and Zetland Park) have complied with the SO₂ NAQS (15-min mean) objective of 266µg/m³, not to be exceeded more than thirty-five times a year (at each monitoring site).

In 2021/22, SG LAQM funding was provided to undertake a critical assessment of the Grangemouth AQMA in accordance with relevant LAQM guidance following years of compliance with NAQS objective for SO₂. Falkirk Council then commissioned the [2020 Grangemouth Emissions Study](#) completed in collaboration with consultants Sweco.

In 2023, Falkirk Council developed and published the [Proposal for the Revocation of the Grangemouth AQMA](#). In addition to the Proposal Report, Falkirk Council collaborated with consultants Sweco to produce a comprehensive [Grangemouth AQMA Detailed Assessment](#) which was published in August 2024. These two documents formed the evidence required to progress the revocation of the Grangemouth AQMA. Falkirk Council undertook extensive public consultation in accordance with relevant LAQM guidance and finally revoked the AQMA on 27th September 2024.

3. Falkirk Town Centre AQMA - Declared on 25th January 2013 for PM₁₀ (24-hr and annual mean), Revoked on 23rd March 2023

There had been over five-years where PM₁₀ (24-hr and annual mean) results at both FTC AQMA automatic monitoring locations (Falkirk Hope Street and Falkirk West Bridge Street) have complied with the PM₁₀ NAQS (Scottish annual mean) objective of 18µg/m³. Road traffic was identified as the main source of this pollutant. Falkirk Council undertook extensive public consultation in accordance with LAQM guidance and revoked the AQMA on 23rd

March 2023. Please see the relevant report for details: [Proposal for the Revocation of the Falkirk Town Centre AQMA for Particulate Matter \(PM₁₀\)](#).

4. Haggs - Declared on 18th March 2010 for NO₂ (annual mean), Revoked on 5th October 2021)

The Haggs AQMA was declared on the 18th March 2010 following NAQS objective exceedances for NO₂ (annual mean) with road traffic being identified as the main source of this pollutant. Since the AQMA was declared, measured concentrations (using automatic and non-automatic monitoring methods) of NO₂ have complied with the NAQS objective consistently since 2015. Falkirk Council undertook extensive public consultation in accordance with relevant LAQM guidance and revoked the AQMA on 5th October 2021. Please see the relevant report for details: [Proposal for the Revocation of Haggs AQMA](#).

5. Banknock - Declared on 18th August 2011 for PM₁₀ (24-hr and annual means), Revoked on 7th January 2021

The Banknock AQMA was declared on the 18th August 2011 following NAQS objective exceedances for PM₁₀ (24-hr and annual mean) with local quarrying operations being identified as the main source of this pollutant. Since the AQMA was declared, measured concentrations (using automatic monitoring methods) of PM₁₀ in this area have complied with the relevant NAQS objectives. Falkirk Council undertook extensive public and key stakeholder consultation in accordance with LAQM guidance and revoked the AQMA on 7th January 2021. Please see the relevant report for details: [Proposal for the Revocation of the Banknock AQMA](#).

Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=371 – see full list at <https://uk-air.defra.gov.uk/aqma/list>.

2.2 Implementation of Air Quality Action Plan(s) and/or measures to address air quality

Key completed measures for this reporting year are:

- Measure 1: “FTC AQMA Revocation”: Throughout 2025/26, Falkirk Council developed and published the [2026 Falkirk Town Centre NO₂ AQMA Revocation Report](#). This document formed the evidence required to progress the revocation of the FTC AQMA for NO₂ (annual mean). Falkirk Council undertook extensive public and key stakeholder consultation in accordance with relevant LAQM guidance and finally revoked the AQMA on 15th April 2026. Falkirk Council reported this significant milestone [here](#).
- Measure 2: “Install of Three New NO_x Analysers – Monitoring Equipment Upgrade”: Three new continuous, reference method Teledyne N200 series (NO₂) analysers were installed at the Falkirk Hope Street, West Bridge Street and Haggs air quality sites in November 2025. These important equipment upgrades (T200 series to N200) will provide reference method / consistent / high quality air quality (traffic emissions) monitoring data into the future.
- Measure 3 “AQ Monitoring Network Review”: A new, high-quality 5G router (Teltonika RUT956) was installed at the above site in July 2025 after the previous router experienced multiple technical faults. This new router will provide high quality, consistent data capture rates for all of the site’s continuous analysers for many years into the future.

Falkirk Council have had annual service and maintenance contracts in place for many years for all monitoring site’s air conditioning units. This is important to ensure each site is operating at the correct temperature throughout the year. This helps prevent any analyser breakdowns due high or low seasonal temperatures. This also prolongs the life of each analyser and reduces the need for costly replacements.

Falkirk Council does not expect the following measure to be completed over the course of the next reporting year (2027):

- Measure 10 “Member of the East of Scotland Vehicle Emissions Partnership (EoSVEP)”: West Lothian Council (who primarily run the scheme) have stated that it will cease to operate from 2026.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Expected/Actual Completion year	Organisations Involved	Measure Status	Funding Status	Key Milestones	Progress	Barriers to implementation
1	FTC AQMA Revocation	Public Information	FTC AQMA revocation completed throughout 2025 and finally confirmed on: 15/04/2026. Ongoing automatic AQ monitoring within the FTC area for public health information into the future.	Falkirk Council, Ricardo, Scottish Government, SEPA and relevant stakeholders.	Over 5 years of compliance with the NAQS objective (NO ₂ , annual mean)	Fully funded (SG LAQM) for FTC AQMA Detailed Assessment report and continuing all AQ monitoring within the FTC area.	FTC AQMA revocation completed: 15/04/2025. Falkirk Council does not have any active AQMA after the recent FTC revocation.	AQMA revocation completed and newsbriefing to the public and all stakeholders: https://www.falkirk.gov.uk/news/council/air-quality-in-falkirk-reaches-cleanest-levels-in-more-than-13-years	None.
2	Install of Three New NO _x Analysers – Monitoring Equipment Upgrade	Public information	Three new NO _x analysers were installed at Falkirk West Bridge Street, Hope Street and Haggs in November 2025.	Falkirk Council, Ricardo, Scottish Government	Improved data accuracy, quality, consistency and capture.	Fully funded (SG LAQM Grant) for all AQ monitoring network equipment.	These top of the range analysers are now operating within the FC network.	Upgrade of older, less reliant analysers.	None.
3	AQ Monitoring Network Review	Public information	Ongoing	Falkirk Council, Scottish Government and Equipment Support Units (ESU)	Annual review of network completed as part of LAQM process. Improved AQ data accuracy, quality, consistency and capture.	Fully funded (SG LAQM Grant) for all AQ monitoring network equipment.	In 2025, one Falkirk Council monitoring site had its router upgraded to a 5G enabled unit (Grangemouth MC). Annual service and maintenance of all site A/C units.	Improved overall data accuracy and capture rates. Increased site safety (less fire risk)	Future SG LAQM Grant funding could limit the expansion and improvement of the Falkirk Council AQ monitoring.

4	Falkirk Council's 5-Year Air Quality Strategy (AQS) Aims	All	Falkirk Council's AQS published in 2025 – ongoing objectives.	Falkirk Council, SEPA, Scottish Government, many external organisations and stakeholders.	Review achievement of aims at end of 5-year period in 2029	Scottish Government (SG) LAQM and AQRG funding ongoing to help achieve aims	Publication of AQS in 2025	Ongoing	Barriers can be overcome by working towards achieving the overall aims.
5	Falkirk Council Sustainable / Active Travel Scheme: Take the Right Route	Promoting travel alternatives	Ongoing	Falkirk Council	Scheme uptake and participation statistics compiled by Sustainable Transport annually.	Scottish Government funded	TtRR continued success in 2025 with successful projects such as: Safer Street (Cycle / walking Infrastructure Improvements), Improved advertising / public awareness, workplace travel planning and development of a Falkirk Council Employee Travel Plan.	Improved public engagement statistics for 2025	If grant funding were reduced or not provided then the active travel scheme could not make sufficient progress to promote and provide travel alternatives.
6	Electric Vehicles (EV) / Charging Infrastructure	Promoting low emission transport	No end date identified – continuous service.	Falkirk Council and Scottish Government	Annual increase in EV charging bays / facilities within Falkirk Council area	SG funded Falkirk Council Car Club	In 2020, the Falkirk Stadium Vehicle Charging Hub was opened and became operational accepting electric vehicles to park and charge-up. The Falkirk Stadium Vehicle Charging hub is an integral part of Transport Scotland's Electric A9 project.	Falkirk Council's vehicle fleet was enhanced and expanded in 2025 Part of a Council-wide Green Fleet Initiative to achieve a zero-emission fleet, the newly added EVs in 2025 will replace ageing diesel counterparts.	Future external funding could limit the expansion and uptake of low emission transport.

7	Soft Measures to Improve Local AQ e.g. Council-led travel planning (larger employers, schools), journey sharing, changes to mileage, home and mobile working.	Promoting travel alternatives	Ongoing	Falkirk Council	Anticipated reduction in NO _x and PM emissions due to an increase in green travel alternatives	SG funded	Development of LA Travel Plans, Flexible Work Pattern Plans and Sustainable Transport Alternatives / solutions	Formation of the following FC plans completed: Flexible Working Policy Local Transport Strategy Take the Right Route Green Travel Map	If grant funding were reduced or not provided then the aforementioned plans could not make sufficient progress to promote and provide travel alternatives.
8	Inclusion of Air Quality in the Falkirk Council Local Development Plan 2	Policy guidance and development control	Completed and ongoing	Falkirk Council	Inclusion of air quality policy statements in local development plan	LA funded	See specific AQ related statements within the current FC LDP in section PE01 Placemaking, PE20 Place and Environment, PE26 Air Quality and other sections	Inclusion of air quality policy statements in local development plan 2, addition of more air quality policies as they are developed in future.	LA funded however would require some annual LA funding to develop the FC LDP into the future.
9	Promotion of the ECO Stars Fleet Recognition Scheme	Vehicle fleet efficiency	Completed and ongoing	Falkirk Council, The Scottish Government and TRL	The latest Falkirk Eco Stars report shows that recruitment in Falkirk has 274 members and is steadily increasing each year.	Fully funded (SG AQAP Grant)	Improved ratings achieved for the increased number of engaged EcoStars operators across the FC area. Full details on Fleet and Taxi operators and their ratings can be found here .	Continued annual increase in signed up operators. Regular liaison is achieved between TRL and FC on Fleet and Taxi operator progress.	Future SG AQAP Grant funding could limit the expansion and improvement of its EcoStars Fleet and Taxi operators.
10	Member of the East of Scotland Vehicle Emissions Partnership (EoSVEP)	Promoting low emission transport	Ongoing until 2026	Falkirk Council, West Lothian Council / neighbouring LAs and SG	Member of the partnership to help reduce vehicle idling, to report local	SG funded	Anticipated reduction in NO _x and PM emissions in FC town areas	The EoSVEP continues to assist in promoting anti idling in the	If SG funding were reduced or not provided then the EoSVEP

					vehicle idling complaints and provision of educational resources for the public		through anti-idling enforcement. Provides the public with a service to report idling or smoky vehicles.	Falkirk Council area. Various idling complaints have been investigated by the partnership with road signs installed in a variety of FC areas. Improvements of the associated 'Switch Off and Breathe' website have taken place along with local advertising to raise awareness.	scheme could not make sufficient progress to promote anti-vehicle idling help reduce pollution
--	--	--	--	--	---	--	---	---	--

2.3 Air Quality Complaints Relating to Activities and / or Smoke Emissions

Falkirk Council has investigated a total of 72 air quality complaints related to burning activities and/or emissions of smoke during the reporting year. These complaints related primarily to smoke emissions from domestic chimneys and/or the burning of inappropriate materials. Of the complaints received, 72 (100%) have been fully resolved following investigation by Falkirk Council Environmental Health, with no cases remaining open and under further review.

Investigations were undertaken in accordance with the Clean Air Act 1993 and the Environmental Protection Act 1990. Where necessary, officers provided advice, conducted site visits, gathered evidence, and engaged directly with householders to support compliance.

Enforcement actions undertaken during the reporting year include:

- No formal enforcement action was required
- Informal warnings and multiple advisory letters issued to many households in the Falkirk Council area.

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how local concentrations of the main air pollutants compare with the objectives.

Falkirk Council undertook automatic (continuous) monitoring at nine sites during 2025. Table A.1 in Appendix A shows the details of the sites. National monitoring results are available at the [Air Quality in Scotland](#) website

Maps showing the location of the monitoring sites are provided in Appendix A, Figure 29 A) to I). 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

Falkirk Council undertook non- automatic (passive, diffusion tube) monitoring of NO₂ at sixty-one sites during 2025. Table A.2 in Appendix A shows the details of the sites.

Maps showing the location of a selection of the diffusion tube locations are shown in Appendix A, Figure 28. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

3.1.3 Other Monitoring Activities

Strathclyde University / Falkirk Council PhD Project: “Monitoring and Modelling of Human Exposure to Indoor Air Pollution from Wood Burning Stoves.”

This project was first established in 2019 when Falkirk Council Environmental Health were responding to many complaints in relation to smoke from domestic solid fuel appliances (SFA) such as wood burning stoves. Falkirk Council wanted to gain further information on the impact to residents and felt there could be an opportunity for a project to be undertaken to understand this in more detail. The project commenced in 2021 after Scottish Government LAQM part funding was provided to Falkirk Council to enable a PhD project to commence with Strathclyde University under the guidance of Dr Iain Beverland (Senior Lecturer, Civil and Environmental Engineering) and Dr Tara Beattie (Programme lead MSc. Environmental Engineering). Strathclyde University provided the remaining funding to enable the project to commence for its planned duration.

PhD student Imogen West began working on the project in October 2022 and has made particularly good progress to date. Falkirk Council has been working continuously with Imogen, Dr Beverland and Dr Beattie to assist and support the successful completion of this project. The largest part of the PhD project has focused on using portable and low-cost air pollution monitors to monitor the indoor concentrations of PM_{2.5}, Black Carbon and NO₂ in homes with wood burning stoves and control homes in the West of Scotland. Beginning in 2023, a pilot study was conducted in two homes with wood burning stoves, where pollutant concentrations were monitored in the living room and the kitchen of each home for one week. This was then expanded upon to include a third room in the home without a pollution source and monitored eight homes with wood burning stoves and three control homes in the winter. In the summer, three of the wood burning homes and the three control homes were also monitored.

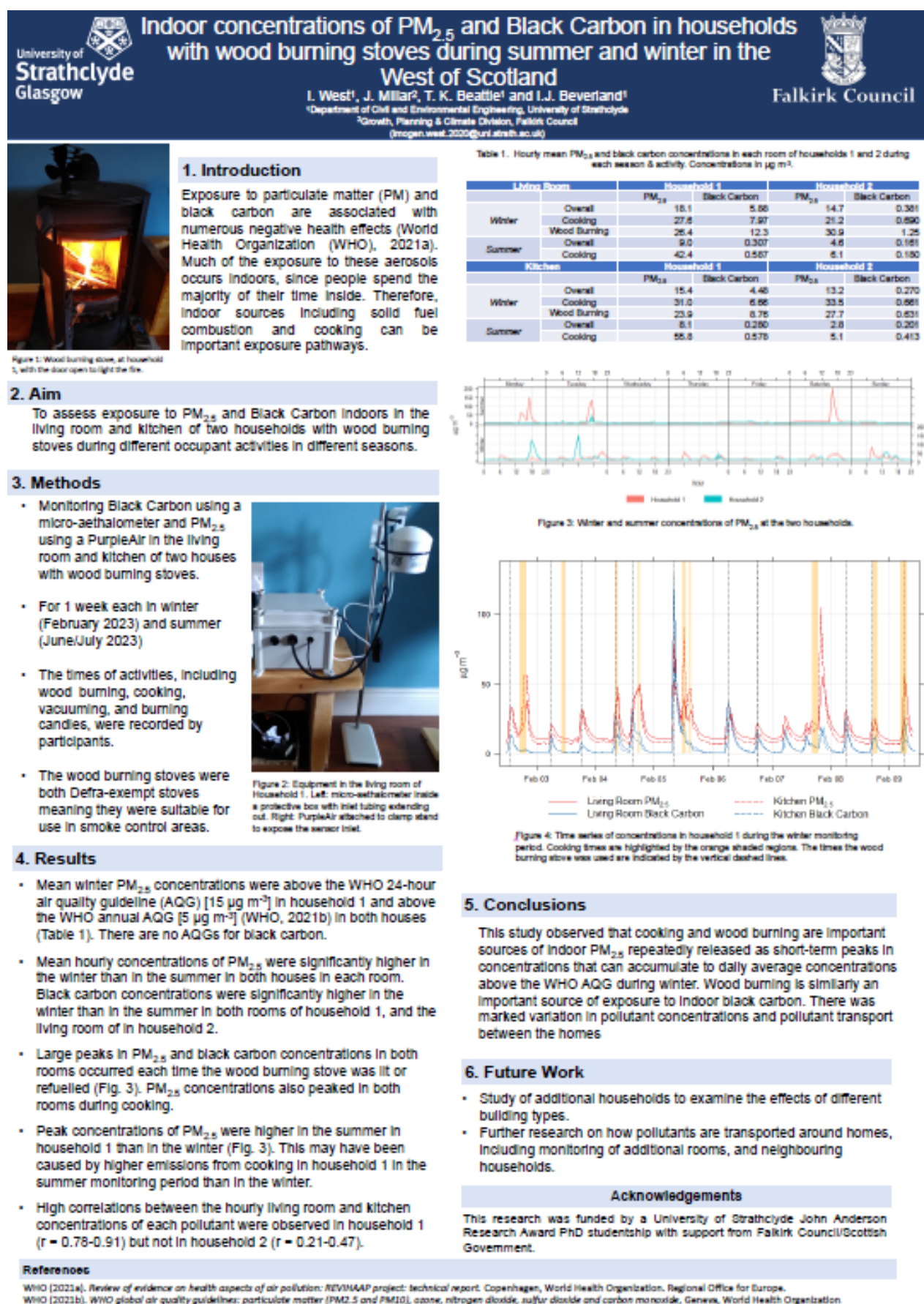
Imogen presented a poster of the project at the Annual Aerosol Science Conference in Teddington in November 2023 which included the results from the pilot study and the summer monitoring in two homes, and Imogen also presented the results of the larger winter and summer monitoring in an oral presentation at the International Society of Exposure Science Annual Meeting in Montreal, Canada in October 2024.

The PhD work has also included developing suitable calibration methods for the indoor environment for the low-cost sensors; and communicating the results of experiments to the

participants; and investigating the impact of refuelling methods on the particulate emissions from wood burning stoves. The project will also include modelling the indoor dispersal of PM_{2.5} during wood burning using Computational Fluid Dynamics.

The project is continuing throughout 2025/26 with findings published once completed.

Figure 1 - Strathclyde University / Falkirk Council PhD Poster



3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO₂)

Table A.3 in Appendix A compares the ratified NO₂ annual mean concentrations for the past five years with the NAQS objective of 40µg/m³ at automatic monitoring sites.

Table A.4 in Appendix A compares the adjusted monitored NO₂ annual mean concentrations for the past five years with the NAQS objective of 40µg/m³ at non-automatic monitoring sites.

For diffusion tubes, the full 2025 dataset of monthly mean values is provided in Appendix B.

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

NO₂ Automatic Analyser Results

The 2025 monitoring results (as displayed in Appendix A, Tables A.3 and A.5) show that all seven automatic NO₂ analysers in the Falkirk Council's air monitoring network met both NO₂ NAQS objectives (1hr and annual mean). The highest NO₂ annual mean result in 2025 was recorded at the A7 Falkirk West Bridge Street site (24µg/m³) - this result has remained the same as 2024's result. The lowest result was recorded at the A9 Grangemouth Moray (11µg/m³) site showing a slight increase from 2024's result (10µg/m³). The Grangemouth AURN NO₂ (annual mean) result has increased slightly from 11µg/m³ in 2024 to 12µg/m³ in 2025.

Over a five-year period (from 2021 to 2025), six monitoring sites have recorded annual mean NO₂ concentration reductions. One site, A10 Grangemouth MC has shown a slight increase of 1.5µg/m³ over this period. There have been minor fluctuations in results during this period but all remain within the NO₂ NAQS (1hr and annual mean) objectives.

Long-term NO₂ trend graphs are shown in Appendix A, Figures 2 to 8. There is an overall downward trend in NO₂ (annual mean) concentrations at all monitoring sites (apart from A10 Grangemouth MC, as explained above) which is a positive trend.

During 2025, NO₂ analyser data capture (DC) rates at all monitoring sites were good (>90%).

Likely contributing factors to the reduction in NO₂ concentrations at the above sites include the Coronavirus (COVID-19) pandemic^{Ref 1} in March 2020 to 2021 (resulting in less road traffic). Traffic-light timing amendments (on Falkirk West Bridge Street) have been implemented to minimise congestion and prevent excessive idling (within the FTC area), road upgrades (M80 at Haggs) and speed limit enforcement measures (30mph on the A803 and 20mph within the Airth area). Increased ownership of hybrid and EVs and the increased availability of charging locations may also have contributed to the overall NO₂ reduction.

Annual NO₂ Diffusion Tube Results

The 2025 annual NO₂ diffusion tube monitoring results (as displayed in Appendix A, Table A.4) shows that no (non-automatic) NO₂ tubes exceeded the NAQS (annual mean) objective limit of 40µg/m³. All sixty-one sites in Falkirk Council's network met the objective.

The highest NO₂ annual mean diffusion tube concentration in 2025 was recorded at the NA27 Falkirk West Bridge Street roadside location (33.3µg/m³). The lowest NO₂ annual mean diffusion tube concentration in 2025 was recorded at the NA105 West of Shieldhill (4.7µg/m³) rural location.

In addition, diffusion tubes are affected by several sources of interference which can cause substantial under or overestimation (often referred to as "bias") compared to the automatic NO₂ (chemiluminescence) reference analyser (as defined within the EU as the reference method)^{Ref 2}. Due to this, NO₂ concentrations recorded using diffusion tubes are typically of lower accuracy than that recorded by the reference method using automatic (chemiluminescence) NO₂ analysers.

3.2.2 Particulate Matter (PM₁₀)

Table A.6 in Appendix A compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the NAQS objective of 18µg/m³.

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

Falkirk Council measured PM₁₀ concentrations at nine locations during 2025. The relevant Scottish NAQS objectives for PM₁₀ were met at all nine locations.

In accordance with the SG Guidance Note: Measurement of Ambient Particulate Matter (PM) and the LAQM Reporting of Measured Concentrations May 2023^{Ref3}. Mean corrected

and uncorrected PM₁₀ results (greyed out) are displayed in Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³) and Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³) for monitoring sites with Palas Fidas 200 analysers in operation.

The site with the highest recorded annual mean PM₁₀ concentrations in 2025 (but within the Scottish NAQS PM₁₀ objective) was: A7 Falkirk West Bridge Street (14.3µg/m³). The sites with the lowest PM₁₀ (annual mean) concentrations were: A3 Bo'ness, A8 Grangemouth AURN and A11 Grangemouth Zetland Park (all recorded 9.9µg/m³).

Good overall data capture (>90%) was recorded at eight sites in 2025. One site: A5 Falkirk Hope Street recorded a lower concentration of 67% as the PM Fidas analyser experienced a serious technical fault. Data capture is expected to be good at this site in 2026.

Over a five year period (from 2021 to 2025), one site has recorded PM₁₀ (annual mean) concentration reduction: A15 Main Street, Bainsford. Eight monitoring sites have recorded (annual mean) PM₁₀ concentration increases, there have been minor fluctuations in results during this period but all remain within the PM₁₀ NAQS objective.

As shown in Table A7 in Appendix A, there were five PM₁₀ daily exceedances recorded in 2025 at A7 Falkirk West Bridge Street. It is likely this is road traffic related however, it is within the relevant NAQS objective.

Over a five year period (from 2021 to 2025), all nine sites have generally recorded PM₁₀ (24-hr mean >50µg/m³) zero counts apart from A7 Falkirk West Bridge Street.

3.2.3 Particulate Matter (PM_{2.5})

Table A.8 in Appendix A compares the ratified and adjusted monitored PM_{2.5} annual mean concentrations for the past five years with the NAQS objective of 10µg/m³.

PM_{2.5} is measured at nine locations within the Falkirk Council area, these are: A3 Bo'ness, A4 Haggs, A5 Falkirk Hope Street, A7 Falkirk West Bridge Street, A8 Grangemouth AURN, A9 Grangemouth Moray, A10 Grangemouth Municipal Chambers, A11 Grangemouth Zetland Park and A15 Main Street, Bainsford.

In accordance with the SG Guidance Note: Measurement of Ambient Particulate Matter (PM) and the LAQM Reporting of Measured Concentrations May 2023^{Ref3}. Corrected and uncorrected results (greyed out) are displayed in Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³) and Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³) for PM concentrations with Palas Fidas 200 analysers in operation.

During 2025, there were no exceedances of the PM_{2.5} Scottish NAQS (annual mean) objective limit (10µg/m³) at any of the monitoring sites.

The site with the highest recorded PM_{2.5} (annual mean) concentration of 8.5µg/m³ in 2025 (but within the Scottish NAQS PM_{2.5} annual mean objective) was A7 Falkirk West Bridge Street. The site with the lowest PM_{2.5} (annual mean) concentration was A8 Grangemouth AURN (6µg/m³).

The PM_{2.5} concentrations at the Grangemouth AURN site have, in general, remained at the same level of approx. 7µg/m³. 2023 saw a marginal concentration decrease to 5.1µg/m³ however, in 2024 this has increased to 9µg/m³ - these concentrations remain reasonably low and within the Scottish PM_{2.5} NAQS (annual mean) objective. This reduction may be attributed to the commissioning of the Tail Gas Treatment (TGT) unit at the INEOS Grangemouth complex in 2013. Since the commissioning of the TGT unit, SO₂ concentrations have reduced within the Grangemouth AQMA. As sulphate species are known to contribute towards the formation of secondary PM_{2.5}, a reduction in SO₂ could also impact local PM_{2.5} concentrations.

Long-term trend analysis (for available, ratified data) has been completed on six sites for PM_{2.5} and can be shown in Appendix A, Figures 16 - 21. In general terms, there has been no significant change in PM_{2.5} concentrations recorded at these monitoring sites since 2021.

Good overall data capture (>90%) was recorded at eight sites in 2025. One site: A5 Falkirk Hope Street recorded a lower concentration of 67% as the PM Fidas analyser experienced a serious technical fault. Data capture is expected to be good (>90%) at this site in 2026.

3.2.4 Sulphur Dioxide (SO₂)

Falkirk Council monitors SO₂ at six locations: A3 Bo'ness, A5 Falkirk Hope Street, A8 Grangemouth AURN, A9 Grangemouth Moray, A10 Grangemouth Municipal Chambers and A11 Grangemouth Zetland Park. There were no overall exceedances of the SO₂ NAQS objectives (15-min, hourly or daily) recorded at any of the Falkirk Council monitoring sites during 2025.

Data capture rates were in general good, with most sites apart from Grangemouth Zetland Park (85%) above 90%.

Long term SO₂ concentration trend graphs are displayed in Appendix A Figures 22 – 27.

3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene

Carbon Monoxide

No monitoring undertaken.

Lead

No monitoring undertaken.

1, 3-Butadiene

In 2025, Falkirk Council monitored 1, 3-butadiene at three locations using passive diffusion tubes. All the results recorded were within the NAQS objective and are shown in Appendix A Table A.10. No changes have occurred since the submission of the previous APR.

Benzene

In 2025, Falkirk Council monitored benzene at sixteen locations using passive diffusion tubes. In addition, at the A8 Grangemouth AURN site, a pumped diffusion tube operates as part of the AURN network. The results from the passive diffusion tubes are shown in Appendix A Table A.11 with the pumped diffusion tube results shown in Appendix A Table A.12.

All the benzene concentrations recorded by the passive diffusion tubes were within the NAQS objective. All benzene tubes achieved 100% data capture.

In 2025, the pumped diffusion tube at the A8 Grangemouth AURN site recorded an annual average concentration of $0.63\mu\text{g}/\text{m}^3$. The concentration recorded continues to be within the relevant annual mean NAQS objective (of $3.25\mu\text{g}/\text{m}^3$) and has experienced a decrease (of $0.06\mu\text{g}/\text{m}^3$) compared to 2024's result ($0.69\mu\text{g}/\text{m}^3$).

The historical and current Grangemouth AURN benzene data / information can be found here: https://uk-air.defra.gov.uk/networks/site-info?site_id=GRAN#NAHC

4 New Local Developments

4.1 Road Traffic Sources

Narrow Congested Streets

There have been no significant changes from last year's APR. There are no new locations that are likely to be considered as congested residential streets that have not been assessed in previous APRs or are not already in AQMAs.

Busy Streets

Falkirk Council has not identified any streets where pedestrians may spend one hour or more in close proximity to road traffic.

For information: the Falkirk Council automatic air monitoring network recorded no exceedances of the NO₂ NAQS (1hr mean) and the NO₂ non-automatic diffusion tube NAQS objectives in 2025.

Roads with a High Flow or Buses and / or HGVs

Since the closure of the FTC bus station in August 2018, additional buses are using Upper Newmarket Street. As this road has witnessed an increase in bus traffic, Falkirk Council have kept the additional NO₂ (diffusion tube) monitoring location on Glebe Street (NA118) and nearby Upper Newmarket Steet (NA50) active.

HGVs may have been reduced as the restrictions impacted on non-essential retail and non-essential activities that would be dependent on delivery vehicles within the Upper Newmarket Street area.

Junctions

There was no new road junctions constructed during 2025 within the Falkirk Council area.

New Roads Constructed or Proposed

There were no major roads with significantly changed traffic flows in 2025 within the Falkirk Council area. There is, however, a major road project network upgrade being built in 2026 "A9-A904 Westfield Improvement" – further information can be found [here](#). The project is expected to be completed by early 2027.

Roads with Significantly Changed Traffic Flows

There were no roads with significantly changed traffic flows in 2025 within the Falkirk Council area.

Bus or Coach Stations

The FTC bus station was located adjacent to Meadow Street and closed in August 2018 after many years of operation. Bus routes have subsequently been diverted via the Upper Newmarket Street hub since the closure of the main town centre bus station. There are no new bus or coach stations constructed or planned for the near future within the Falkirk Council area.

4.2 Other Transport Sources

Airports

The nearest major airport to the Falkirk Council area is Edinburgh. The Airport's "Terminal and Transit Passengers" in 2025 were 16,970,685^{Ref 4} - this is an increase of 8% from 2024 (15,780,353). This airport does not need considering further as it is greater than 1km from the Falkirk Council boundary.

Falkirk Council is not aware of any significant changes to Cumbernauld airport. This is a small airport situated near to the Falkirk Council boundary.

No other new airports are constructed or planned for the near future.

Stationary trains

Falkirk Council has not identified any new locations where locomotives or trains are stationary for more than 15 minutes that would not have been assessed in previous APRs.

Railways (diesel and steam trains)

Falkirk Council confirms that there are no new locations with a large number of movements of diesel trains, and potential long-term relevant exposure within 30m.

Ports for Shipping

Falkirk Council confirms that there are no ports or shipping that requires further consideration. The Grangemouth Port is the nearest major port within the Falkirk Council area, and this has been operating for many years.

4.3 Industrial Sources

MiAlgae, Grangemouth

In April 2025, Falkirk Council received an application for a new industrial production plant to turn co-products from distillation (pot ale) into an omega-3 oil rich algae product, at a site south of Earls Road in Grangemouth. The process will operate on a 24/7 continuous basis. (Planning Ref: P/25/0130/FUL).

The provided SLR consultancy Air Quality Impact Assessment (AQIA) report “MiAlgae” Project Number: 7283, 11th March 2025 considers the impact of dust, odour and the use of a temporary diesel generator on local air quality. In the long-term, the intention is to tie into the neighbouring Calachem steam supply, which will cross the gantry between the respective sites. However, to commence operations in the interim, a temporary steam-raising boiler will be rented. The boiler specification and fuel type are as yet unspecified, however, should it be a diesel-fuelled appliance >1MWthermal, all emissions will be compliant with the Medium Combustion Plant Directive (MCPD), and the necessary permits will be arranged with SEPA prior to the commencement of operation on site. Emissions from temporary steam raising plant have not been included in the AQIA.

The SLR AQIA (Project No: 7283, 11 March 2025) for the proposed Algae production plant at Grange Works, Earls Road in Grangemouth was assessed as satisfactory by Falkirk Council Environmental Health. The AQIA comprises of a dust impact assessment with relevant mitigation measures and an odour assessment utilising Frequency Intensity Duration Offensiveness Location (FIDOL) factors. The dust impact at nearest local receptors has been assessed as “negligible.” If dust issues arise then relevant mitigation measures described in Appendix 1 can be implemented, as necessary. The odour impact (using FIDOL factors) at the nearest local receptors (within 400m) of source has been assessed as “not significant”. Appropriate mitigation measures as described within relevant Institute of Air Quality Management (IAQM) guidance can be implemented, as necessary.

Grangemouth Green Hydrogen Plant

Falkirk Council received a SEPA Pollution Prevention and Control (PPC) Part A permit to assess in August 2025 in relation to a new green hydrogen production plant being proposed in the Grangemouth industrial area. Air quality was considered within the provided AQIA – “Grangemouth Green Hydrogen–AQ Permitting Support Report, Project Number: 100100541, 18th August 2025” produced by consultancy Atkins Realis.

The report states that no significant air quality impacts are expected due to the operation of the project (production of green hydrogen). There are emissions to air from the venting of oxygen produced as part of the electrolysis of water, and from ground flares used to combust hydrogen during the start-up and shutdown phases of the plant, as well as during any emergency periods outside of normal operating conditions.

The report conclusion states:

“Emissions to air during the normal operation of the project are expected to be from venting of oxygen, the use of nitrogen as a purge gas to minimise risks of explosive atmosphere, and the combustion of propane or hydrogen in the pilot and ground flare. Oxygen and nitrogen are not considered harmful pollutants for public health exposure and sensitive vegetation. Occasional emissions of combustion pollutants, predominantly NO_x, will arise from the operation of standby combustion plant including two emergency diesel generators (EDG) and firewater diesel pumps and two enclosed ground flares (with pilot flare). The EDGs and firewater pumps have a thermal input below 1MWth and are each expected to operate for fewer than 50 hours per year, therefore present a negligible risk to offsite receptors.

Continuous and intermittent emissions of combustion pollutants will also arise from the pilot and ground flares respectively (the latter will be used during start-up, shut-down, maintenance and emergencies only). The combustion emissions will be released in an area of existing good air quality and will be over 100m from the closest sensitive receptors. The high combustion temperatures and discharge at an appropriate height will assist local dispersion. Relevant emissions from the Project will be monitored and reported in compliance with the Low Carbon Hydrogen Agreement (LCHA)2.”

If approved, air emissions will be managed by SEPA under the relevant PPC Part A Permit.

4.4 Commercial and Domestic Sources

Avondale Quarry Energy from Waste (EfW) Facility

In June 2025, Falkirk Council received an application (P/19/0727/FUL) from Avondale Holdings to propose a new EfW plant at Avondale quarry near Polmont. A dust management assessment was requested to assess potential dust impacts on local receptors from this development. Falkirk Council Environmental Health reviewed the associated report “Enzygo (Ref: CRM.0167.AQ.001.R.001) Dust Management Plan (DMP)” and commented on the following:

Construction and Decommissioning Phases

The assessment found that impacts are likely to be “negligible and that further detailed assessment was not required.” However, this DMP recommends the implementation of good practice construction dust measures to ensure that there are no adverse impacts during the construction and decommissioning phases.

Operational Phase Impacts

Operational dust emission sources are also likely to be “negligible.” Deliveries arrive via the existing purpose-built track and deposited within the waste reception hall under negative pressure as air within the hall is drawn through the incineration process. Notwithstanding this, operational good practice measures and monitoring have been included within the DMP.

Vehicle Particle Impacts

Environmental Protection UK (EPUK) and IAQM guidance ‘Land-Use Planning & Development Control: Planning for Air Quality’ provides thresholds to determine whether vehicle emissions can be screened as not significant. The relevant criteria are proposals that will generate more the 500 Light Duty Vehicle (LDV) or 100 Heavy Duty Vehicles (HDV) flows per day.

The construction phase is very unlikely to generate this number of HGVs and as stated within the accepted air quality ES chapter the operation phase is “traffic neutral” and therefore no additional vehicles will be generated by the development.

It is unlikely that air quality / dust issues should arise if the good practice mitigation measures outlined in Section 2.0 “Dust Control Measures and Management Plan (DMP)” are fully implemented with regards to the construction and operational phases of the development.

The Enzygo (Ref: CRM.0167.AQ.001.R.001) Dust Management Plan for the proposed new Energy from Waste (EfW) development at Avondale Quarry, Polmont, Falkirk (P/19/0727/FUL) appeared to be satisfactory.

Installation of Two Diesel Generators by Locogen at Abbotshaugh and Longcroft

Falkirk Council received applications (P/25/0087/FUL – Abbotshaugh and P/24/0527/FUL – South Broomage) for the installation of back-up generators at these locations for energy company Locogen Ltd. in the case of local power cuts. AONA Environmental consultancy had been commissioned by Locogen Ltd to undertake updated air quality modelling in relation to each generator’s emissions.

The report considers the impact of oxides of nitrogen (NO_x) emissions on local air quality due to the diesel combustion in the proposed back-up diesel generators. The report describes the data used in the modelling, the methodology adopted, assumptions made and the results generated by the model. The predicted NO_x emissions from the proposed back-up diesel generators are based on information supplied by Locogen Ltd. to AONA Environmental Consulting Ltd., including available stack dimensions, stack emission flow rates, emission temperatures and pollutant emission rates.

The proposed back-up diesel generators will primarily operate during maintenance runs. In terms of a mains failure run, the proposed back-up diesel generators will be activated to maintain supplies to low voltage (LV) loads onsite because of a local power cut. The proposed back-up diesel generators annual run hours are low because it is expected to only operate for maintenance purposes (32 annual run hours). If the proposed back-up diesel generator responds to a mains failure (expected to be at most in operation once or twice per year) then all other items of plant will be switched off.

The AONA Environmental air quality impact assessment (AQIA) (Ref: ENV-9241 April 2025) for the proposed back-up diesel generators at both locations appeared to be satisfactory.

4.5 New Developments with Fugitive or Uncontrolled Sources

In 2025 there were no new developments with fugitive or uncontrolled sources in the Falkirk Council area.

5 Planning Applications

Proposed Large Residential Development at Crawfield Road, Bo'ness

Falkirk Council Planning department received an application in 2019 for a neighbouring residential development to the above – this was commented upon in Section 4 “Planning” in [2020's APR](#). In May 2025, Falkirk Council received a planning application from Cala Homes seeking permission for an additional large residential development (221 houses) on land nearby at Crawfield Road, Bo'ness.

An AQIA (SLR, Ref:422.065324.00001) was received by Falkirk Council Environmental Health for review in May 2025, the following comments were provided:

Increased road traffic from the planned development had been assessed on the SLR AQIA Page 18, Section 5.2.2 “Operational Phase” with conclusions stated on page 21 “No exceedances of the Air Quality Standards for NO₂, PM₁₀ and PM_{2.5} were predicted at any of the existing sensitive (human) receptors within the study area. The predicted change in NO₂, PM₁₀ and PM_{2.5} annual mean concentrations between the future without Proposed Development and future with Proposed Development scenarios shows that the Proposed Development was predicted to have a negligible impact at all human receptors within the study area. In summary, the significance of effect associated with operational phase emissions upon local air quality of the Proposed Development was assessed as not significant.”

It is unlikely that air quality / dust issues should arise if the mitigation measures outlined in Appendix 6 ‘Dust Mitigation Measures’ are fully implemented with regards to the construction phase of the development.

All legislation, policies, standards, methods and guidance referenced within the report were current, applicable and correct at the time of publication. The SLR air quality impact assessment (Ref: 422.065324.00001) for the current Cala Homes Crawfield Road, Bo'ness proposed residential development appeared to be satisfactory.

6 Conclusions and Proposed Actions

6.1 Conclusions from New Monitoring Data

In 2025, the air quality within the Falkirk Council area continued to be good from 2024.

There were no NAQS objective exceedances recorded throughout Falkirk Council's air quality monitoring network in 2025.

Nitrogen Dioxide (NO₂)

The 2025 air quality monitoring results show that all seven automatic nitrogen dioxide (NO₂) analysers in Falkirk Council's air monitoring network achieved both NO₂ NAQS (1-hr and annual mean) objectives.

Particulate Matter (PM₁₀)

Falkirk Council measured particulate matter (PM₁₀) concentrations at nine site locations during 2025. The relevant Scottish NAQS objectives for PM₁₀ were achieved at all nine site locations.

Particulate Matter (PM_{2.5})

Falkirk Council measured particulate matter (PM_{2.5}) concentrations at nine site locations during 2025. The relevant Scottish NAQS objectives for PM_{2.5} were achieved at all nine site locations.

Sulphur Dioxide (SO₂)

In 2025, Falkirk Council monitored SO₂ at six site locations. There were no exceedances of the SO₂ NAQS objectives (15-min, hourly or daily) recorded at any of the Falkirk Council monitoring site locations.

Benzene and 1,3-Butadiene

The benzene and 1, 3-butadiene diffusion tube monitoring completed by Falkirk Council in 2025 met the NAQS (annual running mean) objectives for each pollutant, respectively.

During 2025 / 26 Falkirk Council has revoked all remaining active AQMAs. The last AQMA to be revoked was:

Falkirk Town Centre AQMA - Declared on 31st January 2013 for NO₂ (annual mean).
Revoked on 15th April 2026

Since the Falkirk town centre (FTC) AQMA was declared in 2013, there was one exceedance of the NO₂ annual mean National Air Quality Strategy (NAQS) objective recorded in 2014 at the Falkirk West Bridge Street (41 µg/m³). No further NAQS objective exceedances have been recorded since 2013 (until 2025) at any other automatic monitoring site within the FTC AQMA. Between 2013 until the present day, monitoring results from both automatic sites display a decreasing trend in annual mean concentration results, most notable from 2020 onwards.

Most of the diffusion tubes have not exceeded the NO₂ (annual mean) NAQS objective during the period 2013 to 2024 (Table 4). Site 27 (West Bridge Street) has observed the most exceedances, with 6 in total, the last of these occurring in 2019. As with the automatic monitoring results, results from all non-automatic sites display a decreasing trend in annual mean concentration results over the past decades.

These results demonstrate that the annual mean NO₂ concentrations for the past five years (since 2020) have complied with the NAQS objective. Falkirk Council expects that NO₂ (annual mean) concentrations will remain within the NAQS objective for many years in the future due to the ongoing work detailed in the AQS.

Throughout 2025/26, Falkirk Council developed and published the [2026 Falkirk Town Centre NO₂ AQMA Revocation Report](#). This document formed the evidence required to progress the revocation of the FTC AQMA for NO₂ (annual mean). Falkirk Council undertook extensive public and key stakeholder consultation in accordance with relevant LAQM guidance and finally revoked the AQMA on 15th April 2026.

6.2 Conclusions relating to New Local Developments

All new local developments that were deemed to be significant in terms of their impact on air quality have been summarised in the following previous sections within this APR: **4.3 Industrial Sources, 4.4 Commercial or Domestic Sources, 4.5 New Developments with Fugitive or Uncontrolled Sources and 5. Planning Applications**. All developments within these sections had AQIAs (or dust and odour reports) requested and assessed by Falkirk Council Environmental Health. All new local development AQIAs were assessed as satisfactory and no objections to these developments were submitted to the Planning department on the grounds of significant air quality concerns.

6.3 Proposed Actions

Falkirk Council will continue to have (automatic, reference method and non-automatic methods) air quality monitoring capabilities for many years to come. It is anticipated that annual Scottish Government LAQM funding will continue to be provided to ensure air quality monitoring continuity and improvements. This will provide a valuable resource for public health into the future.

Falkirk Council will continue to achieve the aims of the AQS.

The Air Quality Progress Report (APR) as required by the Scottish Government shall be submitted by Falkirk Council in June 2026.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
A3	Bo'ness	Urban Background / Industrial	299815	681481	SO ₂ , PM ₁₀ , PM _{2.5}	N	SO ₂ : API Teledyne T100, UV Fluorescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	5	22	1.2
A4	Falkirk Haggs	Roadside	278977	679271	NO ₂ , PM ₁₀ , PM _{2.5}	N	NO ₂ : API Teledyne N200, Chemiluminescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	5	2	1.2
A5	Falkirk Hope Street	Roadside	288688	680218	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	N	SO ₂ : API Teledyne T100, UV Fluorescence. NO ₂ : API Teledyne N200, Chemiluminescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	1	5	1.5
A7	Falkirk West Bridge Street	Roadside	288457	680064	NO ₂ , PM ₁₀ , PM _{2.5}	N	NO ₂ : API Teledyne N200, Chemiluminescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	1	2	1.2

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
A8	Grangemouth Automatic Urban and Rural Network (AURN)	Urban Background / Industrial	293830	681022	Benzene, SO ₂ , NO ₂ , PM ₁₀ and PM _{2.5}	N	Benzene: Pumped absorption tube. SO ₂ : API Teledyne T100, UV Fluorescence. NO ₂ : API Teledyne T200, Chemiluminescence. PM ₁₀ : Met One 1020 Beta Attenuation Monitor (BAM). PM _{2.5} : Met One 1020 Beta Attenuation Monitor (BAM).	5	20	3.5
A9	Grangemouth Moray	Urban Background / Industrial	293469	681321	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	N	SO ₂ : API Teledyne T100, UV Fluorescence. NO ₂ : API Teledyne T200, Chemiluminescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	1	25	3.5
A10	Grangemouth Municipal Chambers	Urban Background / Industrial	292816	682009	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	N	SO ₂ : API Teledyne T100, UV Fluorescence. NO ₂ : API Teledyne T200, Chemiluminescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	1	40	3.5
A11	Grangemouth Zetland Park	Urban Background / Industrial	292969	681106	SO ₂ , PM ₁₀ , PM _{2.5}	N	SO ₂ : API Teledyne T100, UV Fluorescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	1	135	3.5
A15	Main St, Bainsford	Roadside	288566	681508	NO ₂ , PM ₁₀ , PM _{2.5}	N	NO ₂ : API Teledyne T200, Chemiluminescence. PM _{10+2.5} : Palas Fidas 200 (Optical).	1	2	1.2

Notes:

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

(2) N/A if not applicable.

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

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Tube Height (m)
NA3	Tinto Drive, Grangemouth	Urban Background	293427	680386	Benzene, NO ₂	N	<5	2.6	N	3
NA5	Copper Top pub, Camelon	Roadside	287332	680333	NO ₂	N	<2	0.6 (Traffic Island)	N	2.3
NA9	Bellsdyke Rd, Larbert	Roadside	286048	683542	NO ₂	N	<2	0.7	N	2.5
NA19	Kilsyth Rd, Banknock	Roadside	278779	679301	NO ₂	N	<2	2.2	N	1.9
NA20	Garncrew Rd, Hags	Urban Background	278957	679172	NO ₂	N	<5	1.5	N	2.5
NA21	Grangemouth Rd, Falkirk College	Roadside	290112	680500	Benzene, NO ₂	N	<2	1.8	N	2.5
NA24	Kerse Lane, Falkirk	Roadside	289189	680018	NO ₂	N	<2	3	N	2.5
NA26	Weir St, Falkirk	Urban Background	289207	680123	NO ₂	N	<5	1.7	N	2.5
NA27	West Bridge St, Falkirk	Roadside	288490	680055	Benzene, NO ₂	N	<2	0.5	Y	2.2
NA29	Wellside Place, Falkirk	Urban Background	288467	680220	NO ₂	N	<5	1.6	N	2.4
NA36	Kerr Crescent, Hags	Roadside	278985	679273	NO ₂	N	<5	2.1	N	2.5
NA37	Denny Town House	Urban Centre	281226	682526	Benzene, NO ₂	N	<5	8.9	N	2.5
NA38	Larbert Village Primary School	Urban Background	285937	682309	Benzene, NO ₂	N	<5	2.3	N	2.4
NA41	Seaview Place, Bo'ness	Roadside	299722	681594	Benzene, 1,3 Butadiene, NO ₂	N	<2	0.1	N	2.5
NA42	Municipal Chambers, Grangemouth	Urban Centre / Industrial	292817	682000	Benzene, NO ₂	N	<5	37.5	Y	3

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Tube Height (m)
NA44	Harvey Avenue, Polmont	Urban Background	293720	678911	Benzene, NO ₂	N	<5	1.6	N	2.4
NA48	Hayfield, Falkirk	Urban Background	289197	681564	NO ₂	N	<5	3.1	N	2.5
NA50	Upper Newmarket St, Falkirk	Urban Background	288671	680047	NO ₂	N	<5	9	N	2.3
NA51	Mary St, Laurieston	Roadside	290965	679490	NO ₂	N	1	4.5	N	2.4
NA52	Main St, Larbert	Roadside	285866	682356	NO ₂	N	<2	4.4	N	2.6
NA53	Denny Cross	Roadside	281211	682727	NO ₂	N	<2	0.8	N	2.9
NA58	Callendar Rd, Falkirk	Roadside	290194	679624	NO ₂	N	<2	0.5	N	2.5
NA59	Carron Rd, Bainsford	Roadside	288392	681931	NO ₂	N	<2	1.2	N	2.4
NA60	Ronades Rd, Carron	Roadside	288133	681587	NO ₂	N	<2	1.6	N	2.3
NA61	Canal Rd, Falkirk	Roadside	287976	680656	NO ₂	N	<2	1.5	N	2.3
NA62	Arnot St, Falkirk	Roadside	289125	679705	NO ₂	N	<2	1.2	N	2.1
NA63	Camelon Rd, Falkirk	Urban Background	288055	680134	NO ₂	N	<5	1.4	N	2.3
NA64	New Hallglen Rd, Falkirk	Roadside	288807	678422	NO ₂	N	<2	1.7	N	2.7
NA65	Redding Rd, Redding	Roadside	291356	678644	NO ₂	N	<2	0.6	N	2.4
NA67	Queen St, Falkirk	Urban Background	289430	680433	NO ₂	N	<5	1.8	N	2.9
NA69	Kerse Lane, Falkirk	Roadside	289025	679991	NO ₂	N	<2	2.3	N	2.7
NA71	Park St, Falkirk	Roadside	288910	680112	NO ₂	N	<2	1.5	N	2.1
NA72	Vicar St, Falkirk	Roadside	288824	680120	NO ₂	N	<2	1.5	N	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Tube Height (m)
NA73	West Bridge St RHS, Falkirk	Roadside	288467	680048	NO ₂	N	<2	0.3	N	2.5
NA76	Tryst Rd, Stenhousemuir	Roadside	286851	683229	NO ₂	N	<2	1.8	N	2.4
NA77	Kinnaird Village	Roadside	286490	683775	Benzene, NO ₂	N	<2	3.9	N	2.5
NA78	Glen Brae, Falkirk	Roadside	288525	678991	NO ₂	N	<2	2.6	N	2.2
NA80	Cow Wynd, Falkirk	Roadside	288765	679456	Benzene, NO ₂	N	<2	1.8	N	2.5
NA81	Grahams Rd, Falkirk	Roadside	288817	680911	Benzene, NO ₂	N	<2	0.5	N	2.3
NA82	Castings Av, Falkirk	Roadside	288858	681036	NO ₂	N	<2	1	N	2.5
NA83	Main St, Bainsford	Roadside	288614	681415	NO ₂	N	<2	0.5	N	2.6
NA85	Auchincloch Dr, Banknock	Roadside	278752	679049	NO ₂	N	<2	0.8	N	2.5
NA86	Wolfe Rd, Falkirk	Urban Background	289667	679871	NO ₂	N	<2	2	N	2.5
NA87	M80 Slip South, Hags	Roadside	279017	679305	NO ₂	N	<2	1.6	N	1.8
NA88	Ure Crescent, Bonnybridge	Roadside	282444	681074	NO ₂	N	<2	1.7 (16 to M876)	N	2.5
NA89	Grahams Rd / Meeks Rd, Falkirk	Roadside	288856	680336	NO ₂	N	<2	2.2	N	2.3
NA94	A905 (Glensburgh Road), Grangemouth	Roadside	291213	681074	NO ₂	N	7	5.4	N	2.4
NA98	Arnothill, Falkirk	Urban Background	288080	680073	NO ₂	N	23	1.6	N	2.2
NA99	St Crispins Pl, Falkirk	Roadside	288924	679675	NO ₂	N	7.6	2.7	N	2
NA101	Glensburgh Rd (2), Grangemouth	Roadside	291127	682007	NO ₂	N	7	0.9	N	2.2
NA105	West of Shieldhill	Rural	288279	676875	Benzene, NO ₂	N	Background Rural Site	1.7	N	1.6

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Tube Height (m)
NA107	Main St (East), Bainsford	Roadside	288640	681396	NO ₂	N	4	0.5	N	2.3
NA111	Falkirk West Bridge St, Air Quality Station	Urban Centre	288457	680064	NO ₂	N	4.3	2.3	Y	1.8
NA114	Glasgow Rd, Camelon	Roadside	286624	680577	NO ₂	N	2	0.5	N	2.6
NA115	Brown St, Camelon	Urban Background	286761	680413	NO ₂	N	2	1.5	N	2.1
NA116	Kersiebank Avenue, Grangemouth	Urban Background / Industrial	293671	680347	Benzene, NO ₂	N	2	2.75	N	2.27
NA117	Oswald Avenue (East), Grangemouth	Urban Background / Industrial	294101	681532	Benzene, NO ₂	N	2.5	2.2	N	2.27
NA118	Glebe Street, Falkirk	Roadside	288726	680096	NO ₂	N	2.5	1.6	N	2.27
NA119	Hendry Street, Falkirk	Urban Background	288728	681383	NO ₂	N	3	1.3	N	2.3
NA120	Powdrake Road, Grangemouth	Roadside / Industrial	294097	681488	Benzene, NO ₂ , 1,3 Butadiene	N	2.9	1.9	N	2.4
NA121	Beancross Roundabout, Grangemouth	Roadside	291956	680522	NO ₂	N	3	1.6	N	2.1

Notes:

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

(2) N/A if not applicable.

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

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
A4 - Falkirk Haggs	Roadside	Automatic	100	100	21	18	17.5	16	15
A5 - Falkirk Hope St	Roadside	Automatic	99	99	15.5	14	17.1	14	14
A7 – Falkirk West Bridge St	Roadside	Automatic	95	95	31.4	27	28.5	24	24
A8 – Grangemouth AURN	Urban Background / Industrial	Automatic	91	91	13.1	14	13.3	11	12
A9 – Grangemouth Moray	Urban Background / Industrial	Automatic	99	99	13.8	12	10.9	10	11
A10 – Grangemouth Municipal Chambers	Urban Background / Industrial	Automatic	94	94	13.4	14	13.5	13	15
A15 – Main St, Bainsford	Roadside	Automatic	96	96	19.7	19	18	17	17

Notes:

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

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

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.

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

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

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
3	293427	680386	Urban Background	92.3	92.3	14.9	13.0	13.7	11.5	14.3
5	287332	680333	Roadside	90.4	90.4	19.3	18.0	18.6	16.1	17.5
9	286048	683542	Roadside	100	100	17.0	16.0	16.4	14.6	16.7
19	278779	679301	Roadside	84.6	84.6	19.9	18.0	18.9	16	17.3
20	278957	679169	Urban Background	75	75	16.6	17.0	16.0	12.4	15.5
21	290112	680500	Roadside	92.3	92.3	19.7	18.0	19.3	16.1	19.4
24	289189	680018	Roadside	100	100	24.0	24.0	24.5	21.6	22.9
26	289234	680121	Urban Background	100	100	13.6	12.0	12.6	10.4	12.9
27	288490	680055	Roadside	100	100	34.8	30.0	34.3	32.2	33.3
29	288467	680220	Urban Background	100	100	12.0	12.0	12.8	12	12.4
36	278985	679273	Roadside	82.7	82.7	25.2	24.0	24.6	20.9	22

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
37	281226	682526	Urban Centre	100	100	12.6	12.0	11.8	9.2	11.3
38	285937	682309	Urban Background	75	75	12.1	11.0	10.8	11.4	11.1
41	299722	681594	Roadside	90.4	90.4	17.4	16.0	16.1	13.4	16.9
42a, 42b, 42c	292817	682000	Urban Centre	75	75	14.1	13.0	12.8	10.7	12.1
44	293720	678911	Urban Background	100	100	13.1	12.0	13.0	10.7	12.7
48	289197	681564	Urban Background	90.4	90.4	15.7	13.0	14.1	11.5	13.6
50	288671	680047	Urban Background	100	100	18.2	15.0	14.9	18.4	20.7
51	290965	679490	Roadside	92.3	92.3	16.8	17.0	17.6	15.1	16
52	285866	682356	Roadside	82.7	82.7	18.0	17.0	16.7	14.1	16.9
53	281211	682727	Roadside	84.6	84.6	19.9	18.0	18.2	9.8	12.2
58	290194	679624	Roadside	92.3	92.3	14.5	14.0	14.4	12.1	13.8

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
59	288392	681931	Roadside	100	100	21.8	21.0	20.3	17.5	19.4
60	288133	681587	Roadside	100	100	19.8	22.0	18.7	14.9	17.9
61	287976	680656	Roadside	100	100	17.9	16.0	17.1	13.4	15.9
62	289125	679705	Roadside	100	100	23.6	25.0	25.8	21.7	24.5
63	288055	680134	Roadside	100	100	27.0	24.0	26.6	23.2	24.7
64	288807	678422	Roadside	84.6	84.6	11.4	10.0	11.3	9.3	11.4
65	291356	678644	Roadside	100	100	18.1	15.0	15.9	13.1	15
67	289430	680433	Urban Background	100	100	21.7	20.0	22.2	18.6	21
69	289025	679991	Roadside	100	100	23.3	21.0	24.3	20.1	21.7
71	288910	680112	Roadside	100	100	24.4	22.0	23.4	21.8	24.9
72	288824	680120	Roadside	92.3	92.3	20.8	18.0	19.4	17.9	20.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
73	288467	680048	Roadside	92.3	92.3	23.4	21.0	22.6	19.3	21.1
76	286851	683229	Urban Background	100	100	15.0	14.0	13.6	11.5	13.1
77	286490	683775	Roadside	100	100	17.3	16.0	15.6	13.1	15.3
78	288525	678991	Roadside	100	100	19.7	19.0	18.7	15.7	19
80	288765	679456	Roadside	100	100	19.8	20.0	19.3	17.1	19.4
81	288817	680911	Kerbside	100	100	22.1	21.0	21.9	18.7	20.7
82	288858	681036	Urban Background	100	100	13.3	13.0	13.2	11.3	13.3
83	288614	681415	Roadside	100	100	25.1	24.0	25.3	20.7	23.4
85	278752	679049	Urban Background	92.3	92.3	13.9	14.0	16.0	13.4	16
86	289667	679871	Urban Background	100	100	11.3	10.0	10.6	9.1	10.9
87	279017	679305	Roadside	92.3	92.3	21.0	19.0	19.4	14.2	14.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
88	282444	681074	Roadside	84.6	84.6	20.1	19.0	18.9	16.3	18
89	288856	680336	Roadside	92.3	92.3	21.8	20.0	21.0	18.2	20.5
94	291213	681927	Roadside	100	100	22.4	21.0	20.1	16.4	18.8
98	288095	680105	Urban Background	100	100	15.4	14.0	14.0	12.4	13.1
99	288924	679675	Roadside	92.3	92.3	18.2	18.0	18.1	17.1	21.3
101	291127	682007	Roadside	100	100	16.3	15.0	15.9	13.9	15.6
105	288292	676889	Rural	100	100	5.8	5.0	5.3	4.4	4.7
107	288640	681396	Roadside	100	100	18.9	17.0	16.4	15	16.9
111a, 111b, 111c	288457	680064	Urban Centre	100	100	29.4	27.0	28.9	25.2	28.1
114	286624	680577	Roadside	100	100	28.9	25.0	17.1	14.6	16
115	286761	680413	Urban Background	67.3	67.3	13.2	11.0	12.6	10.5	12.3

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 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
116	293671	680347	Industrial	100	100	15.1	14.0	14.6	11.8	15
117	294101	681532	Industrial	100	100	13.6	12.0	12.9	11.1	11.9
118	288726	680096	Roadside	82.7	82.7	17.3	15.0	18.7	18.2	21
119	288728	681383	Urban Background	100	100	17.4	15.0	16.2	13.4	16
120	294097	681488	Industrial	100	100	-	14.0	15.5	12.5	14.3
121	291956	680522	Roadside	100	100	-	19.0	18.2	16.6	20.3

☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22 (confirm by selecting in box).

☒ Diffusion tube data has been bias adjusted (confirm by selecting in box).

☒ 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 (confirm by selecting in box).

Notes:

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

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

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG(22) if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(3) Data capture for the monitoring period, in cases where monitoring was only conducted for part of the year.

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

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
A4 Falkirk Haggs	278977	679271	Roadside	100	100	0	0	0	0	0
A5 Falkirk Hope Street	288688	680218	Roadside	99	99	0	0	0	0	0
A7 Falkirk West Bridge Street	288457	680064	Roadside	95	95	0	0	0	0 (91)	0
A8 Grangemouth AURN	293830	681022	Urban Background / Industrial	91	91	0 (71.7)	0	0	0 (56)	0
A9 Grangemouth Moray	293469	681321	Urban Background / Industrial	99	99	0	0	0	0 (60)	0
A10 Grangemouth Municipal Chambers	292816	682009	Urban Background / Industrial	94	94	0	0	0	0	0
A15 Main Street, Bainsford	288566	681508	Roadside	96	96	0	0	0	0	0

Notes:

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

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

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

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

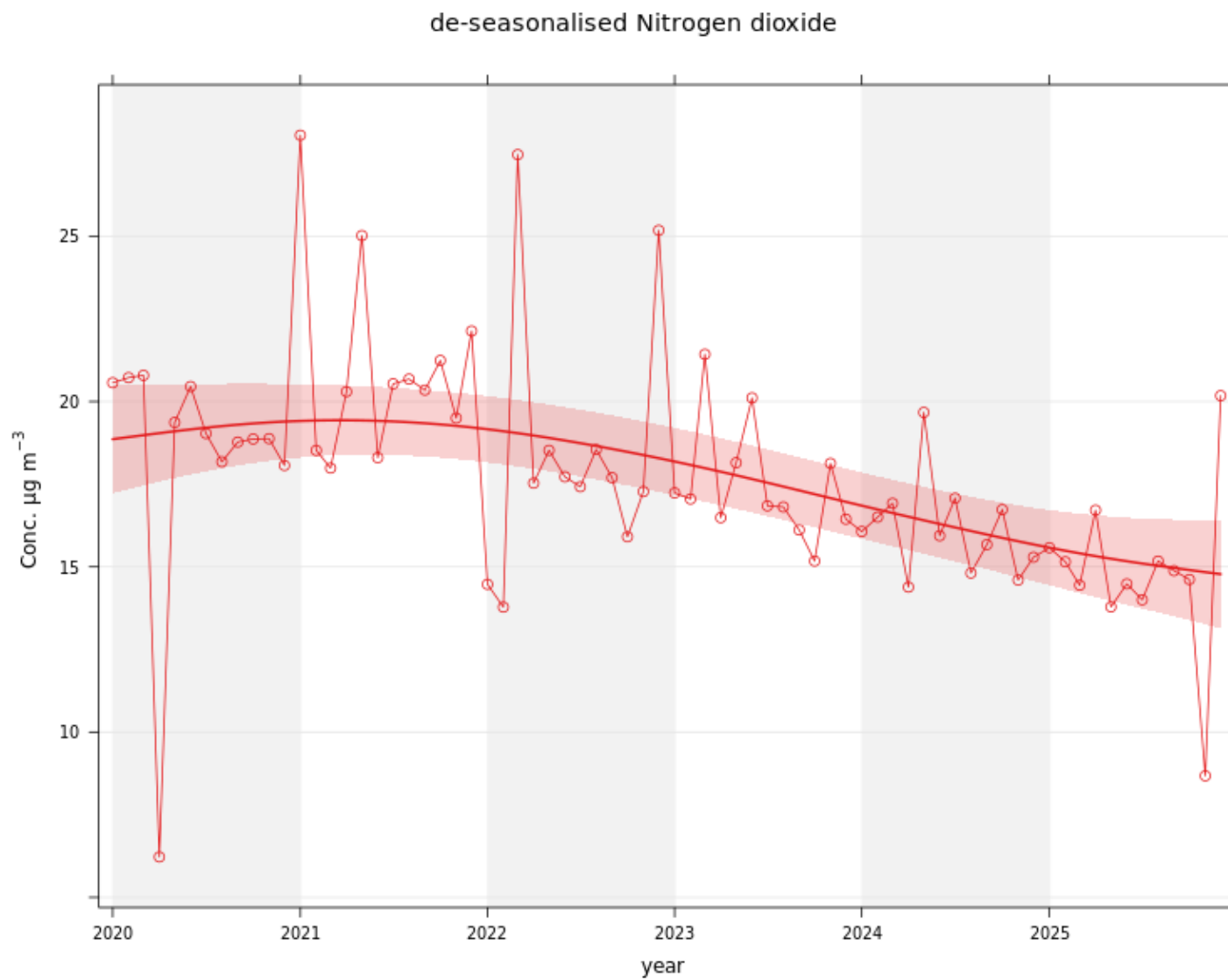
Figure 2 – A4 Falkirk Hags Long Term NO₂ Concentrations

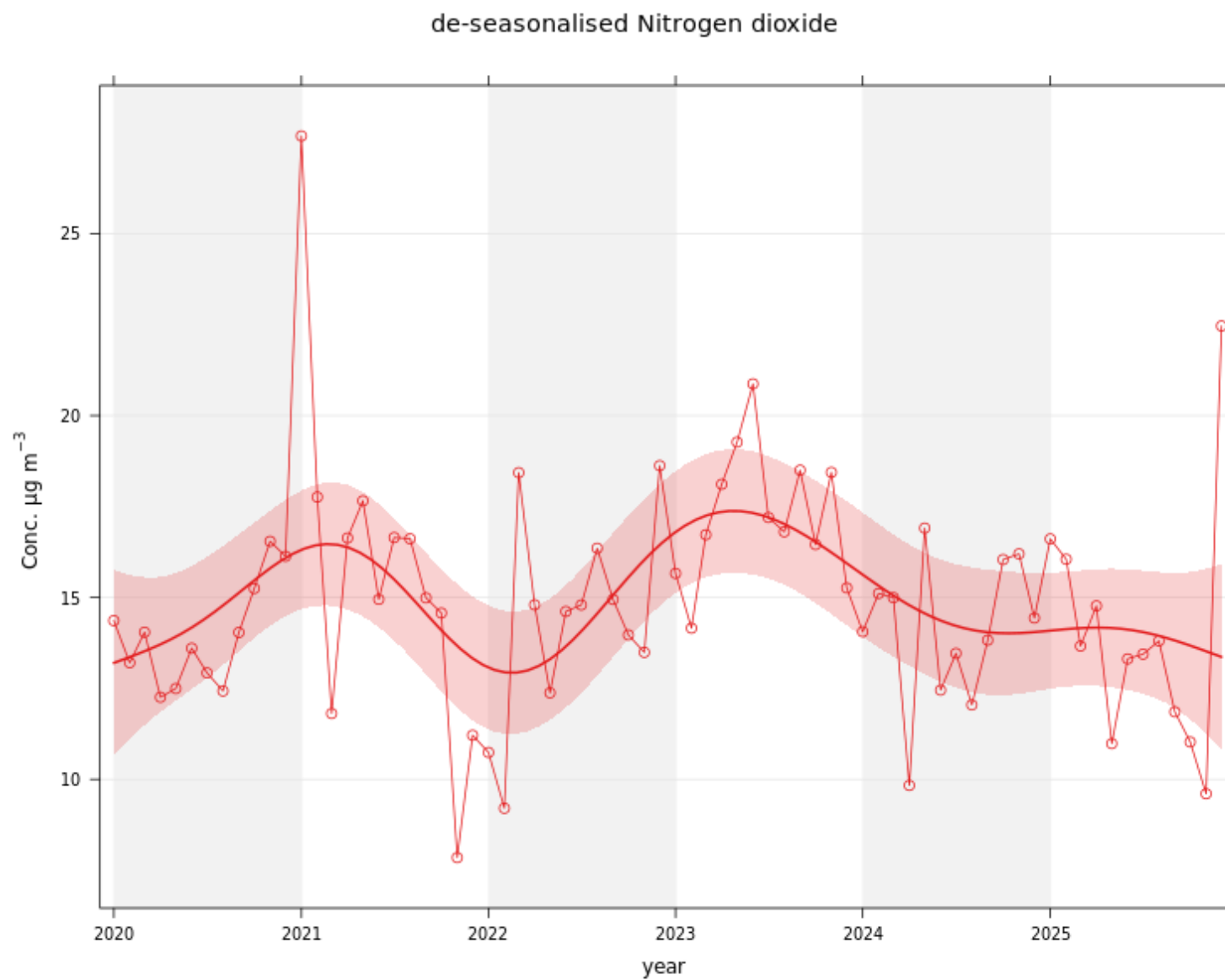
Figure 3 – A5 Falkirk Hope St Long Term NO₂ Concentrations

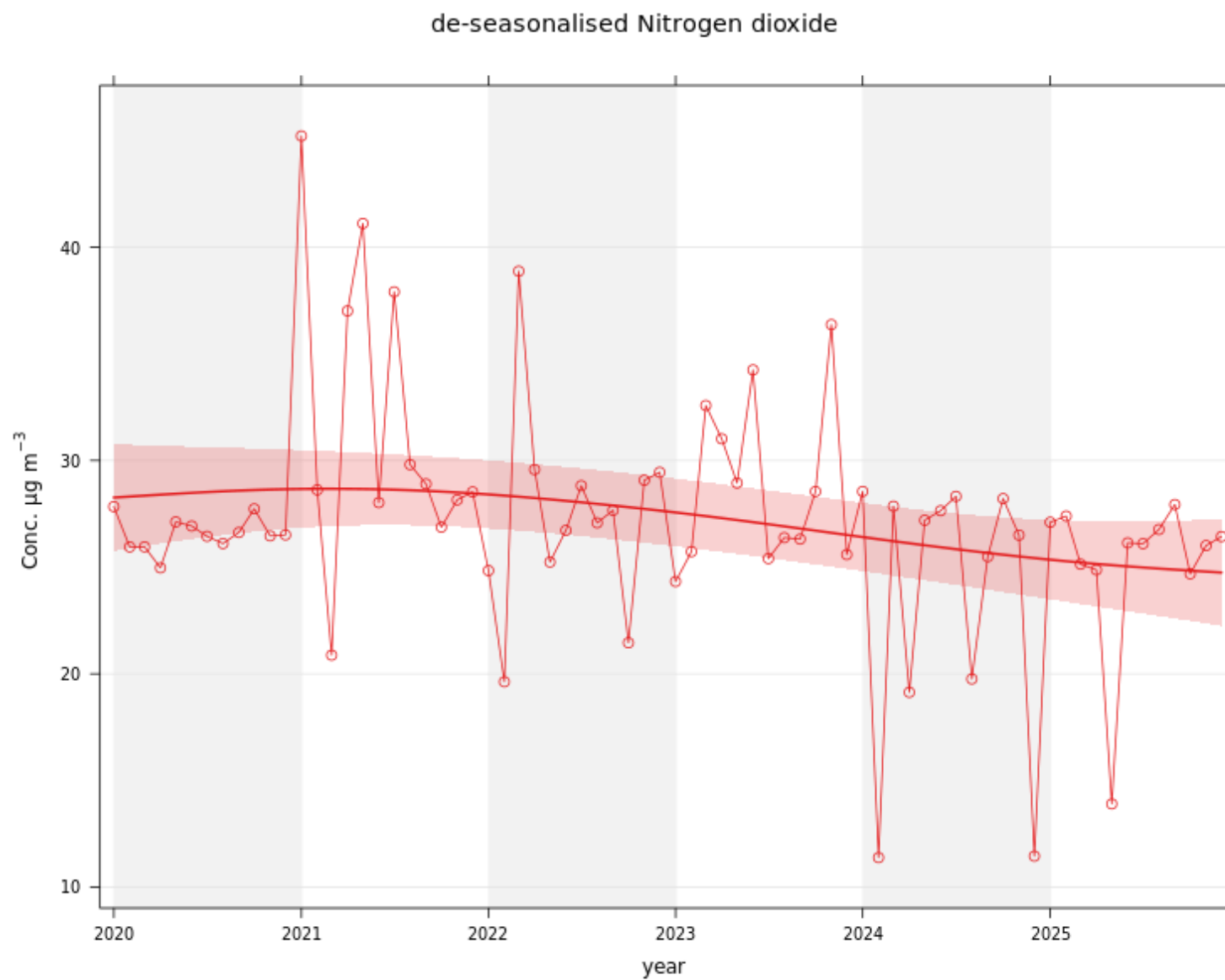
Figure 4 – A7 Falkirk West Bridge St Long Term NO₂ Concentrations

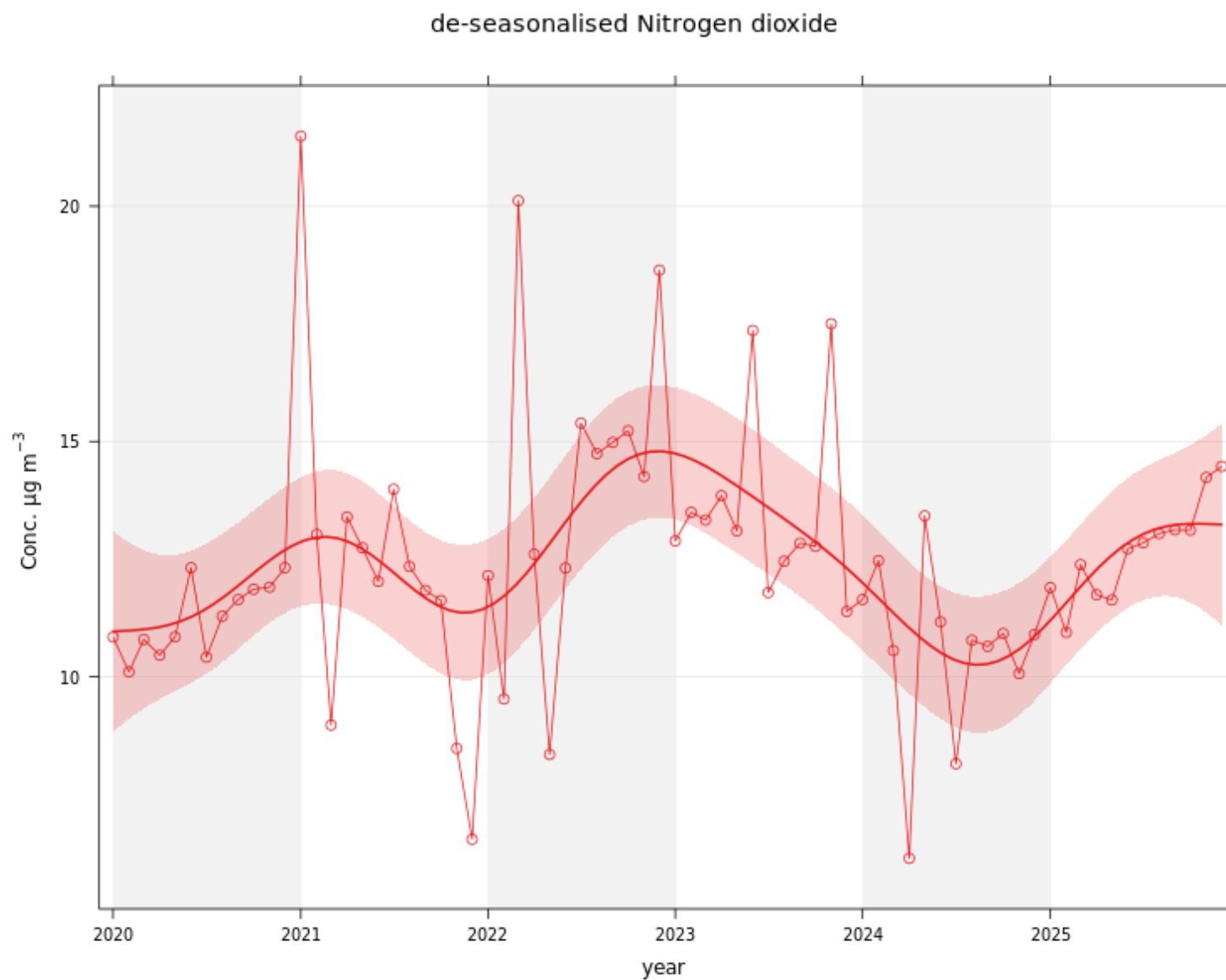
Figure 5 – A8 Grangemouth AURN Long Term NO₂ Concentrations

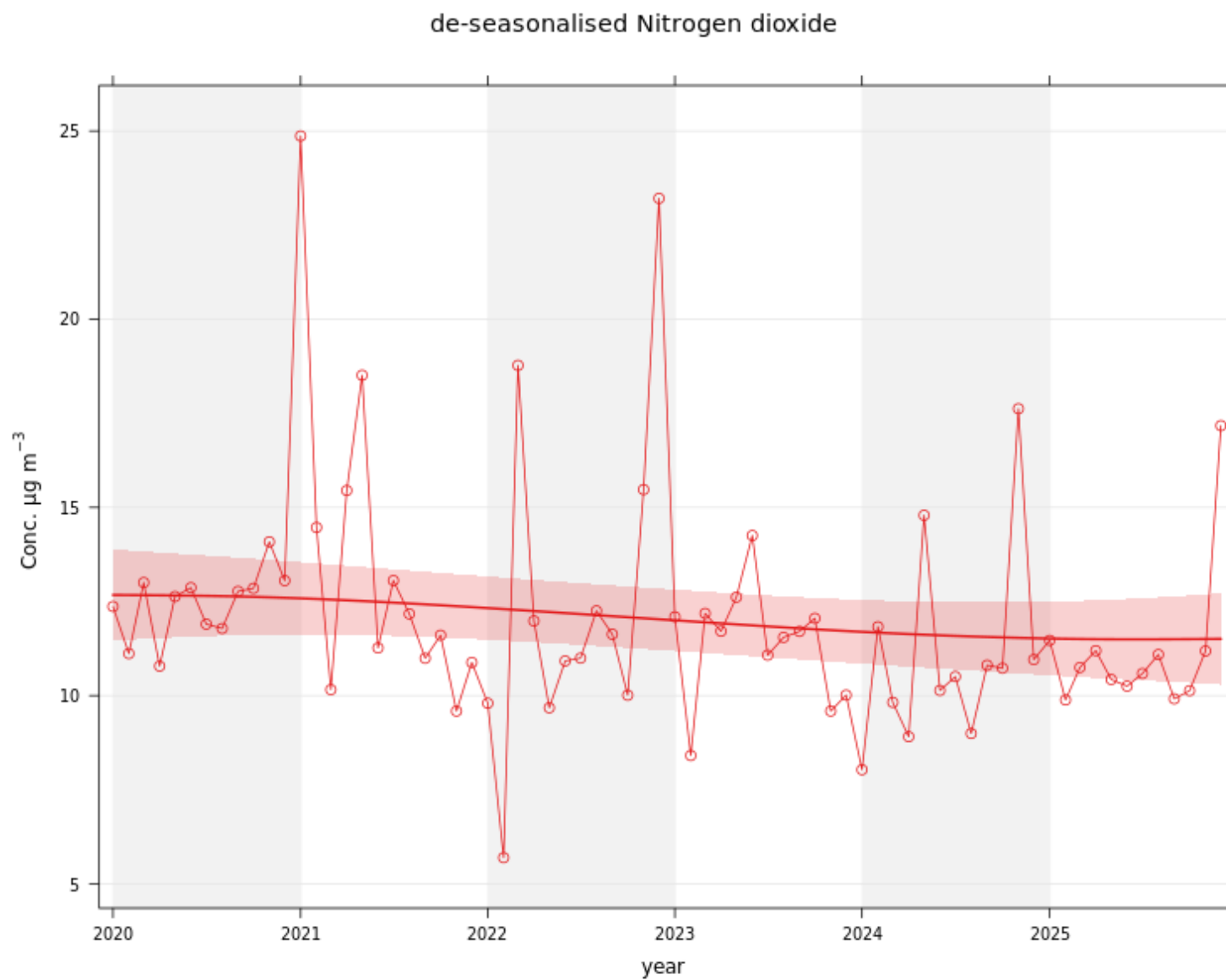
Figure 6 – A9 Grangemouth Moray Long Term NO₂ Concentrations

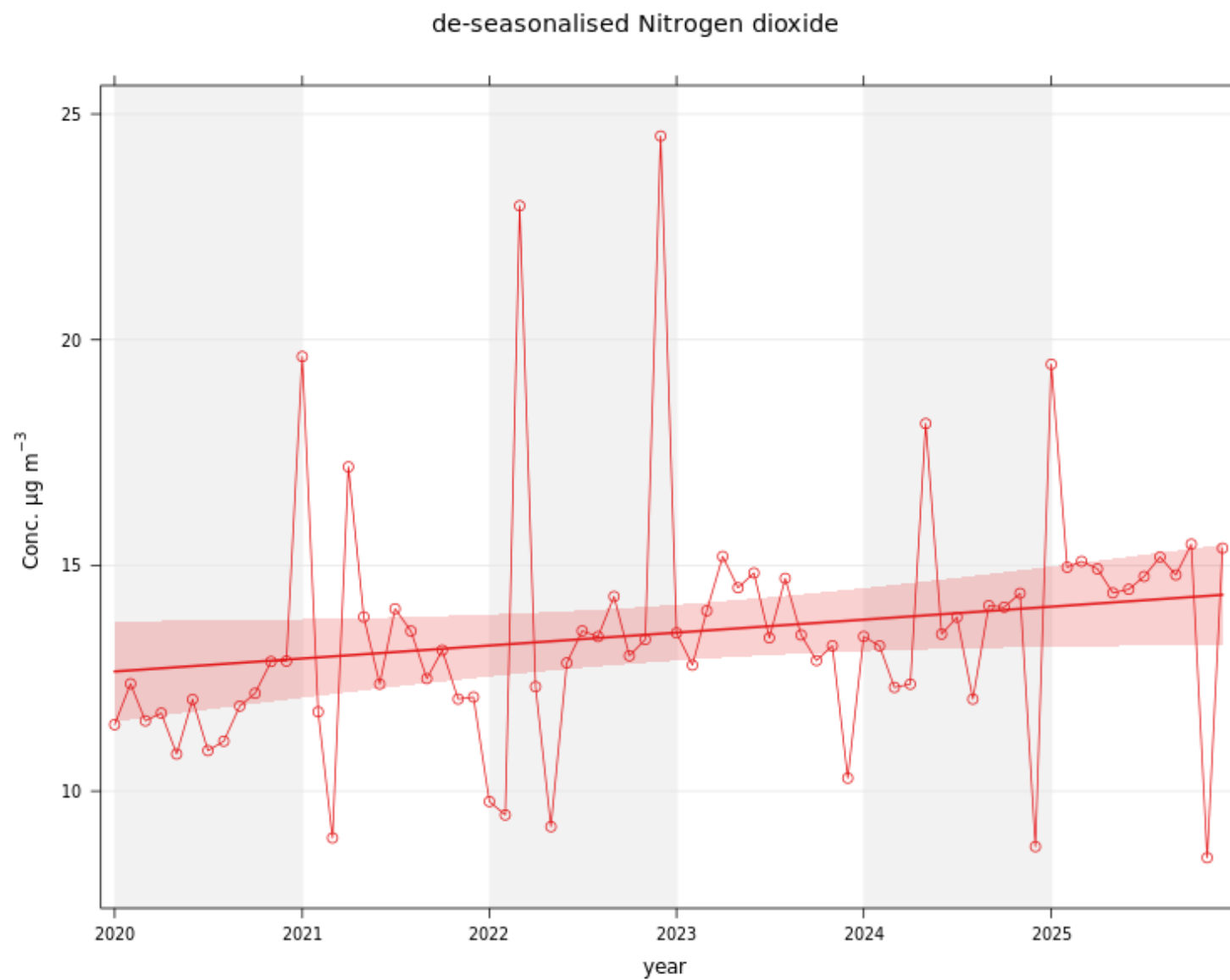
Figure 7 – A10 Grangemouth Municipal Chambers Long Term NO₂ Concentrations

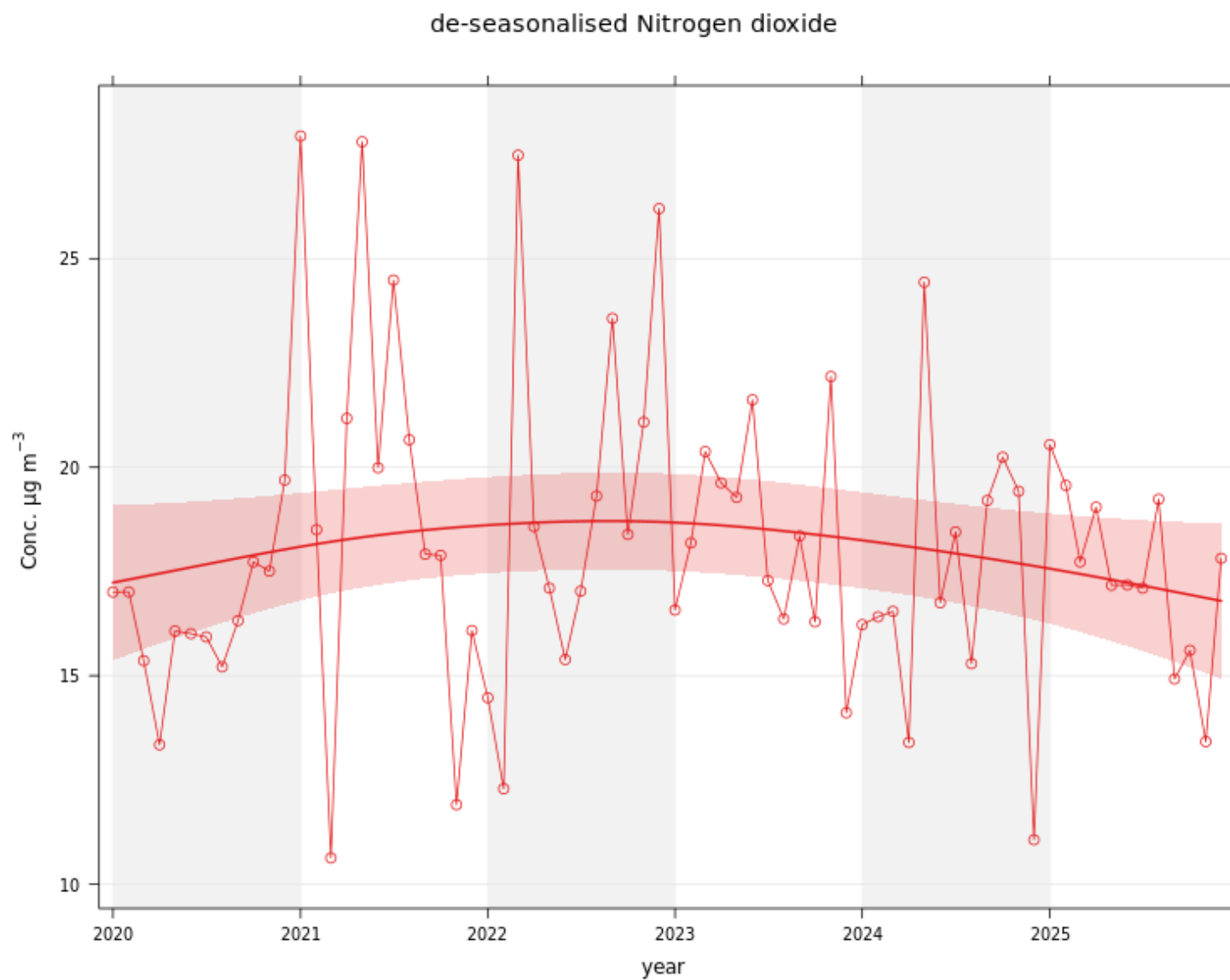
Figure 8 – A15 Main St, Bainsford Long Term NO₂ Concentrations

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
A3 – Bo'ness (Fidas 200 - Uncorrected)	299815	681481	Urban Background / Industrial	98	98					9
A3 – Bo'ness (Fidas 200 – Mean Corrected) ⁽³⁾										9.9
A4 – Falkirk Haggs (Fidas 200 - Uncorrected)	278977	679271	Roadside	99	99	10.4	11	10.1	9	11
A4 – Falkirk Haggs (Fidas 200 - Mean Corrected) ⁽³⁾						11.5	12.1	11.1	9.9	12.1
A5 – Falkirk Hope Street (Fidas 200 - Uncorrected)	288688	680218	Roadside	67	67	9	9.3	8.6	9	12.8
A5 – Falkirk Hope Street (Fidas 200 - Mean Corrected) ⁽³⁾						9.9	10.2	9.5	9.9	14.1
A7 – Falkirk West Bridge Street (Fidas 200 - Uncorrected)	288457	680064	Roadside	100	100	9.2	9.6	10.1	11	13
A7 – Falkirk West Bridge Street (Fidas 200 - Mean Corrected) ⁽³⁾						10.1	10.6	11.1	12.1	14.3
A8 – Grangemouth AURN	293830	681022	Urban Background / Industrial	97	97	5.4	8	5.1	9	10
A9 – Grangemouth Moray (Fidas 200 - Uncorrected)	293830	681022	Urban Background / Industrial	100	100				8	9
A9 – Grangemouth Moray (Fidas 200 - Mean Corrected) ⁽³⁾									8.8	9.9

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
A10 – Grangemouth Municipal Chambers (Fidas 200 - Uncorrected)	292816	682009	Urban Background / Industrial	100	100	8.6	9.1	9.1	10	11
A10 – Grangemouth Municipal Chambers (Fidas 200 - Mean Corrected) ⁽³⁾						9.5	10	10	11	12.1
A11 – Grangemouth Zetland Park (Fidas 200 - Uncorrected)	292969	681106	Urban Background / Industrial	99	99	8.6	9.8	8.3	9	9
A11 – Grangemouth Zetland Park (Fidas 200 - Mean Corrected) ⁽³⁾						9.5	10.8	9.1	9.9	9.9
A15 – Main Street, Bainsford (Fidas 200 - Uncorrected)	288566	681508	Roadside	95	95	11.1	11.2	10.1	9	11
A15 – Main Street, Bainsford (Fidas 200 - Mean Corrected) ⁽³⁾						12.2	12.3	11.1	9.9	12.1

Notes:

Exceedances of the PM₁₀ annual mean objective of 18µg/m³ are shown in bold.

All means have been “annualised” as per LAQM.TG(22), 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 conducted for part of the year.

- (2) Data capture for the full calendar year (e.g. if monitoring was conducted for 6 months, the maximum data capture for the full calendar year is 50%).
- (3) The mean corrected PM₁₀ data is calculated by dividing the ratified data by the factor: 0.909. More information can be found in Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
A3 – Bo'ness	299815	681481	Urban Background / Industrial	98	98					0
A4 – Falkirk Hags	278977	679271	Roadside	99	99	0	0	0	0	0
A5 – Falkirk Hope Street	288688	680218	Roadside	67	67	0	0	0	0	0 (49)
A7 – Falkirk West Bridge Street	288457	680064	Roadside	100	100	0	0	0	1	5
A8 – Grangemouth AURN	293830	681022	Urban Background / Industrial	97	97	0	0	0	0	0
A9 – Grangemouth Moray	293830	681022	Urban Background / Industrial	100	100				0	0
A10 – Grangemouth Municipal Chambers	292816	682009	Urban Background / Industrial	100	100	0	0	0	0	0
A11 – Grangemouth Zetland Park	292969	681106	Urban Background / Industrial	99	99	0	0	0	0	0
A15 – Main Street, Bainsford	288566	681508	Roadside	95	95	0 (25)	0	0	0	0

Notes:

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

If the period of valid data is less than 85%, the 98.1st percentile of 24-hour means is provided in brackets.

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

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

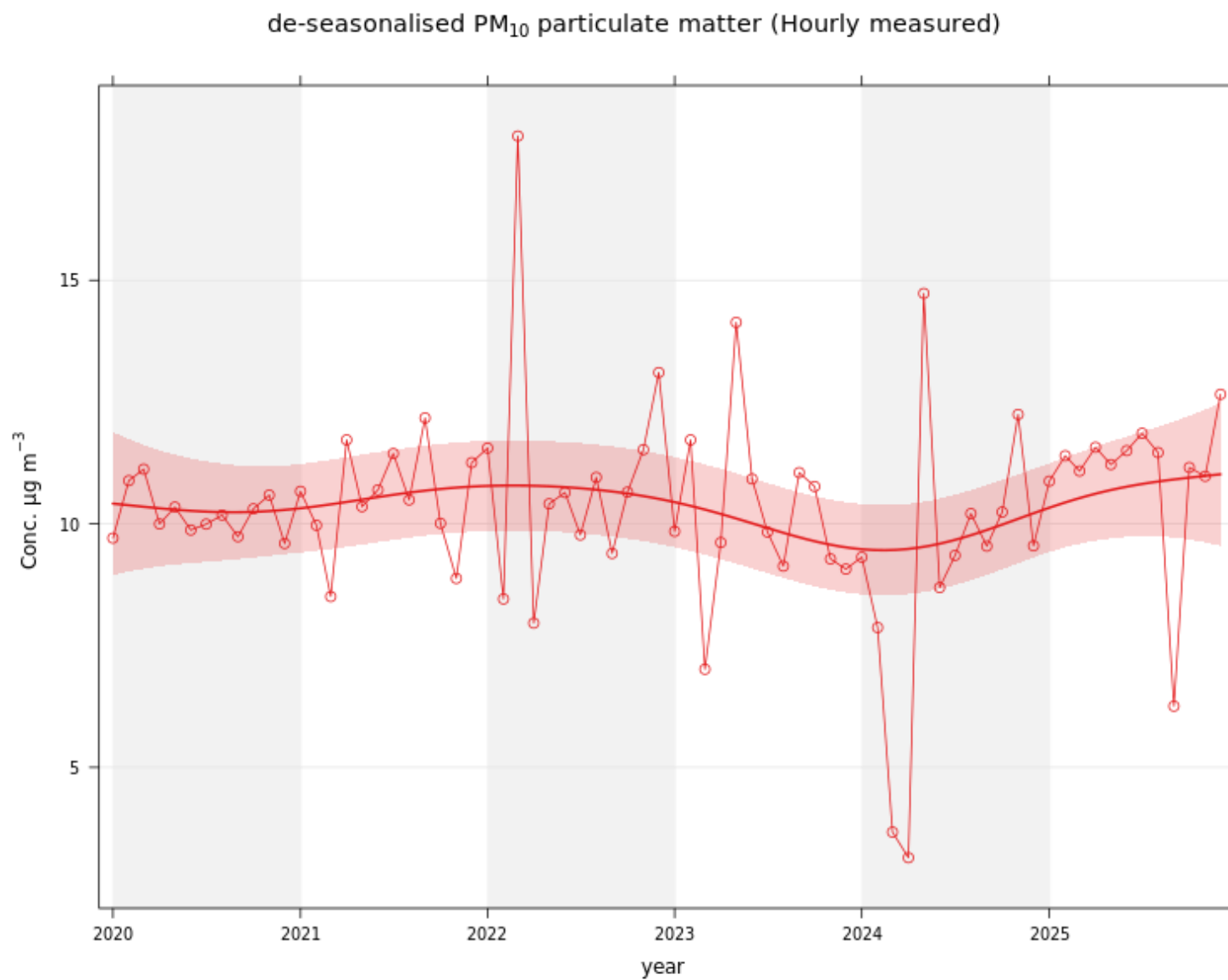
Figure 9 – A4 Hags Long Term PM₁₀ (Hourly Measured) Concentrations

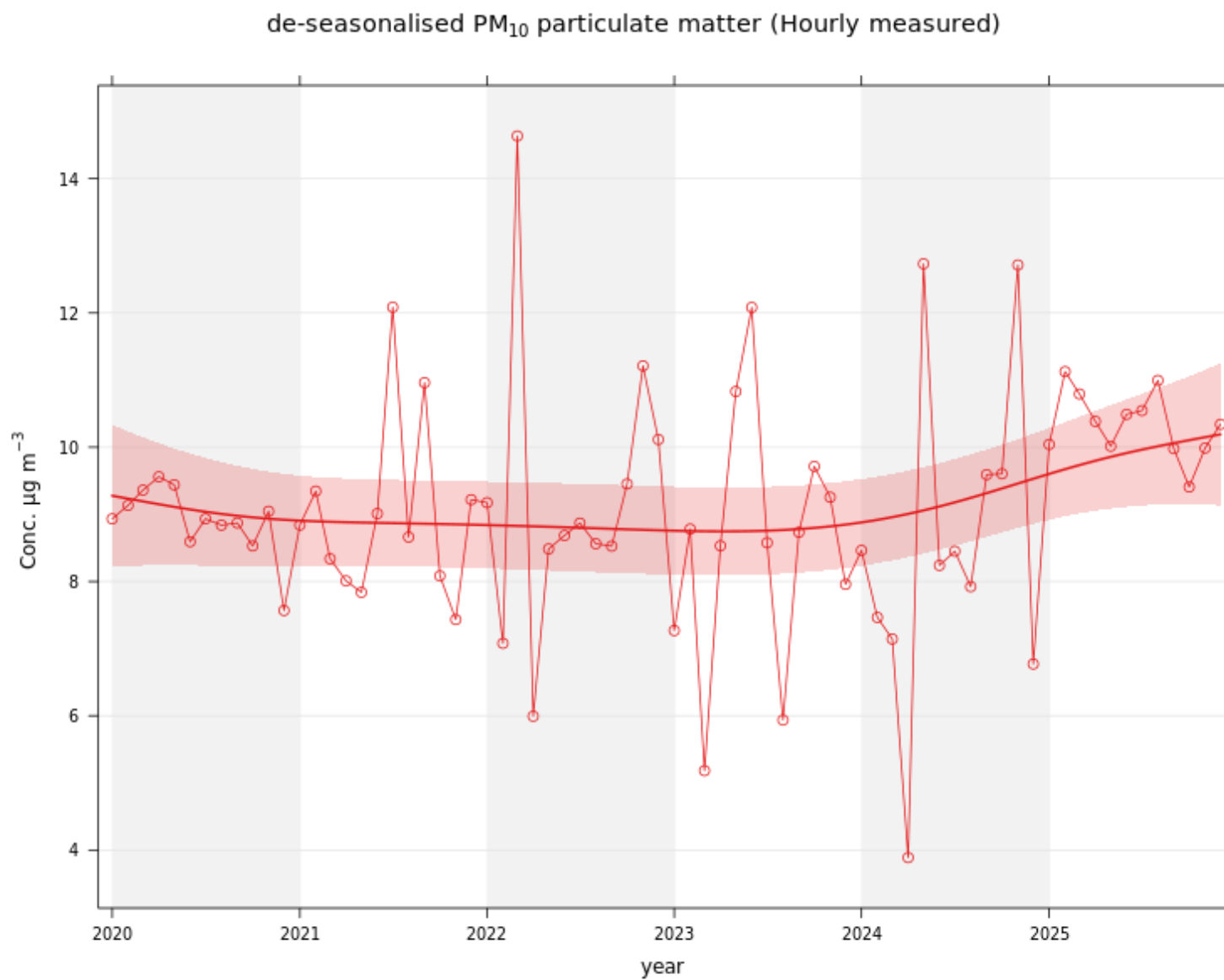
Figure 10 – A5 Falkirk Hope St Long Term PM₁₀ (Hourly Measured) Concentrations

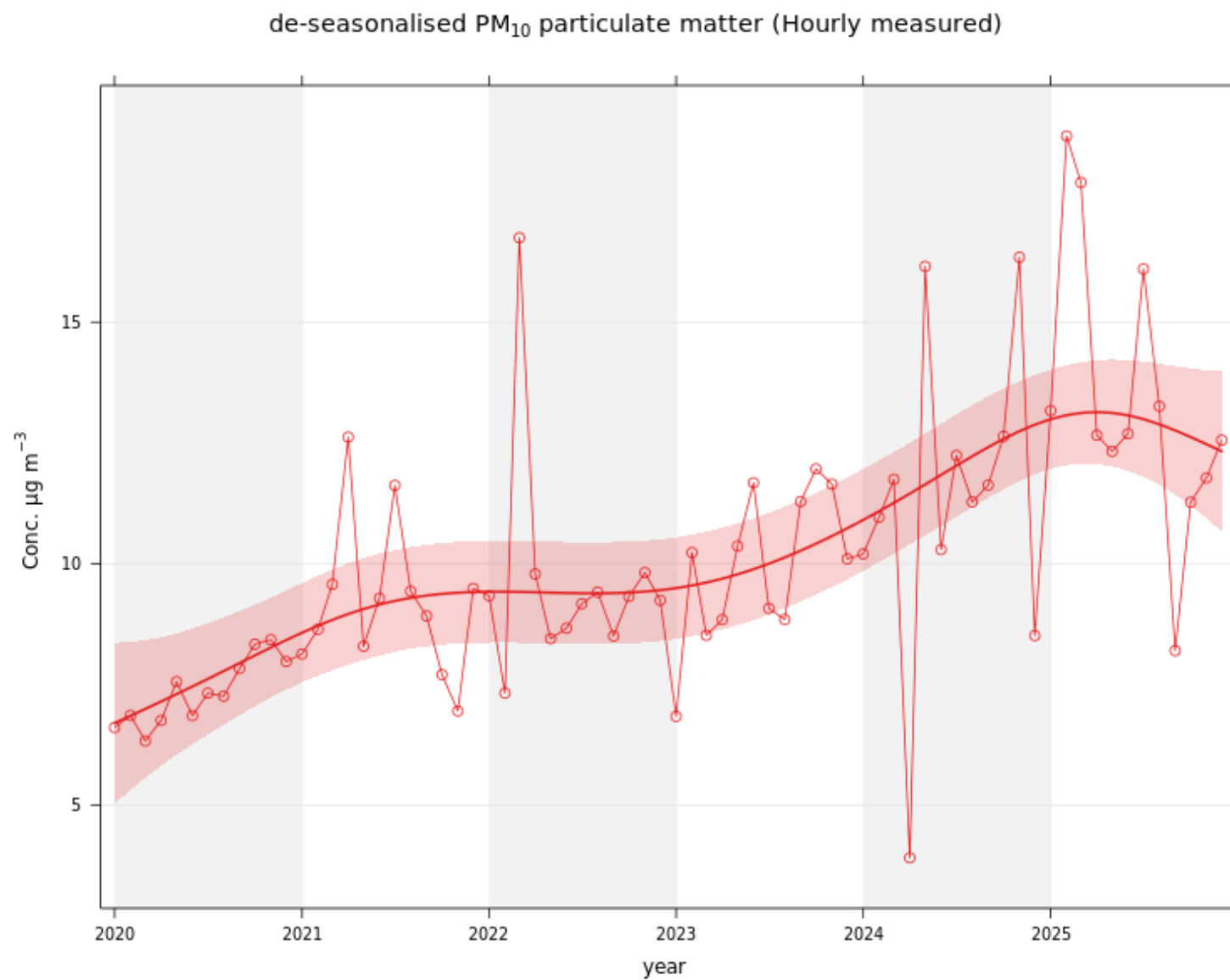
Figure 11 – A7 Falkirk West Bridge St Long Term PM₁₀ (Hourly Measured) Concentrations

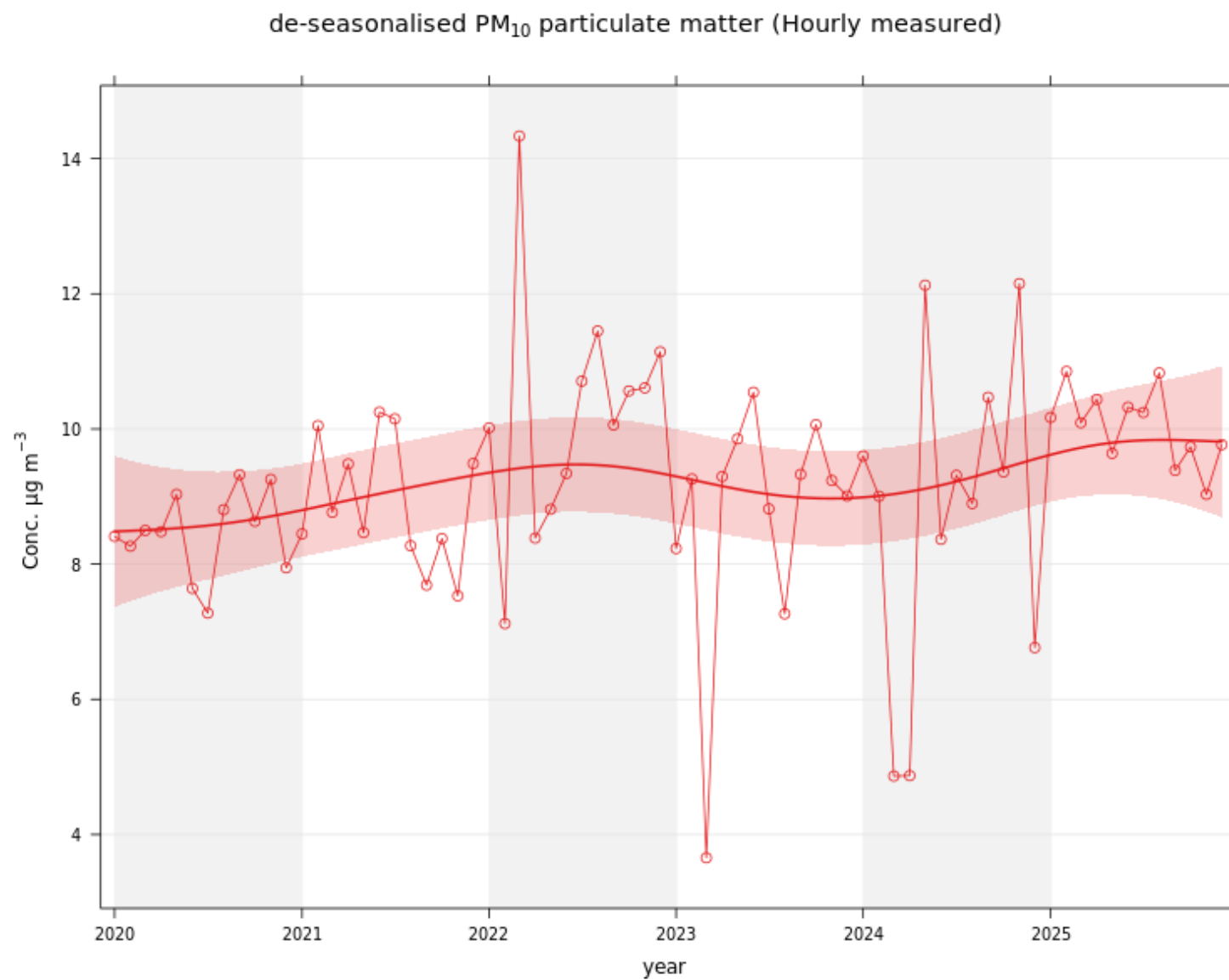
Figure 12 – A8 Grangemouth AURN Long Term PM₁₀ (Hourly Measured) Concentrations

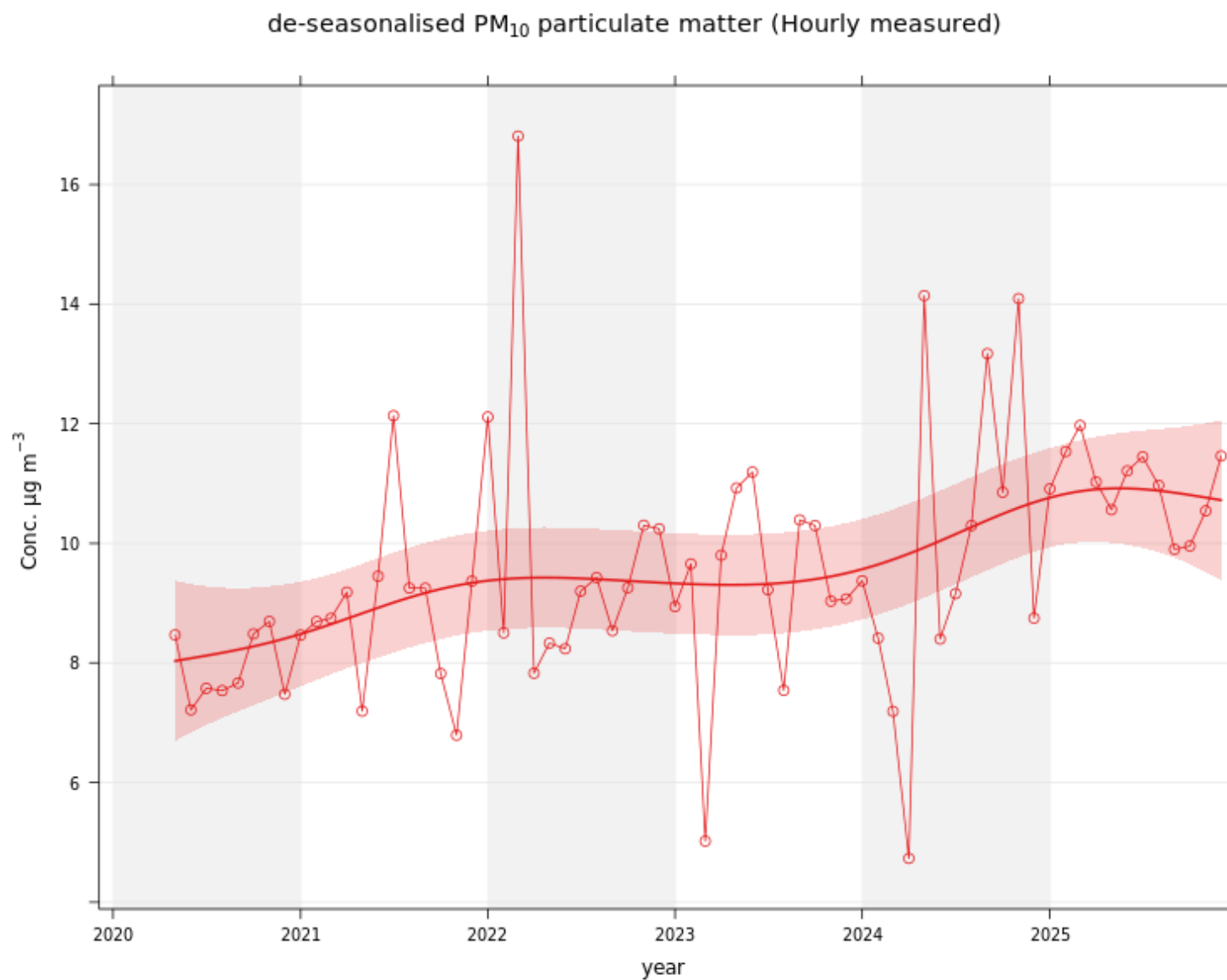
Figure 13 – A10 Grangemouth Municipal Chambers Long Term PM₁₀ (Hourly Measured) Concentrations

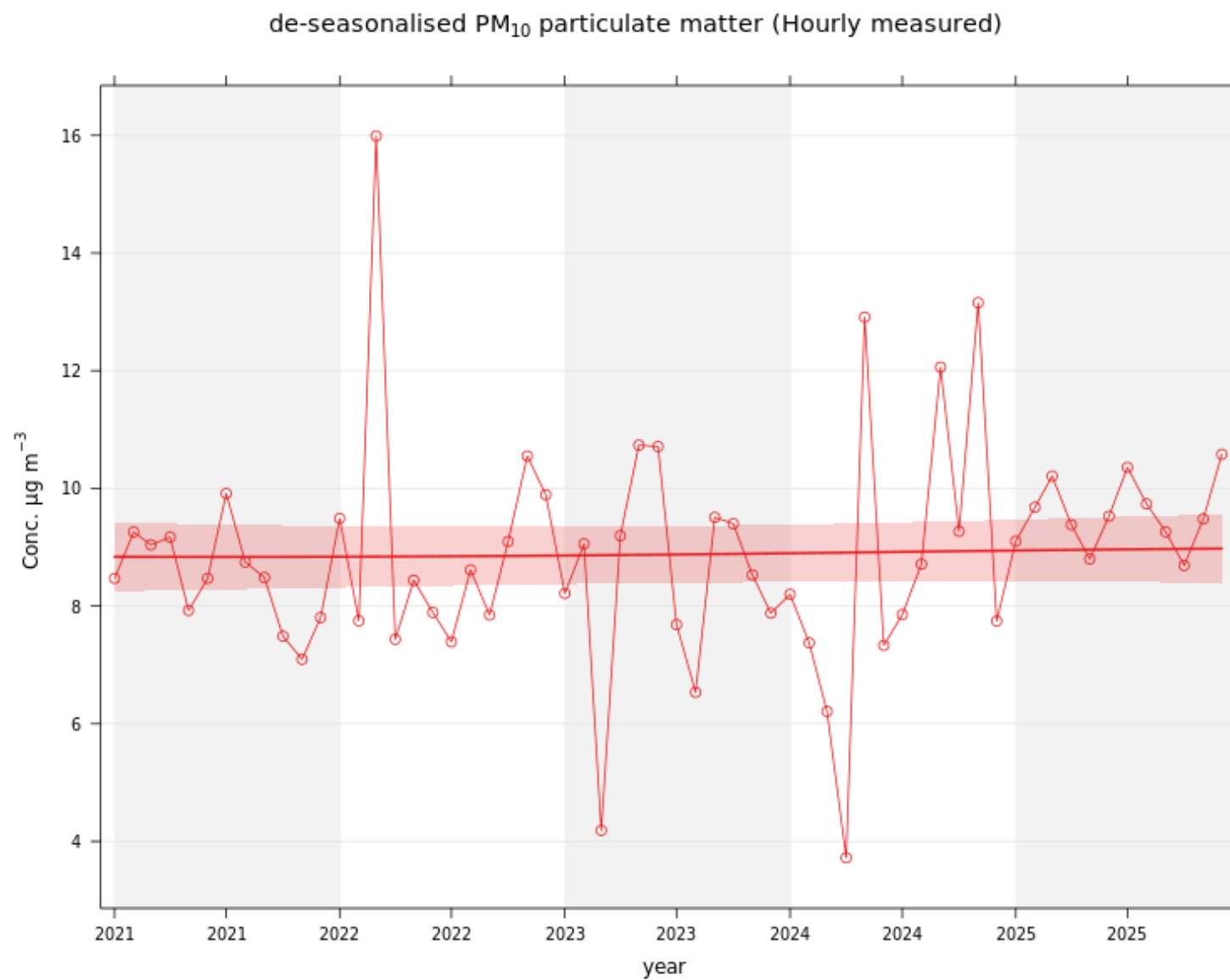
Figure 14 – A11 Grangemouth Zetland Park Long Term PM₁₀ (Hourly Measured) Concentrations

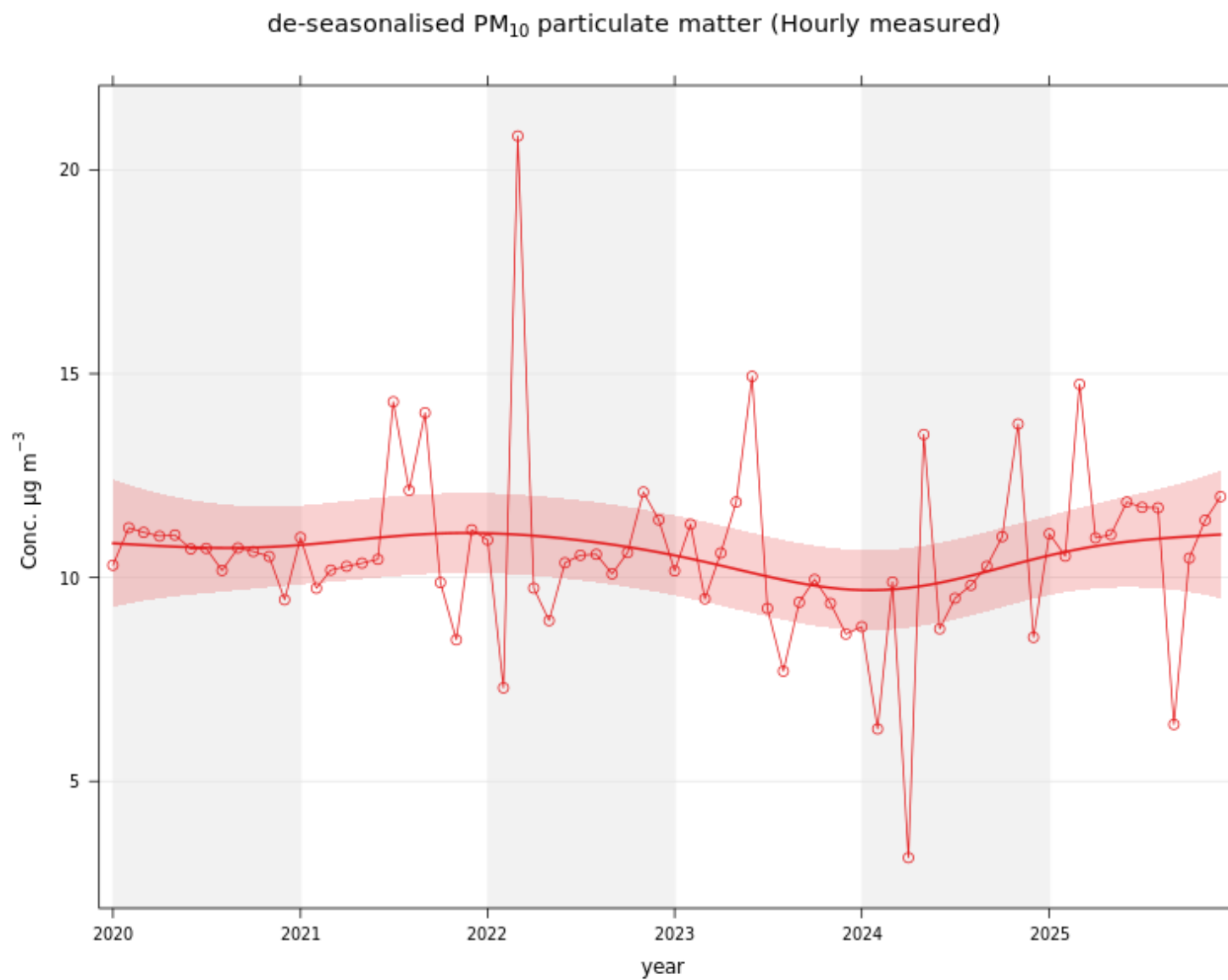
Figure 15 – A15 Main St, Bainsford Long Term PM₁₀ (Hourly Measured) Concentrations

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
A3 – Bo'ness (Fidas 200 - Uncorrected)	299815	681481	Urban Background / Industrial	98	98					6
A3 – Bo'ness (Fidas 200 - Mean Corrected) ⁽³⁾										6.4
A4 – Falkirk Haggs (Fidas 200 - Uncorrected)	278977	679271	Roadside	99	99	5.7	6.1	5.3	5	6
A4 – Falkirk Haggs (Fidas 200 - Mean Corrected) ⁽³⁾						6.1	6.4	5.6	5.3	6.4
A5 – Falkirk Hope Street (Fidas 200 - Uncorrected)	288688	680218	Roadside	67	67	5	5.3	4.8	5	7.2
A5 – Falkirk Hope Street (Fidas 200 - Corrected) ⁽³⁾						5.3	5.6	5.1	5.3	7.6
A7 – Falkirk West Bridge Street (Fidas 200 - Uncorrected)	288457	680064	Roadside	100	100	4.9	5.2	5.3	7	8
A7 – Falkirk West Bridge Street (Fidas 200 - Corrected) ⁽³⁾						5.2	5.5	5.6	7.4	8.5
A8 – Grangemouth AURN	293830	681022	Urban Background / Industrial	96	96	5.4	8	5.1	9	6
A9 – Grangemouth Moray (Fidas 200 - Uncorrected)	293830	681022	Urban Background / Industrial	99	99				6	6
A9 – Grangemouth Moray (Fidas 200 - Corrected) ⁽³⁾									6.4	6.4

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	2021	2022	2023	2024	2025
A10 – Grangemouth Municipal Chambers (Fidas 200 - Uncorrected)	292816	682009	Urban Background / Industrial	100	100	4.7	5.5	5	6	6
A10 – Grangemouth Municipal Chambers (Fidas 200 - Corrected) ⁽³⁾						5	5.8	5.3	6.4	6.4
A11 – Grangemouth Zetland Park (Fidas 200 - Uncorrected)	292969	681106	Urban Background / Industrial	99	99	5.2	5.5	4.9	5	6
A11 – Grangemouth Zetland Park (Fidas 200 - Corrected) ⁽³⁾						5.5	5.8	5.2	5.3	6.4
A15 – Main Street, Bainsford (Fidas 200 - Uncorrected)	288566	681508	Roadside	95	95	6.1	6.2	5.4	5	6
A15 – Main Street, Bainsford (Fidas 200 - Corrected) ⁽³⁾						6.4	6.5	5.7	5.3	6.4

Notes:

Exceedances of the PM_{2.5} annual mean objective of 10µg/m³ are shown in bold.

All means have been “annualised” as per LAQM.TG(22), 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 conducted for part of the year.

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

- (3) The mean corrected PM_{2.5} data is calculated by multiplying the ratified data by the factor: 1.06. More information can be found in Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC.

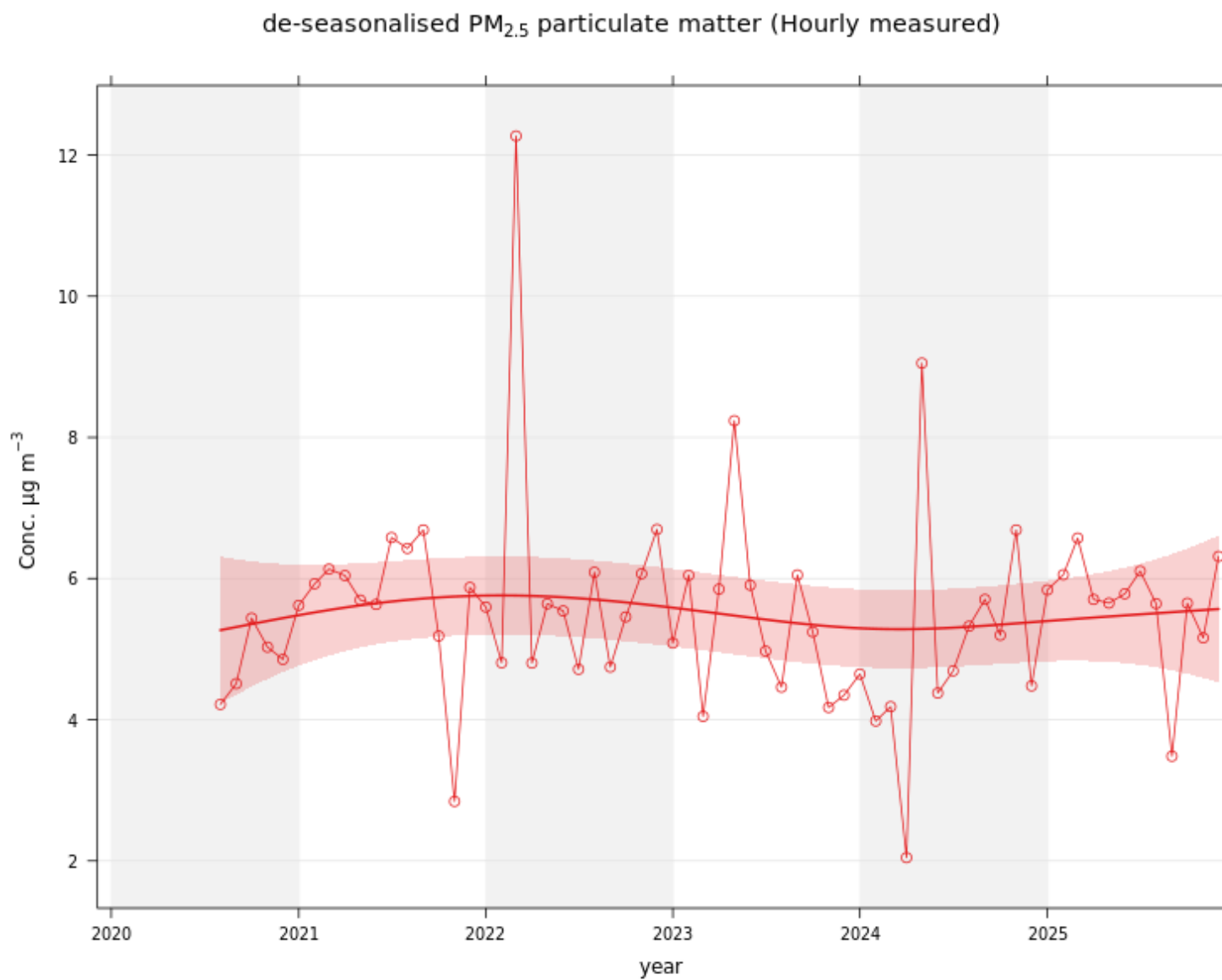
Figure 16 – A4 Falkirk Haggs Long Term PM_{2.5} Concentrations

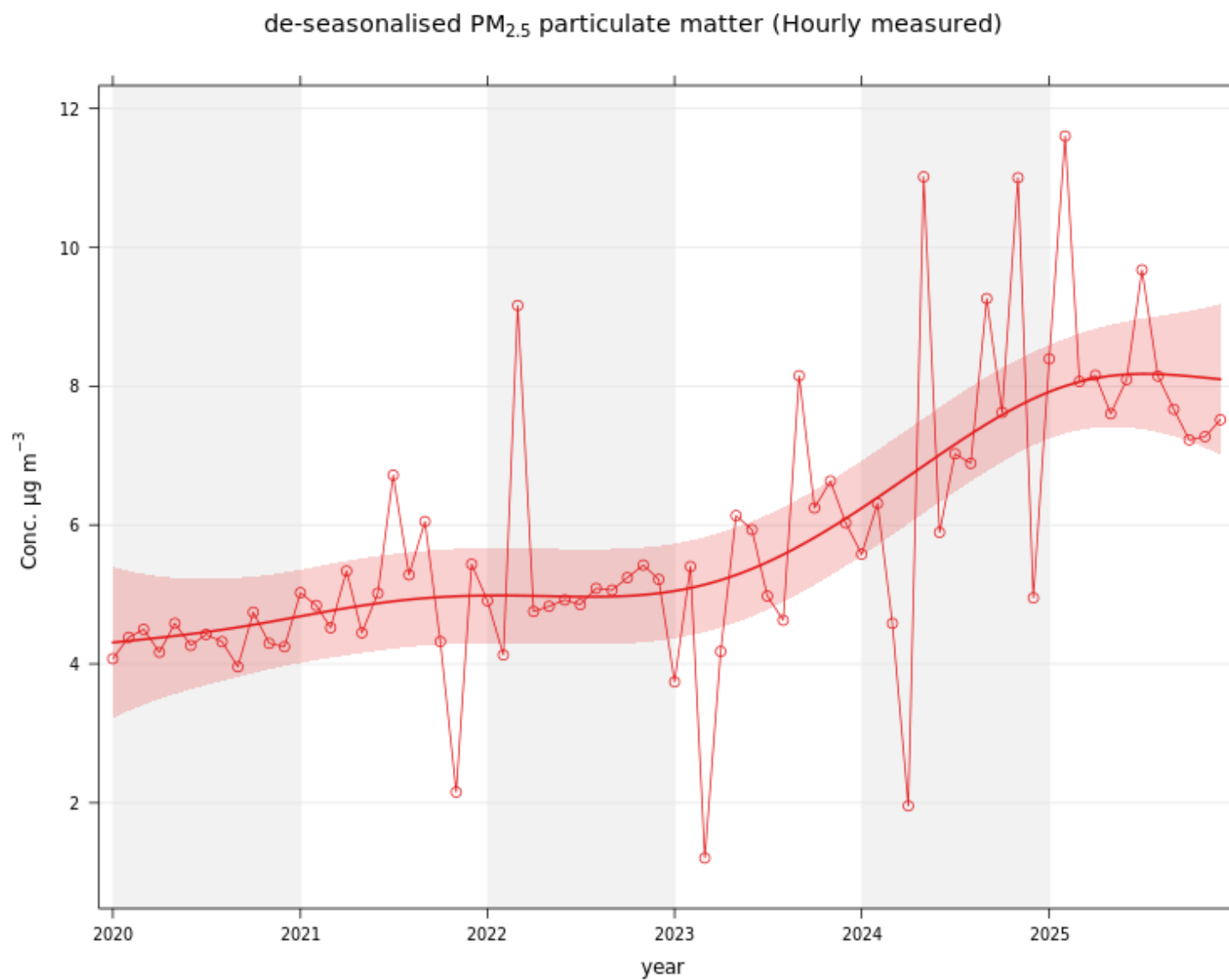
Figure 17 – A7 Falkirk West Bridge Street Long Term PM_{2.5} Concentrations

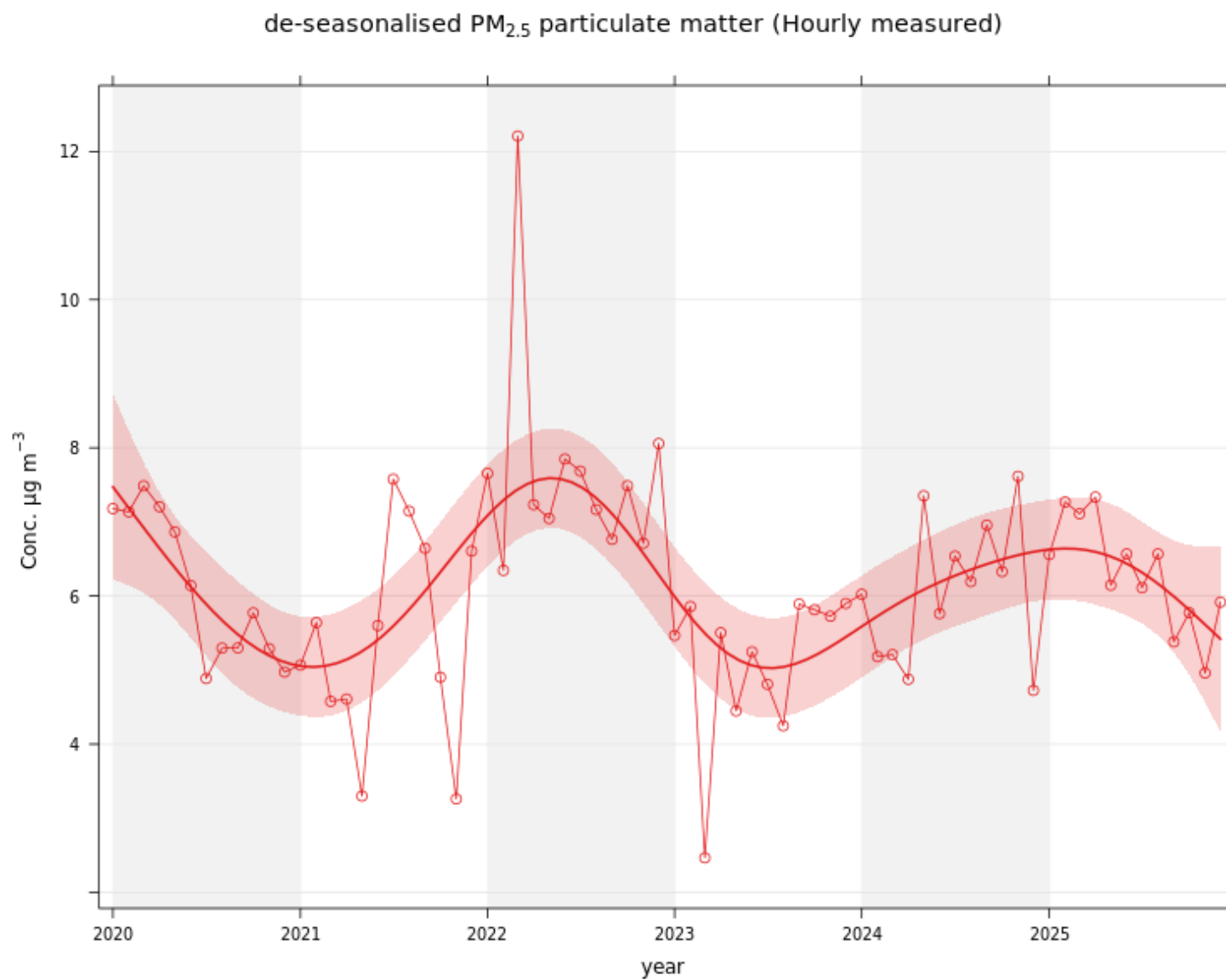
Figure 18 – A8 Grangemouth AURN Long Term PM_{2.5} Concentrations

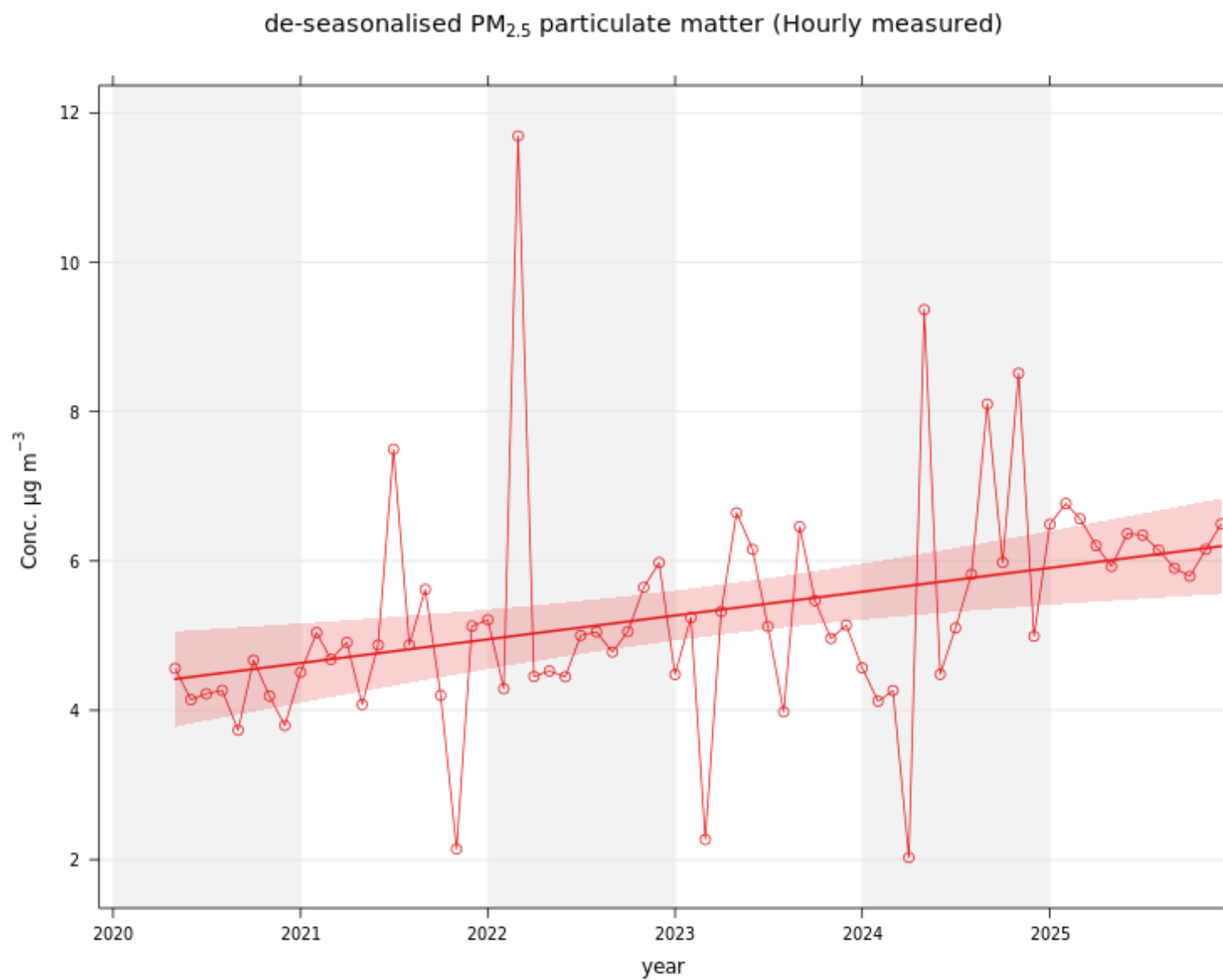
Figure 19 – A10 Grangemouth MC Long Term PM_{2.5} Concentrations



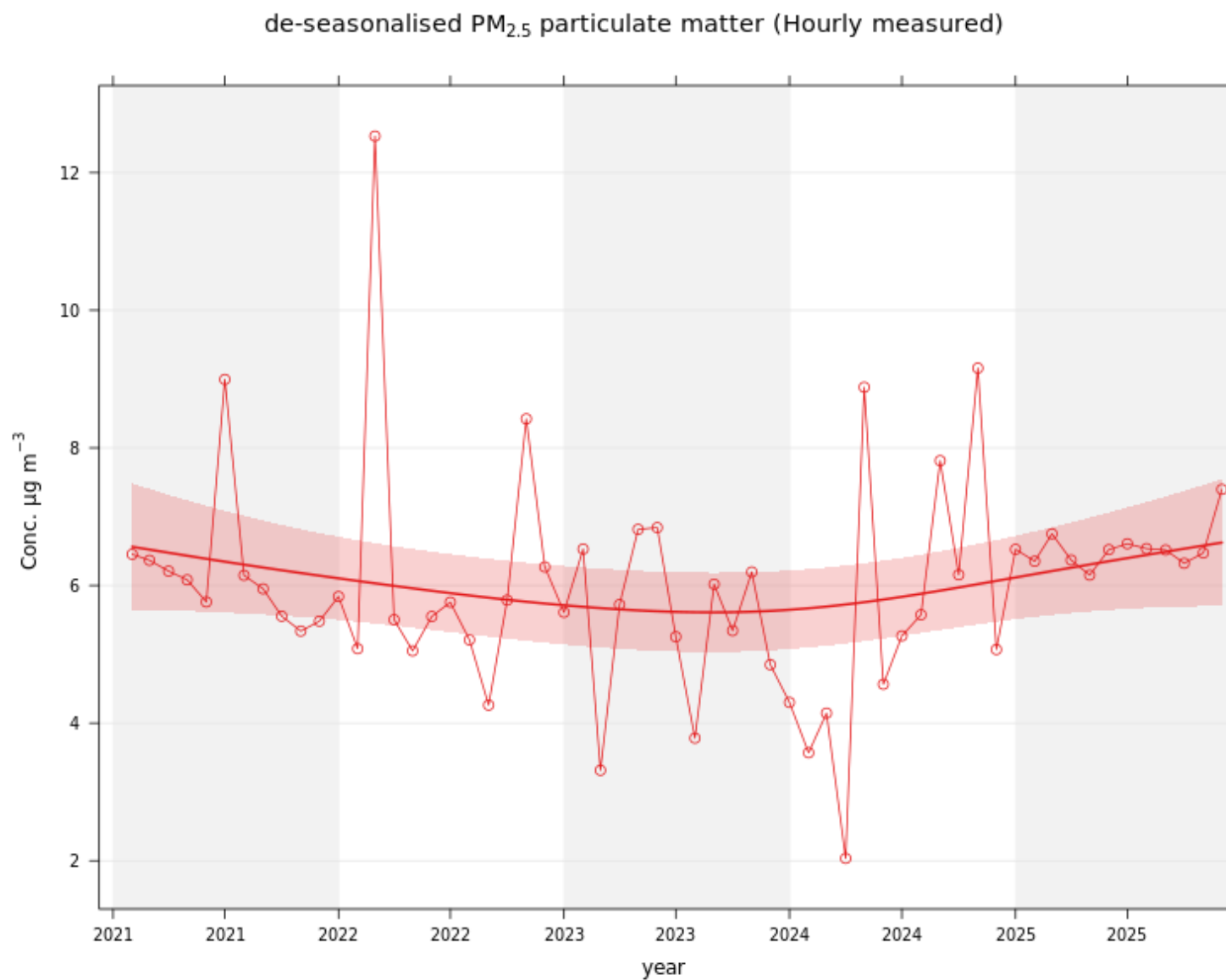
Figure 21 – A15 Main Street, Bainsford Long Term PM_{2.5} Concentrations

Table A.9 – SO₂ 2025 Monitoring Results, Number of Relevant Instances

Site ID	Site Type	Valid Data Capture for monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	Number of 15-minute Means > 266 µg/m	Number of 1-hour Means > 350 µg/m	Number of 24-hour Means > 125 µg/m
A3 – Bo'ness	Urban Background / Industrial	96	96	0	0	0
A5 – Falkirk Hope Street	Roadside	99	99	0	0	0
A8 – Grangemouth AURN	Urban Background / Industrial	91	91	0	0	0
A9 – Grangemouth Moray	Urban Background / Industrial	97	97	0	0	0
A10 – Grangemouth Municipal Chambers	Urban Background / Industrial	97	97	0	0	0
A11 – Grangemouth Zetland Park	Urban Background / Industrial	85	85	0	0	0

Notes:

Exceedances of the SO₂ objectives are shown in bold (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed a year)

If the period of valid data is less than 85%, the relevant percentiles are provided in brackets (15-Minute means: 99.9th percentile, 1-hour means: 99.7th percentile, 24-hour means: 99.2nd percentile).

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

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

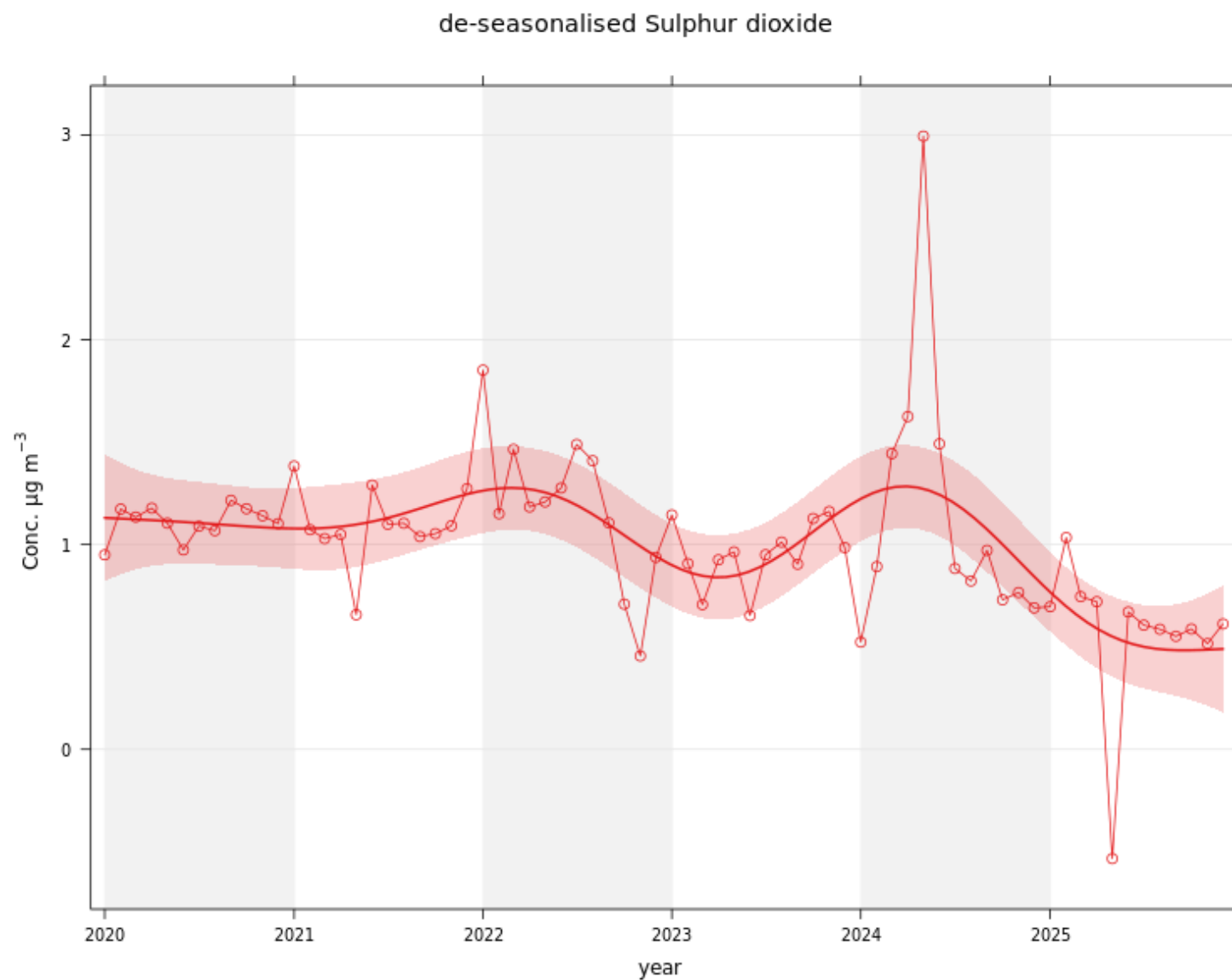
Figure 22 – A3 Bo'ness Long Term SO₂ Concentrations

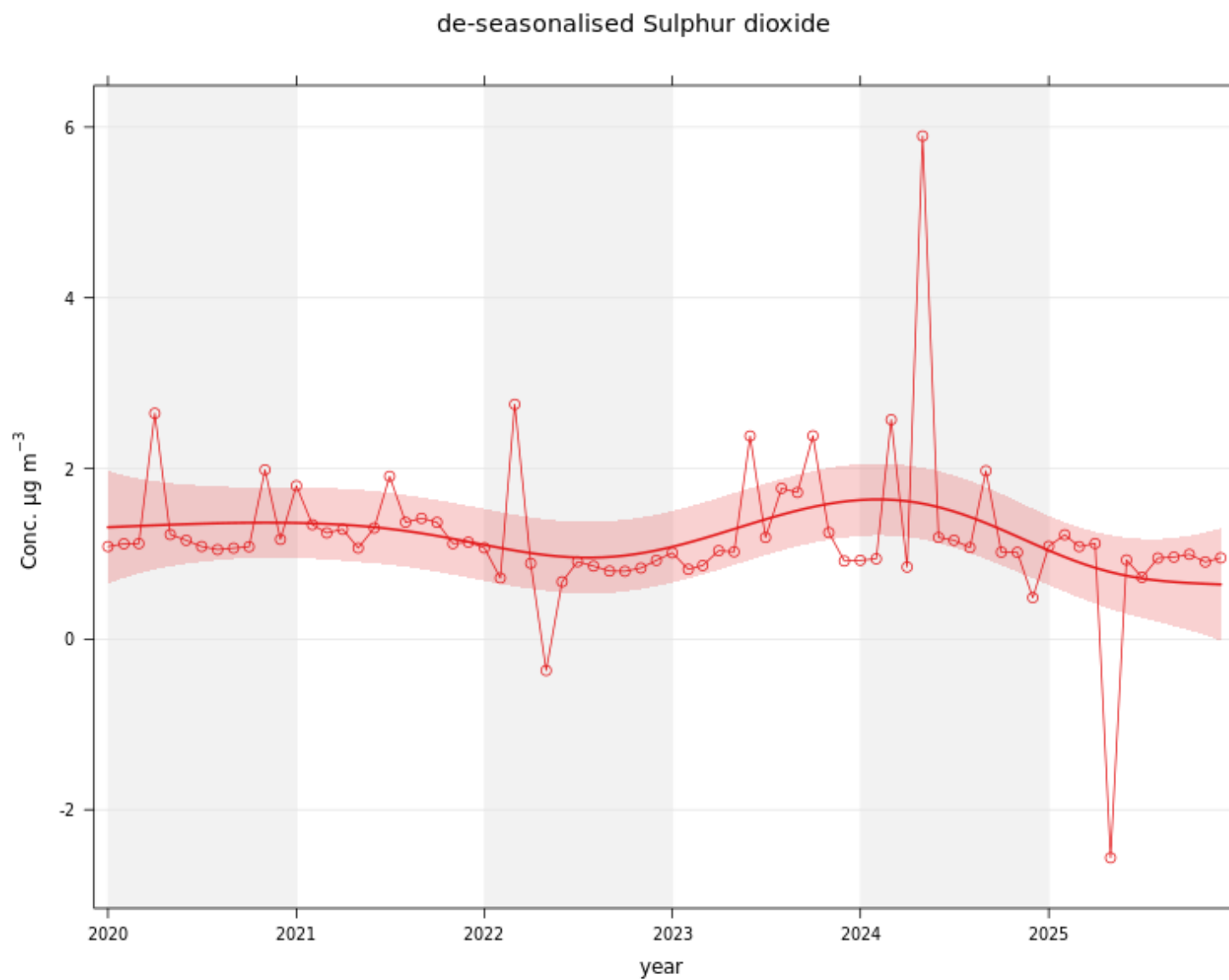
Figure 23 – A5 Falkirk Hope Street Long Term SO₂ Concentrations

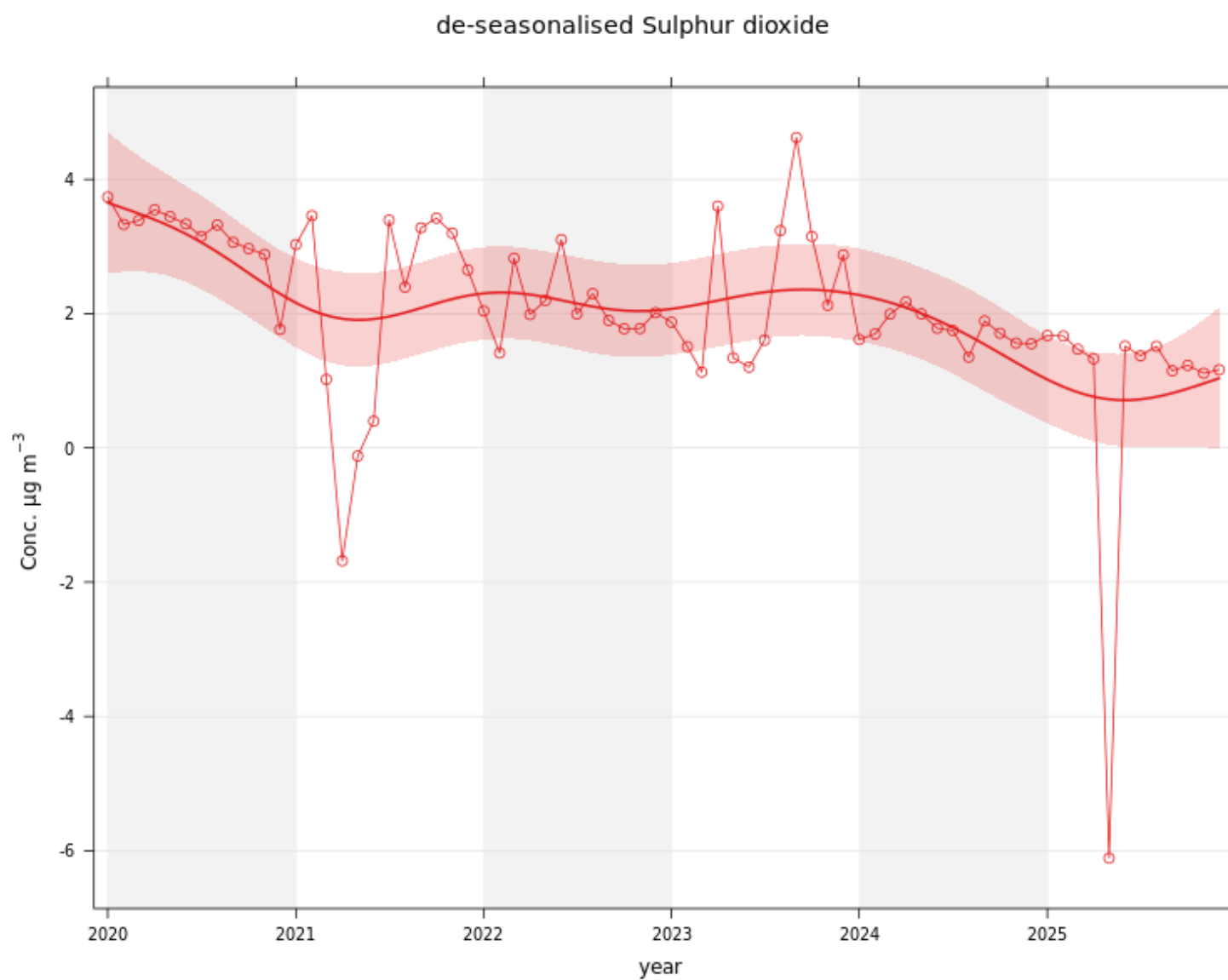
Figure 24 – A8 Grangemouth AURN Long Term SO₂ Concentrations

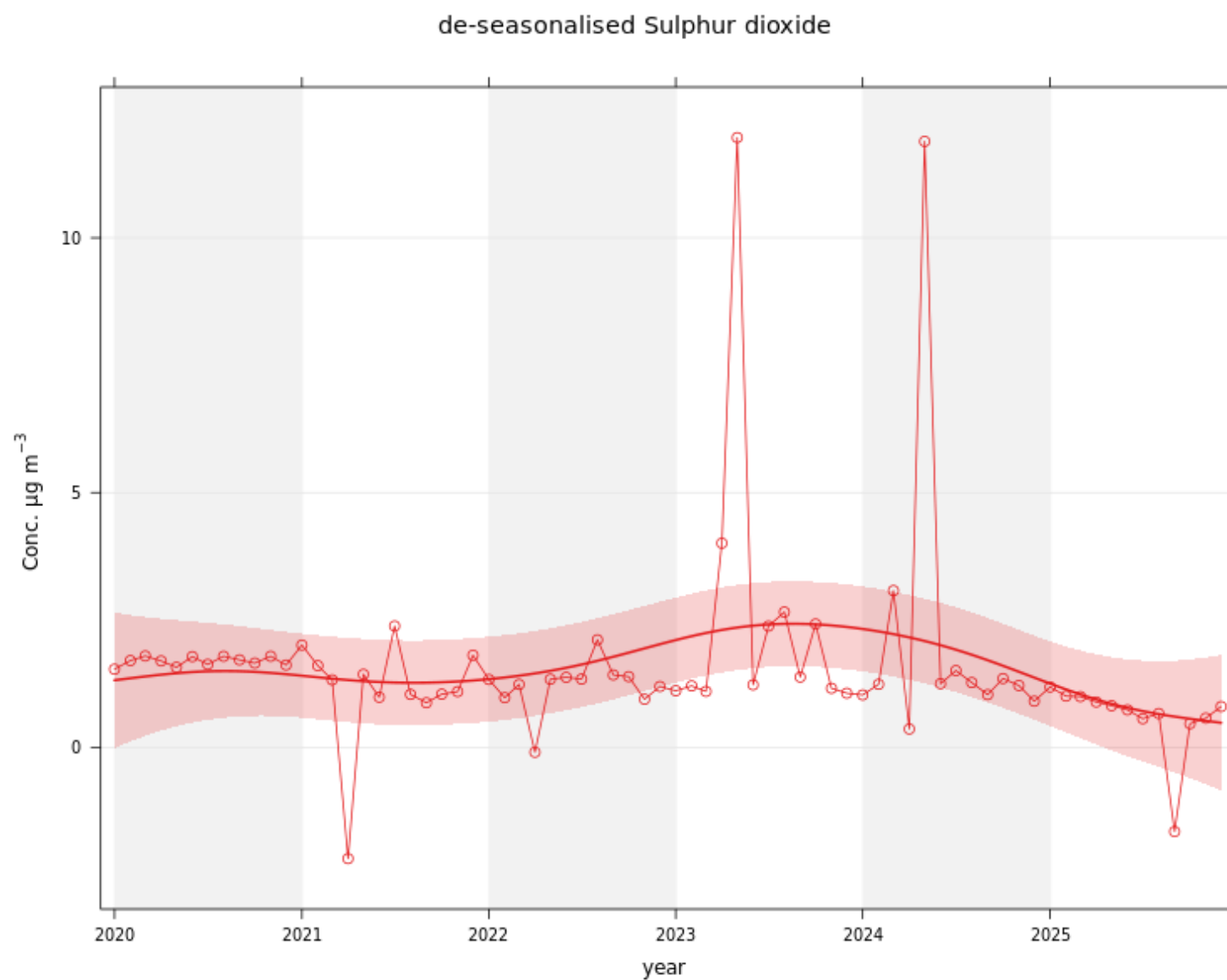
Figure 25 – A9 Grangemouth Moray Long Term SO₂ Concentrations

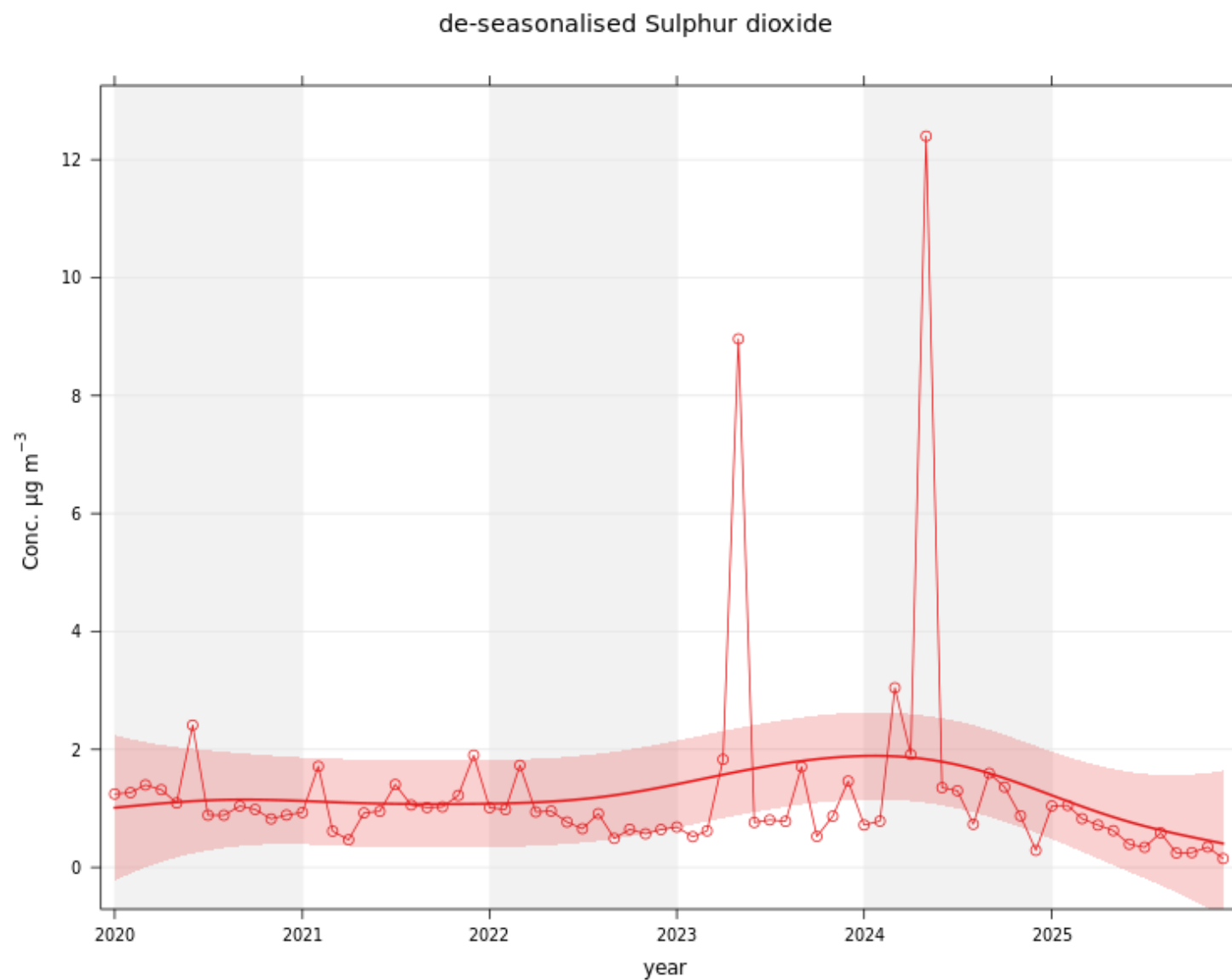
Figure 26 – A10 Grangemouth Municipal Chambers Long Term SO₂ Concentrations

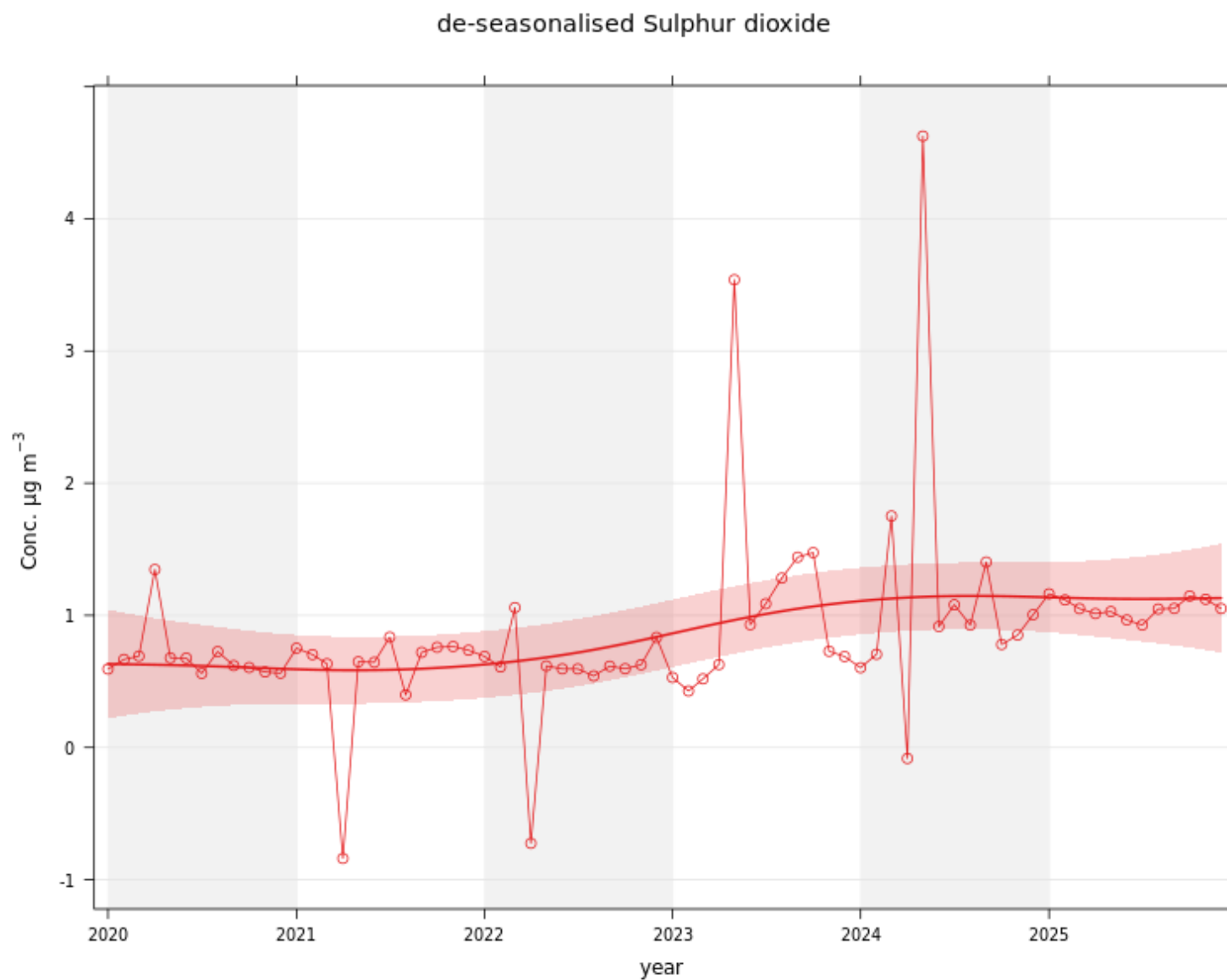
Figure 27 – A11 Grangemouth Zetland Park Long Term SO₂ Concentrations

Table A.10 – 1, 3 Butadiene Annual Mean Diffusion Tube Results for 2025

Site ID	Location	Data Capture (%) in 2025	Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$)				
			2021	2022	2023	2024	2025
NA41	Seaview Place, Bo'ness	100	0.05	0.05	0.05	0.05	0.05
NA55	Inchyra Station, Grangemouth	100	0.05	0.06	0.06	0.05	0.05
NA104	Powdrake Road, Grangemouth	100	0.05	0.05	0.05	0.05	0.05

Note: Exceedances of the 1,3 Butadiene running annual mean objective of $2.25\mu\text{g}/\text{m}^3$ are shown in bold.

Table A.11 – Benzene Annual Mean Diffusion Tube Results for 2025

Site ID	Location	Within AQMA?	Data Capture (%) in 2025	Annual Mean Concentrations (µg/m³)				
				2021	2022	2023	2024	2025
NA3	Tinto Drive, Grangemouth	N	100	0.51	0.58	0.54	0.44	0.53
NA21	Grangemouth Road, Falkirk College	N	100	0.37	0.57	0.51	0.51	0.49
NA27	West Bridge Street, Falkirk	N	100	0.54	0.60	0.62	0.64	0.68
NA37	Denny Town House	N	100	0.39	0.51	0.54	0.51	0.55
NA38	Larbert Village Primary School	N	100	0.39	0.45	0.39	0.40	0.44
NA41	Seaview Place, Bo'ness	N	100	0.61	0.74	0.65	0.68	0.70
NA42	Municipal Chambers, Grangemouth	N	100	0.51	0.57	0.96	0.55	0.57
NA44	Harvey Avenue, Polmont	N	100	0.41	0.42	0.45	0.42	0.44
NA55	Inchyra AQ Station, Grangemouth	N	100	0.52	0.58	0.62	0.53	0.65
NA77	Kinnaird Village	N	100	0.38	0.44	0.43	0.43	0.42
NA80	Cow Wynd, Falkirk	N	100	0.45	0.49	0.53	0.47	0.47
NA81	Grahams Road, Falkirk	N	100	0.61	0.74	0.76	0.68	0.66
NA94	A905 (Glensburgh Rd), Grangemouth	N	100	0.49	0.66	0.71	0.54	0.65
NA105	West of Shieldhill	N	100	0.28	0.33	0.32	0.29	0.27
NA116	Kersiebank Avenue, Grangemouth	Y	100	0.45	0.52	0.52	0.47	0.59
NA117	Oswald Avenue (East), Grangemouth	Y	100	0.55	0.64	0.71	0.61	0.72

Table A.12 – Pumped Benzene Annual Mean Results for 2025

Site ID	Location	Within AQMA?	Data Capture (%) in 2025	Annual Mean Concentrations (µg/m ³)				
				2021	2022	2023	2024	2025
A8	Grangemouth AURN	Y	100	0.68	0.66	0.79	0.69	0.63

Note: Exceedances of the Benzene running annual mean objective of 3.25µg/m³ are shown in bold.

Figure 28 – Map of the AQMA Boundary in the Falkirk Council Area

A) Falkirk Town Centre AQMA (NO₂ Annual Mean, PM₁₀ annual and 24-hour mean) with relevant diffusion tube locations, declared March 2010, revoked 15th April 2026

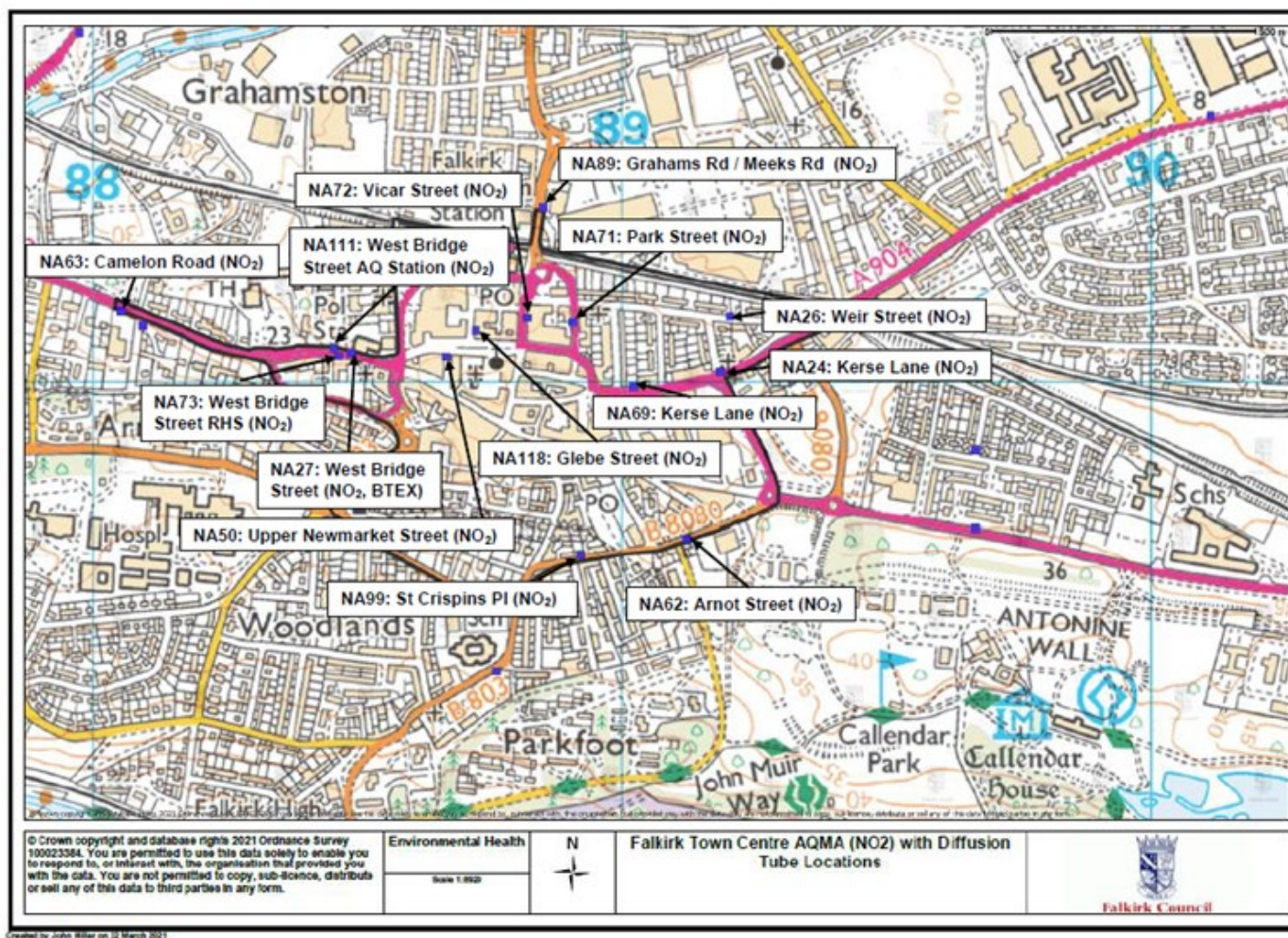
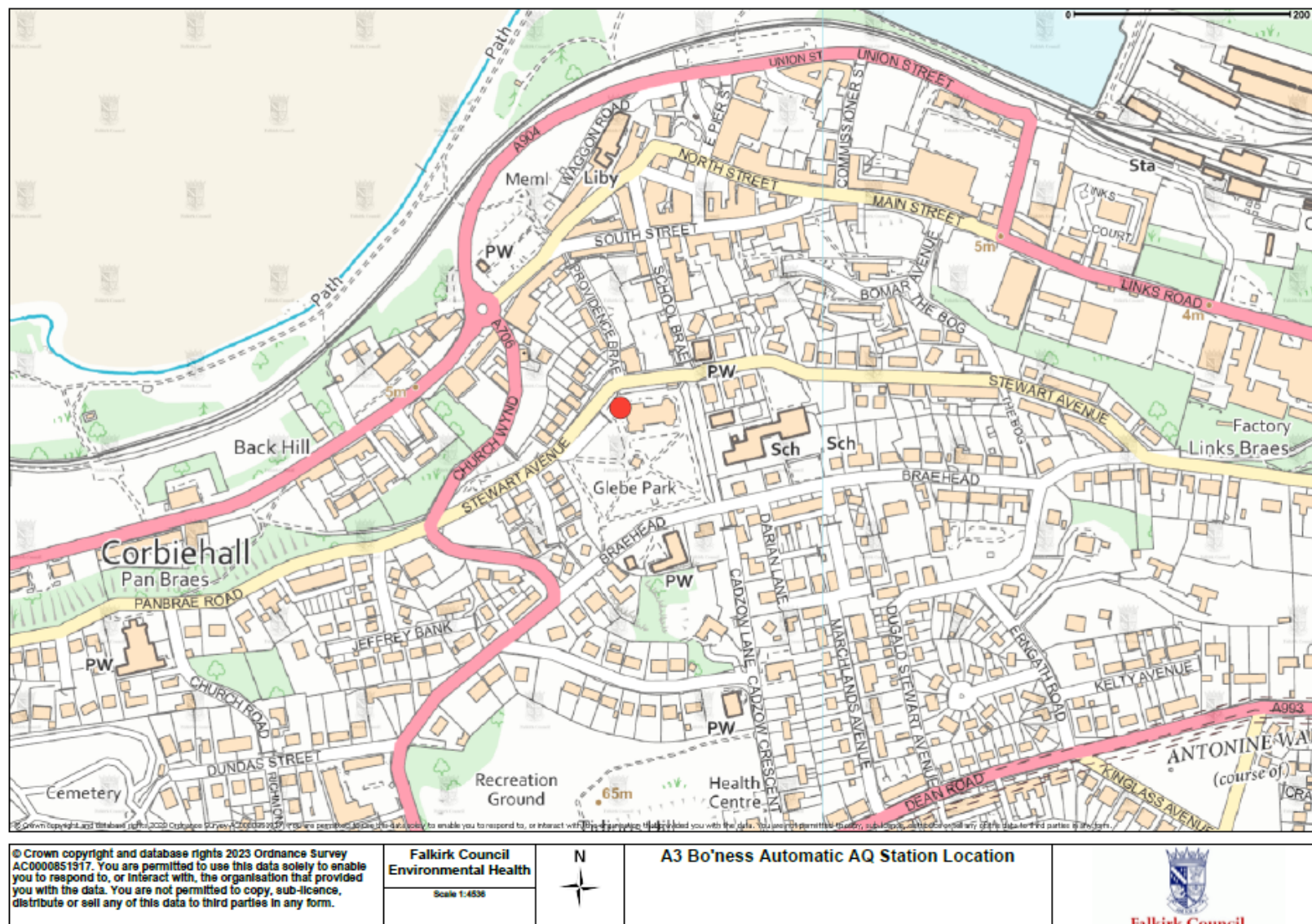
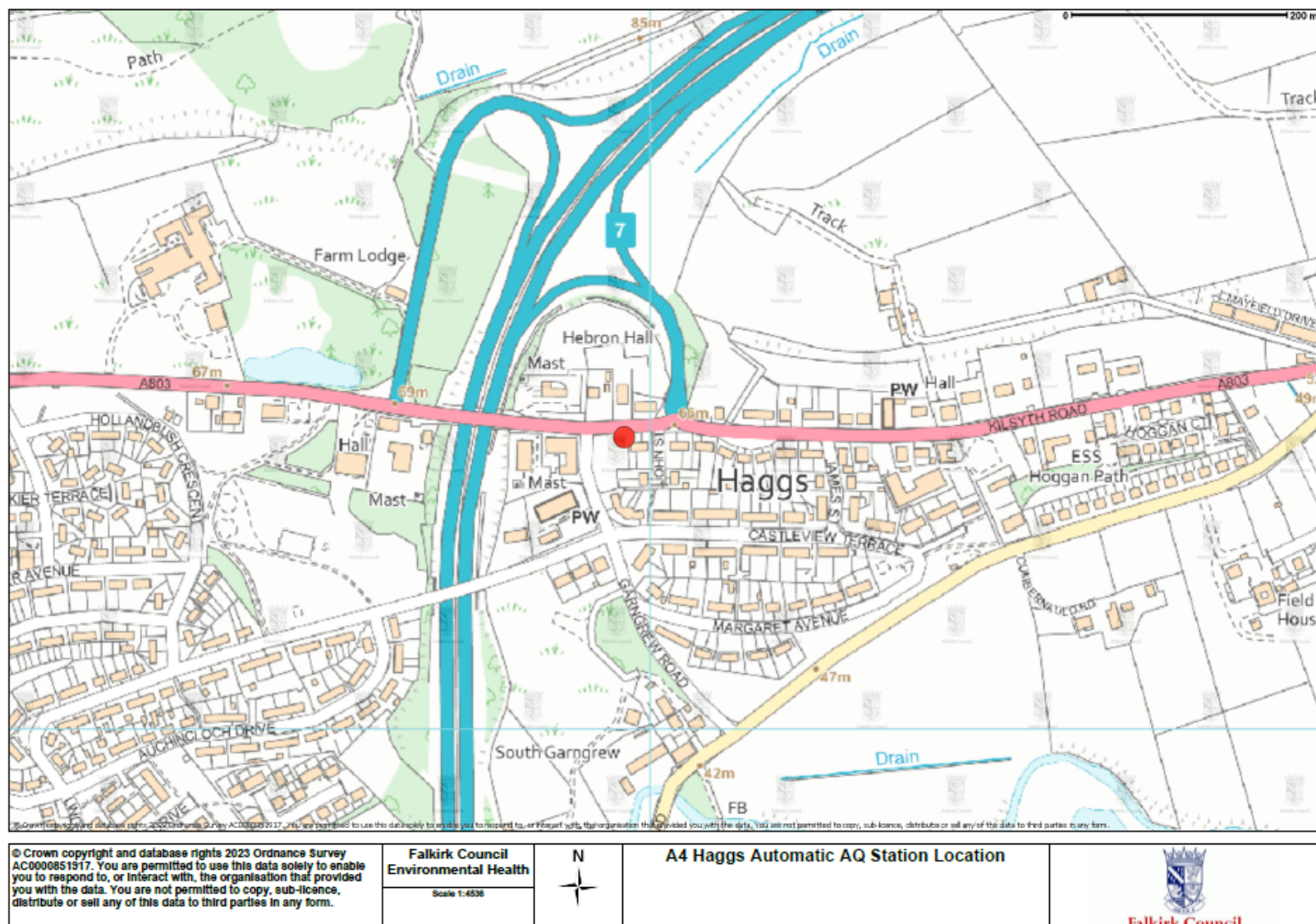


Figure 29 – Maps Showing Automatic Monitoring Locations

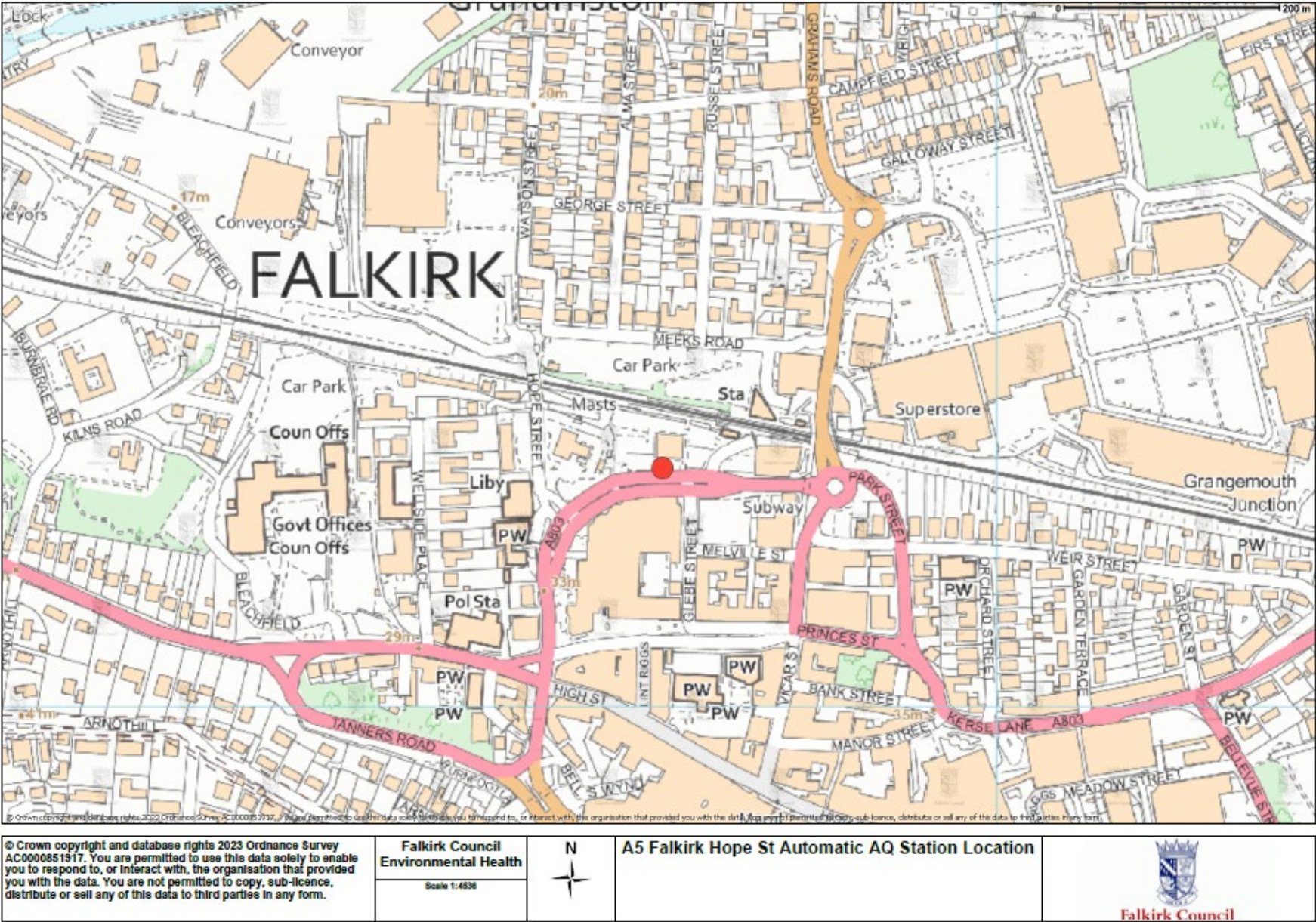
A) A3 Bo'ness



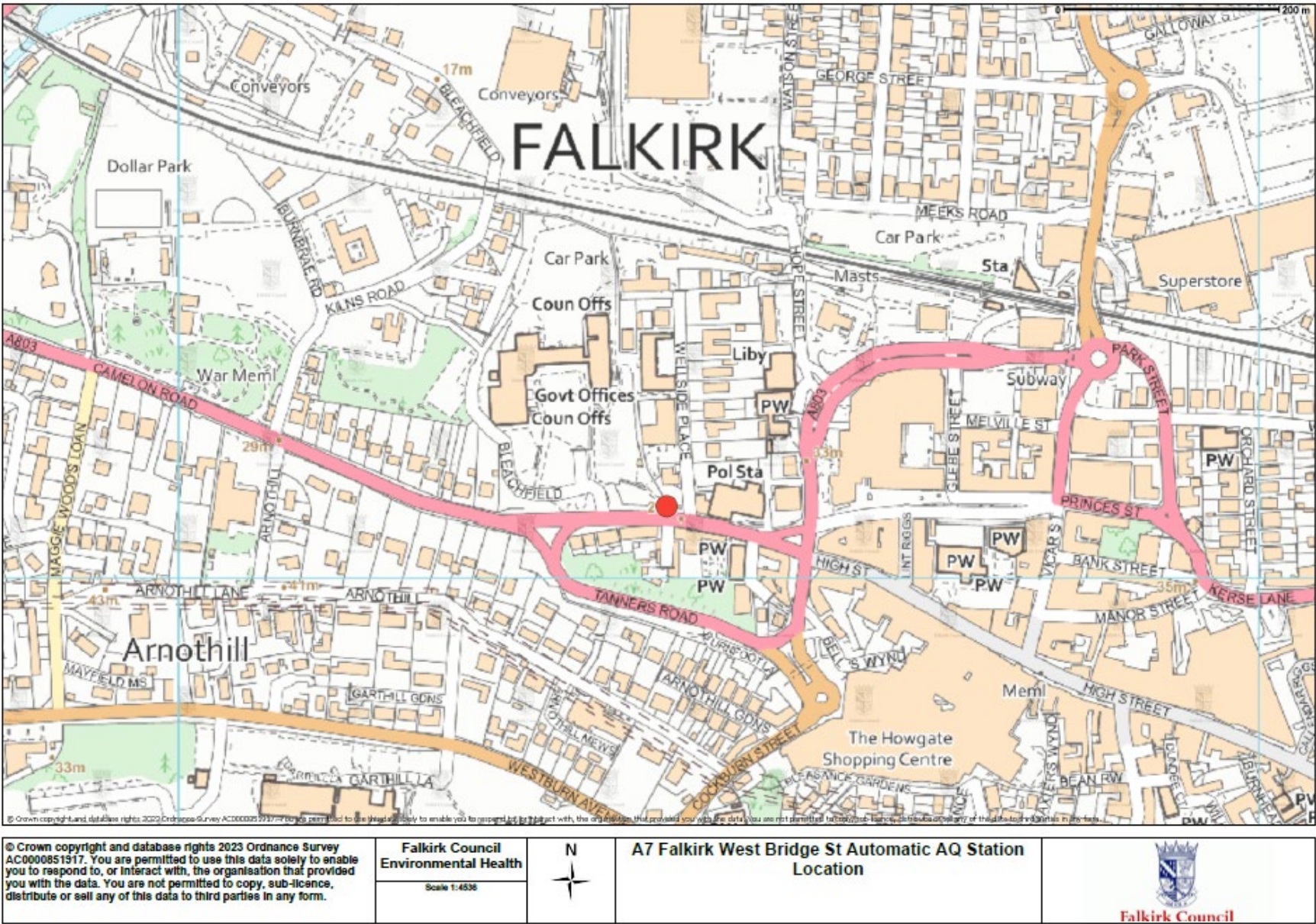
B) A4 Hags



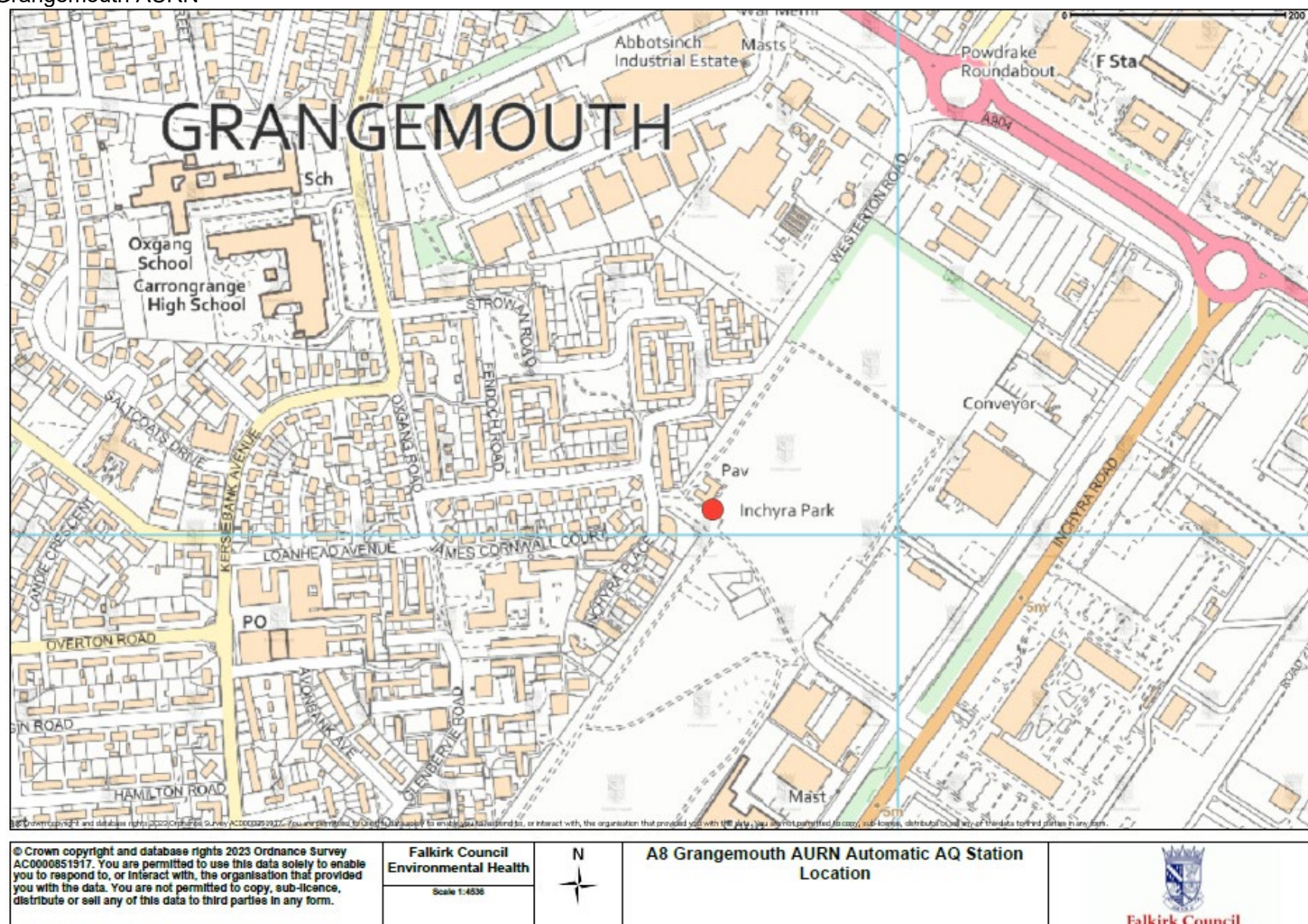
C) A5 Falkirk Hope Street



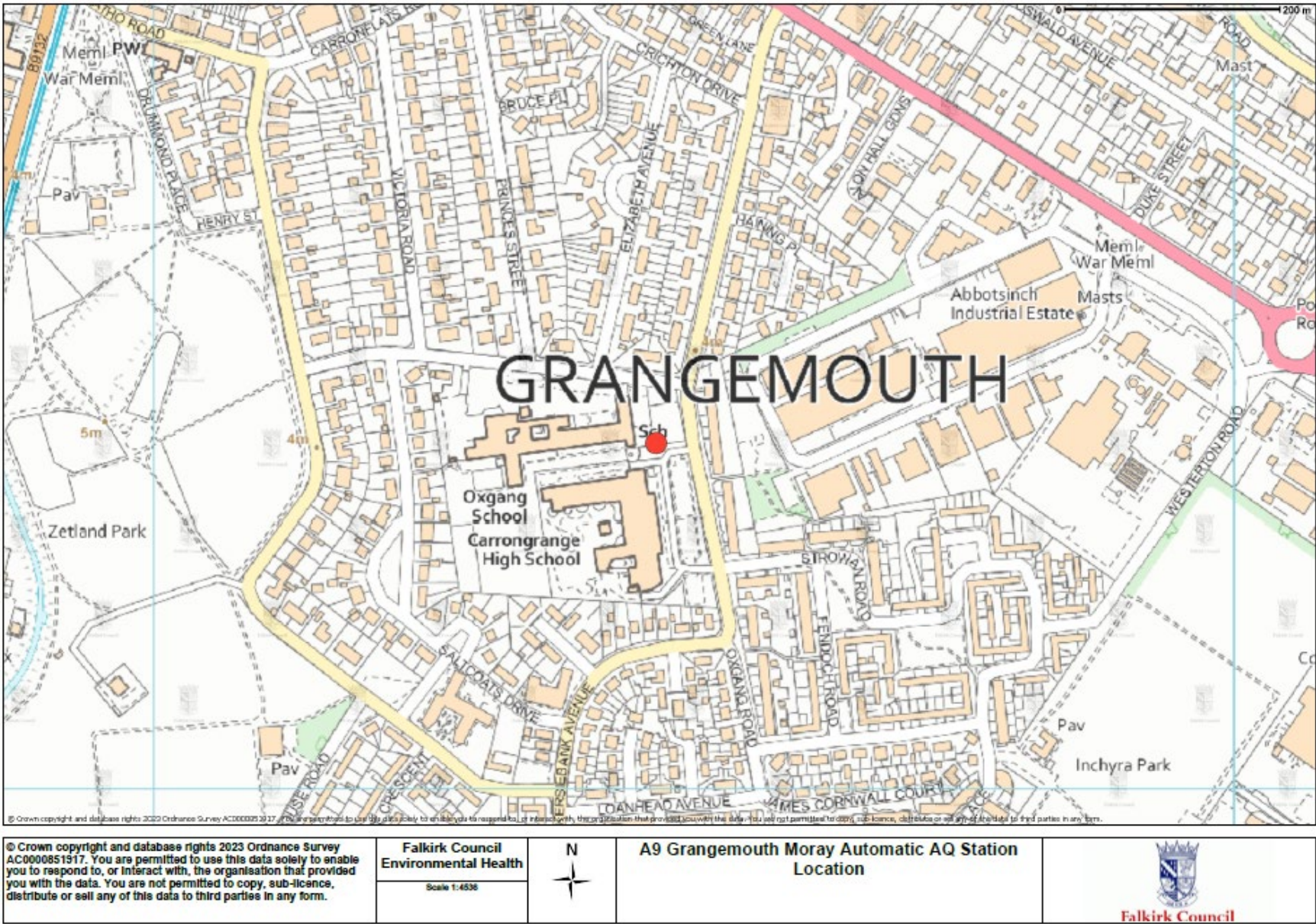
D) A7 Falkirk West Bridge Street



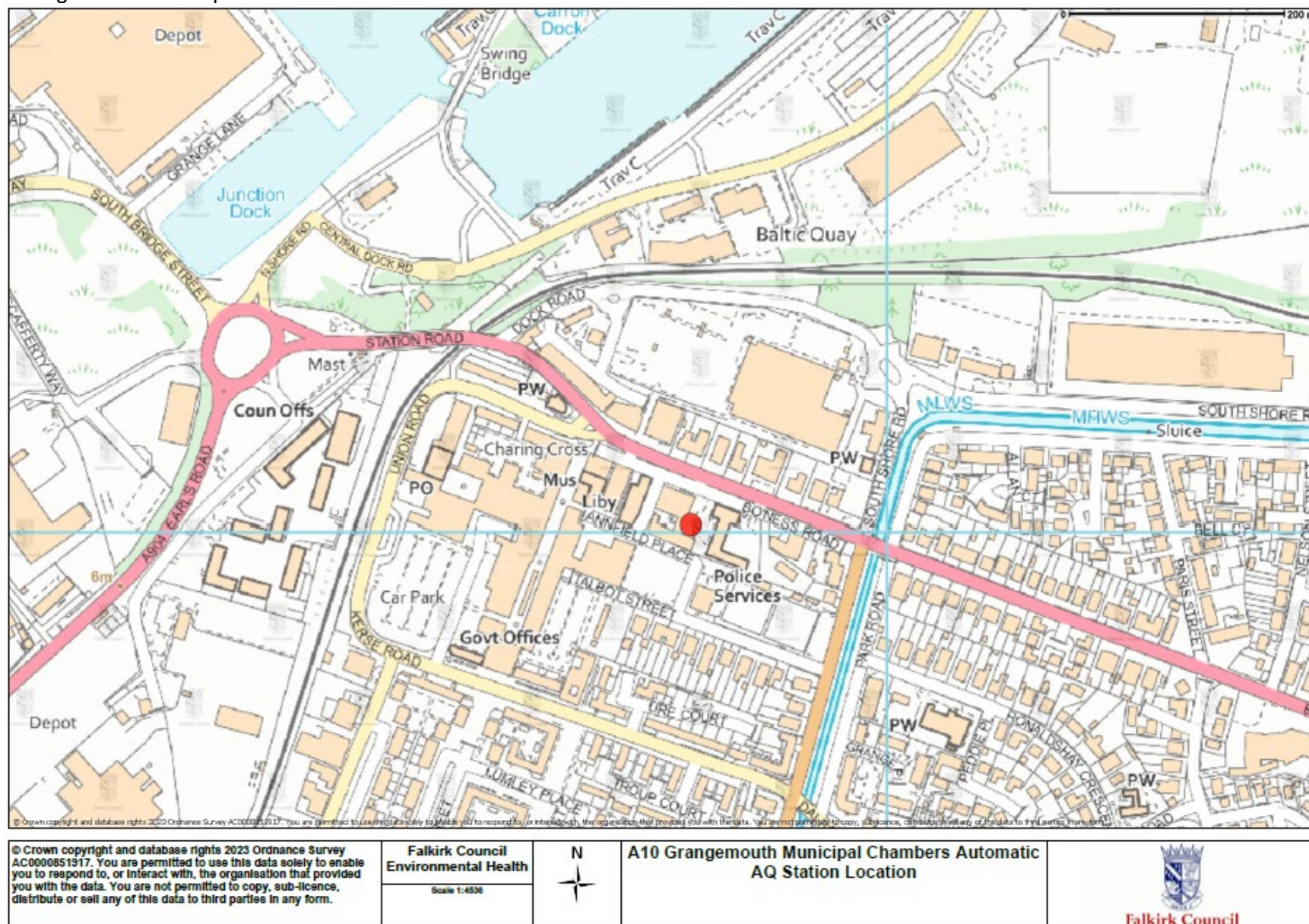
E) A8 Grangemouth AURN



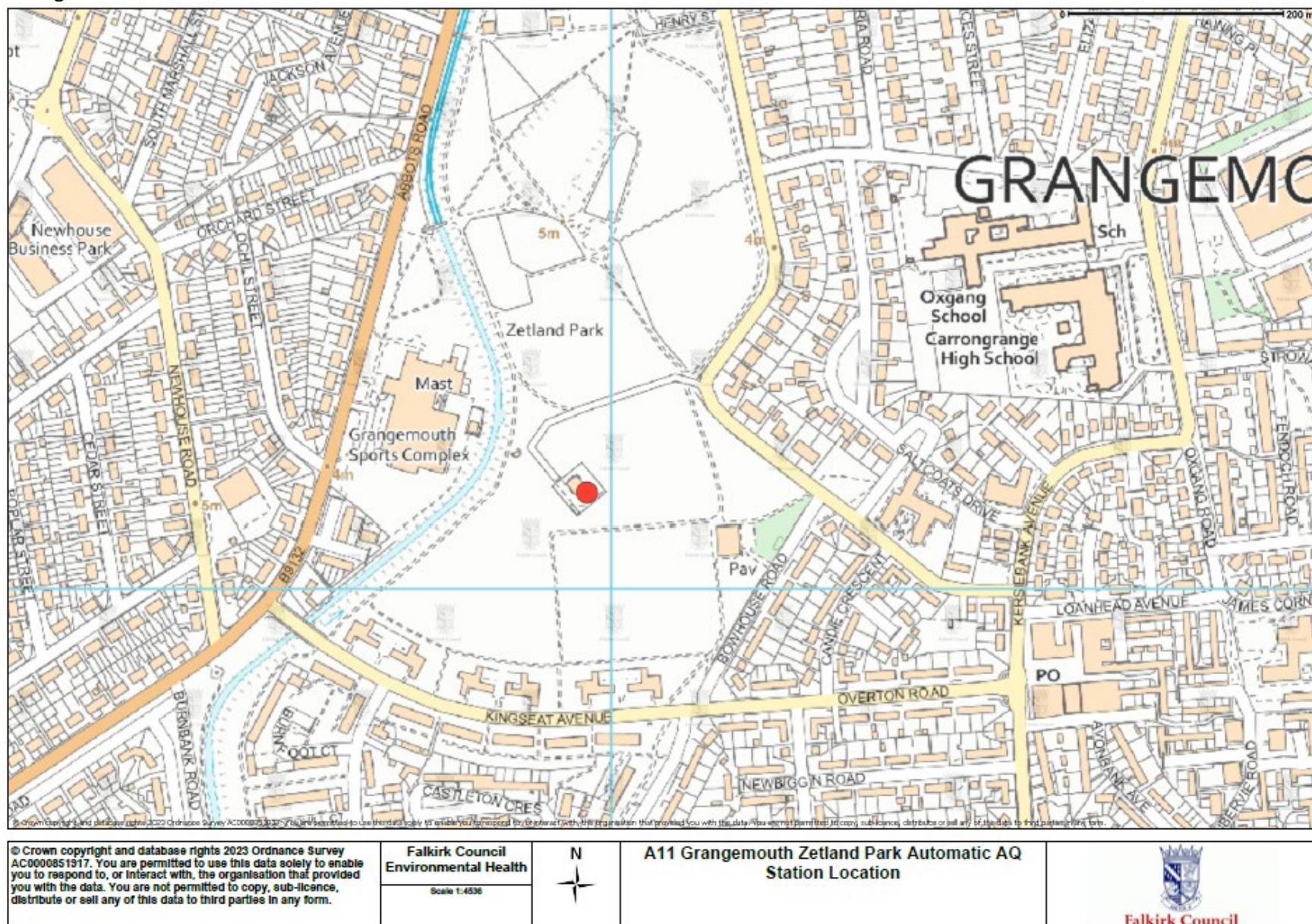
F) A9 Grangemouth Moray



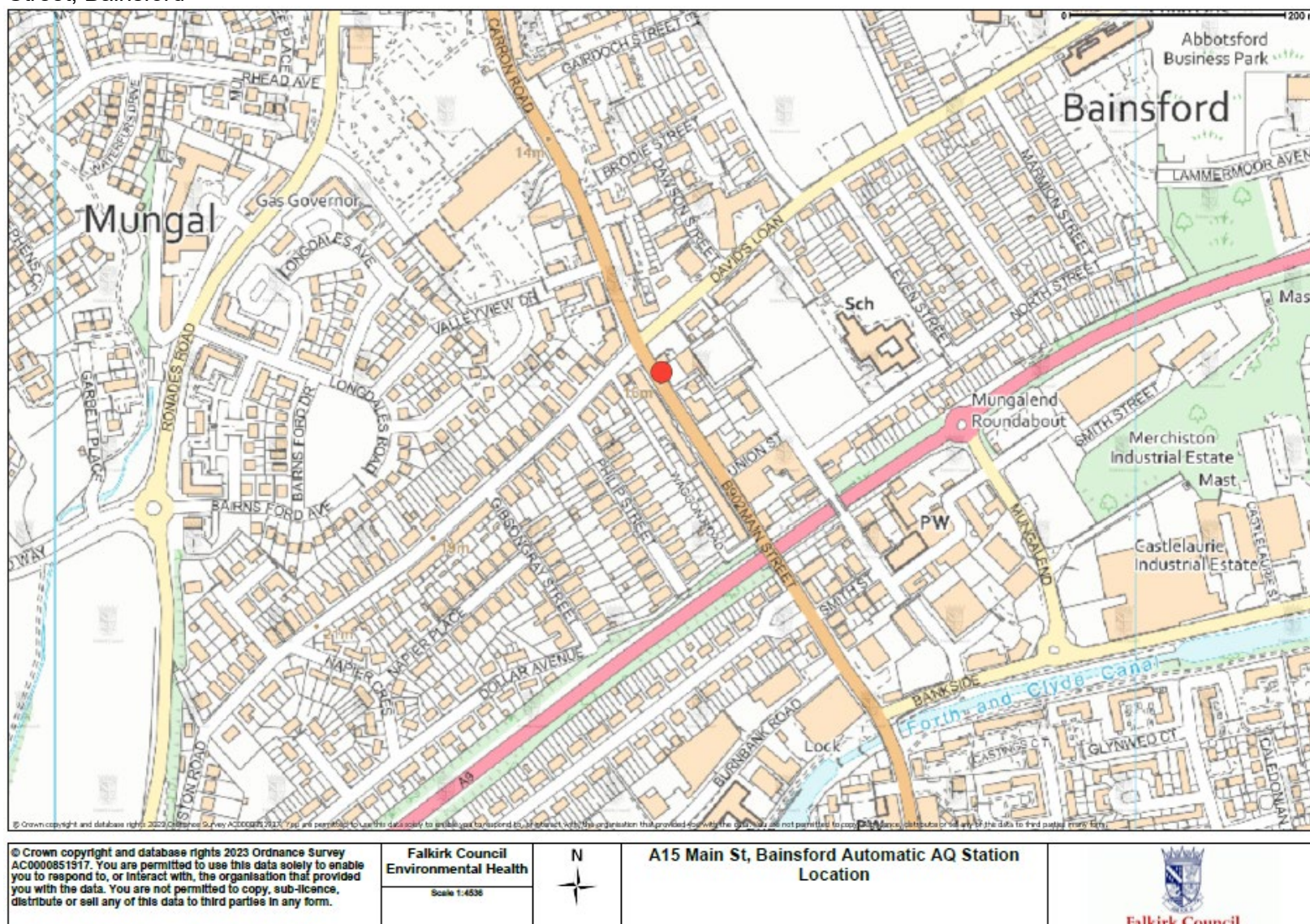
G) A10 Grangemouth Municipal Chambers



H) A11 Grangemouth Zetland Park



I) A15 Main Street, Bainsford



Appendix B: Full Monthly Diffusion Tube Results for 2025

Table B.1 – NO₂ 2025 Monthly 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 Local Bias Adjusted (1.06)	Comment
3	293427	680386	18.2	15.7	13.5	15.1	11.2	8.9	8.5	-	11.8	10.3	18.3	17.2	13.5	14.3	
5	287332	680333	22.9	20.2	23.0	9.8	15.0	15.7	13.2	13.0	15.4	13.4	20.0	-	16.5	17.5	
9	286048	683542	22.5	16.5	16.7	17.1	13.0	13.3	11.4	12.1	15.4	9.1	20.9	20.8	15.7	16.7	
19	278779	679301	19.5	21.5	21.5	-	13.8	10.7	8.7	-	12.9	10.9	21.3	22.8	16.4	17.3	
20	278957	679169	21.4	17.3	-	-	-	10.6	8.9	9.8	13.1	11.4	19.3	20.1	14.7	15.5	
21	290112	680500	18.3	25.8	18.7	21.0	16.2	15.5	12.6	18.1	-	16.3	18.8	20.5	18.3	19.4	
24	289189	680018	30.4	23.3	26.2	23.7	19.0	18.8	17.7	18.4	18.6	19.5	22.4	21.3	21.6	22.9	
26	289207	680123	17.8	17.0	12.9	13.6	9.0	7.9	7.8	9.3	9.4	9.8	16.7	15.4	12.2	12.9	
27	288490	680055	29.1	42.3	44.4	35.3	30.9	25.4	22.6	28.0	28.2	21.9	35.1	35.0	31.5	33.3	
29	288465	680220	16.1	14.2	14.9	15.4	8.1	7.7	6.5	7.1	9.9	9.4	15.8	15.2	11.7	12.4	

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 Local Bias Adjusted (1.06)	Comment
36	278985	679273	28.5	23.3	-	20.2	17.9	17.3	14.8	16.1	20.7	20.7	28.1	-	20.8	22.0	
37	281226	682526	14.5	12.7	11.6	9.8	7.5	6.9	5.7	8.6	9.9	10.8	15.7	14.4	10.7	11.3	
38	285930	682318	-	16.2	12.4	7.9	8.3	7.9	6.6	8.4	9.2	-	18.0	-	10.5	11.1	
41	299722	681594	21.0	19.2	17.5	17.4	12.0	13.1	10.1	12.8	15.2	-	19.0	18.8	16.0	16.9	
42a, 42b, 42c	292817	682000	17.9	12.7	11.7	10.3	8.4	9.0	8.3	7.8	11.5	10.2	17.0	12.7	11.4	12.1	
44	293436	678938	16.2	12.3	14.2	10.8	11.9	9.1	8.8	9.0	10.6	11.5	13.7	15.5	12.0	12.7	
48	289200	681580	8.3	19.3	16.4	16.0	8.6	8.8	8.2	10.5	10.6	-	17.7	16.8	12.8	13.6	
50	288671	680047	19.1	29.8	28.2	33.4	17.0	14.5	13.4	15.2	13.8	12.1	18.9	19.9	19.6	20.7	
51	290965	679490	-	18.0	16.9	15.4	13.0	11.5	10.0	11.8	14.4	15.2	21.2	19.4	15.2	16.0	
52	285866	682356	18.4	15.9	16.4	14.0	12.3	11.5	-	-	15.6	14.8	20.3	20.9	16.0	16.9	
53	281211	682727	16.4	12.7	13.6	9.5	7.8	6.8	6.4	-	-	9.2	16.8	16.3	11.5	12.2	
58	289667	679724	-	17.9	15.9	13.0	10.2	8.7	8.4	10.0	11.9	13.5	16.7	17.4	13.0	13.8	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Local Bias Adjusted (1.06)	Comment
59	288392	681931	25.8	22.6	21.8	16.5	15.7	13.0	13.7	15.9	18.2	9.8	25.5	22.0	18.4	19.4	
60	288133	681587	24.8	17.1	20.2	19.1	12.5	13.4	10.2	14.8	14.9	14.6	19.4	22.4	17.0	17.9	
61	287976	680656	18.1	19.8	17.7	12.5	11.2	11.4	10.6	11.4	12.4	13.8	21.9	18.9	15.0	15.9	
62	289125	679705	26.7	18.2	22.3	27.0	19.2	22.6	17.7	22.6	22.5	20.8	30.5	27.4	23.1	24.5	
63	288055	680134	33.5	28.2	32.0	23.8	21.5	18.7	16.1	18.5	18.2	18.9	23.6	27.5	23.4	24.7	
64	288807	678422	12.2	13.4	13.8	10.6	9.4	7.1	6.8	-	-	8.7	12.2	13.6	10.8	11.4	
65	291356	678644	15.7	19.6	18.4	14.9	12.7	9.8	9.8	10.5	12.2	11.2	19.8	15.2	14.2	15.0	
67	289430	680433	24.2	21.6	19.4	21.7	16.6	16.1	14.6	16.4	16.3	18.8	25.8	26.3	19.8	21.0	
69	289025	679991	26.0	28.2	23.6	25.5	16.1	15.6	15.4	17.4	17.5	17.5	21.5	21.8	20.5	21.7	
71	288910	680112	30.8	31.3	30.5	25.4	20.4	20.4	19.4	20.5	16.3	18.0	26.1	23.9	23.6	24.9	
72	288824	680120	23.3	-	23.4	22.7	17.3	17.2	14.6	18.7	16.0	12.6	20.2	22.8	19.0	20.1	
73	288467	680048	20.8	29.3	26.4	25.5	19.3	15.7	14.1	16.4	18.1	14.9	-	18.9	19.9	21.1	

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 Local Bias Adjusted (1.06)	Comment
76	286851	683229	20.2	14.0	12.9	9.3	8.0	8.3	7.6	9.2	11.2	12.0	18.9	17.5	12.4	13.1	
77	286490	683775	22.4	13.8	13.3	14.2	10.3	12.6	8.0	12.6	13.1	13.7	19.8	19.3	14.4	15.3	
78	288525	678991	18.7	23.0	19.7	18.0	16.7	14.4	12.8	15.7	17.0	14.8	23.2	21.6	18.0	19.0	
80	288765	679456	24.1	20.8	21.3	15.7	14.9	15.1	11.5	15.7	19.2	17.9	22.9	21.6	18.4	19.4	
81	288834	680898	25.8	24.9	22.3	19.3	16.3	14.1	12.9	17.1	18.8	16.3	25.9	20.7	19.5	20.7	
82	288858	681036	18.4	15.9	15.2	12.3	9.3	8.6	7.5	8.4	10.7	10.8	15.6	18.3	12.6	13.3	
83	288614	681415	24.6	21.5	27.3	25.2	18.3	18.8	16.7	20.2	20.4	18.4	28.3	26.0	22.1	23.4	
85	278752	679049	20.2	22.7	17.6	11.5	12.5	10.8	9.2	13.0	13.6	11.8	-	23.4	15.1	16.0	
86	289667	679871	15.3	13.0	12.3	10.2	7.3	7.3	5.6	6.9	8.1	9.9	12.7	14.6	10.3	10.9	
87	279017	679305	-	13.4	11.5	9.9	9.2	12.7	10.0	10.8	13.9	13.8	20.6	21.2	13.4	14.1	
88	282444	681074	-	22.7	17.3	16.7	15.1	14.5	15.4	14.4	15.0	17.5	-	21.9	17.0	18.0	
89	288853	680328	-	23.1	25.0	18.1	16.4	16.4	14.4	16.1	17.3	18.6	26.7	21.5	19.4	20.5	

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 Local Bias Adjusted (1.06)	Comment
94	291213	681927	22.5	19.7	21.0	14.1	14.2	14.1	9.5	15.7	19.9	16.7	23.1	22.5	17.8	18.8	
98	288095	680105	16.2	7.0	16.0	17.2	11.3	8.7	8.5	9.2	8.6	10.1	18.1	17.4	12.3	13.1	
99	288924	679675	26.5	26.6	25.7	23.7	15.1	15.8	14.2	15.5	-	16.6	23.1	24.7	20.7	21.9	
101	291127	682007	22.4	17.2	14.7	17.2	11.7	10.1	9.6	10.9	15.5	13.0	18.4	16.5	14.8	15.6	
105	288292	676889	4.8	7.0	5.9	6.0	3.7	3.9	3.6	3.1	4.3	4.9	5.1	0.7	4.4	4.7	
107	288640	681396	22.7	20.0	17.2	14.8	12.0	11.1	9.3	14.1	14.5	15.4	19.7	20.4	15.9	16.9	
111a, 111b, 111c	288457	680064	31.5	35.2	32.7	33.6	25.8	21.3	20.7	21.0	22.1	19.7	28.5	26.6	26.5	28.1	
114	286624	680577	14.7	19.0	19.6	19.0	13.1	10.3	10.8	10.0	11.7	13.4	20.0	19.6	15.1	16.0	
115	286761	680413	15.5	13.9	14.3	12.9	-	-	7.0	-	-	10.5	16.0	14.7	13.1	12.3	
116	293671	680347	19.5	13.6	16.5	17.4	13.1	9.4	6.7	10.4	11.5	11.3	20.6	19.7	14.1	15.0	
117	294101	681532	13.3	10.6	12.7	9.2	8.9	9.2	7.8	9.8	11.7	12.1	15.2	14.6	11.3	11.9	
118	288726	680096	24.9	26.4	24.6	26.6	16.4	11.5	-	13.7	-	13.1	21.5	19.7	19.8	21.0	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Local Bias Adjusted (1.06)	Comment
119	288728	681383	19.4	18.0	18.7	15.9	10.6	10.5	9.4	11.4	12.8	14.9	19.5	20.1	15.1	16.0	
120	294097	681488	20.1	11.9	15.2	12.8	11.9	11.1	9.2	11.6	12.4	13.0	17.6	15.7	13.5	14.3	
121	291956	680522	22.9	22.6	24.5	25.7	17.3	12.1	12.1	14.6	17.4	14.9	24.7	21.4	19.2	20.3	

- ☒ All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1.
- ☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.
- ☒ Local bias adjustment factor used.
- ☐ National bias adjustment factor used.
- ☒ Where applicable, data has been distance corrected for relevant exposure in the final column.
- ☒ Falkirk Council confirm that all 2025 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.
NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.
See Appendix C for details on bias adjustment and annualisation.

Table B.2 – 1,3 Butadiene Monthly Diffusion Tube Results for 2025

Site ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data (ppb)	Annual Mean: Raw Data (µg/m³)
41	0.02	0.02	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05
55	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05
104	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05

Table B.3 – Benzene Monthly Diffusion Tube Results for 2025

Site ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data (ppb)	Annual Mean: Raw Data (µg/m³)
3	0.10	0.21	0.19	0.17	0.10	0.11	0.08	0.14	0.14	0.13	0.36	0.21	0.16	0.53
21	0.15	0.18	0.22	0.18	0.08	0.10	0.08	0.12	-	0.13	0.20	0.23	0.15	0.49
27	0.30	0.20	0.27	0.22	0.10	0.13	0.10	0.11	0.14	0.14	0.54	0.26	0.21	0.68
37	0.24	0.19	0.18	0.12	0.10	0.12	0.08	0.11	0.11	0.14	0.58	0.05	0.17	0.55
38	0.22	0.17	0.18	0.13	0.07	0.09	0.08	0.11	0.09	0.12	0.24	-	0.14	0.44
41	0.35	0.27	0.27	0.24	0.17	0.15	0.11	0.15	0.17	0.17	0.28	0.27	0.22	0.70
42	0.26	0.22	0.22	0.18	0.12	0.10	0.08	0.18	0.13	0.11	0.28	0.24	0.18	0.57
44	0.20	0.17	0.15	0.12	0.08	0.09	0.07	0.11	0.11	0.10	0.23	0.18	0.13	0.44
55	0.23	0.19	0.24	0.20	0.13	0.11	0.10	0.19	0.14	0.12	0.54	0.22	0.20	0.65
77	0.18	0.16	0.18	0.11	0.08	0.09	0.06	0.10	0.10	0.12	0.21	0.16	0.13	0.42
80	0.07	0.19	0.19	0.15	0.11	0.11	0.07	0.13	0.12	0.11	0.27	0.22	0.15	0.47
81	0.37	0.21	0.22	0.21	0.11	0.13	0.12	0.14	0.14	0.16	0.33	0.29	0.20	0.66
94	0.24	0.17	0.21	0.33	0.10	0.11	0.11	0.14	0.13	0.12	0.30	0.43	0.20	0.65
105	0.11	0.12	0.13	0.12	0.06	0.06	0.06	0.07	0.07	0.06	0.07	0.05	0.08	0.27
116	0.23	0.20	0.22	0.18	0.12	0.09	0.10	0.15	0.14	0.12	0.39	0.23	0.18	0.59
120	0.07	0.31	0.24	0.28	0.19	0.13	0.12	0.25	0.17	0.12	0.53	0.23	0.22	0.72

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

New or Changed Sources Identified Within Falkirk Council During 2025

Falkirk Council has not identified any new sources relating to air quality within the reporting year of 2025.

Additional Air Quality Works Undertaken by Falkirk Council During 2025

[2026 Falkirk Town Centre NO₂ AQMA Revocation Report](#)

QA/QC of Diffusion Tube Monitoring

In 2025, the nitrogen dioxide (NO₂), benzene and 1, 3-butadiene ambient air diffusion tubes deployed by Falkirk Council were supplied and analysed by Gradko International Ltd. The analysis method used for the NO₂ tubes was 50% tri-ethanolamine (TEA) and 50% acetone. The benzene tube type was Carbograph 1TD (thermal desorption / gas chromatography) and for 1, 3-butadiene the tube type was Carbopack X (ATD) with analysis using TD-GCMS. The diffusion tube monitoring has been completed in adherence with the [DEFRA 2025 Diffusion Tube Calendar](#) and with all monitoring data and additional bias / annualisation information entered into the latest [DEFRA Diffusion Tube Data Processing Tool](#).

Nitrogen Dioxide Diffusion Tubes

In 2025, the NO₂ diffusion tube analysis was completed by Gradko International Ltd. Gradko adheres to the DEFRA guidance for the preparation and analysis of the NO₂ diffusion tubes. All the results relating to the concentration of NO₂ present on the diffusion tube are within the scope of Gradko's United Kingdom Accreditation Service (UKAS) accreditation.

The full set of monthly NO₂ diffusion tube results are shown in Table B.1 in Appendix B.

1, 3-Butadiene Diffusion Tubes

Gradko International Ltd. Performed the quantitative analysis of 1, 3-butadiene on diffusion tubes by TD-GCMS. Analysis has been completed in accordance with in-house method 'GLM 13-6' under UKAS fixed scope accreditation.

The full set of monthly 1, 3-butadiene diffusion tube results are shown in Table B.2 in Appendix B.

Benzene Diffusion Tubes

Gradko International Ltd. analysed Falkirk Council's benzene diffusion tubes by ATD-GCMS. Analysis has been completed in accordance with Gradko's in-house method 'GLM 4' under UKAS fixed scope accreditation. The full set of monthly Benzene diffusion tube results are shown in Table B.3 in Appendix B.

Diffusion Tube Annualisation

Annualisation was required for one diffusion tube location in 2025: DT ID: NA115, Brown Street, Camelon as its data capture rate was recorded as 67.3%. The calculation method is displayed in Table C.4 using the latest version (v6.0) of the Diffusion Tube Data Processing Tool. All other diffusion tube monitoring locations within Falkirk Council recorded data capture of 75% therefore it was not required to annualise any monitoring data.

Diffusion Tube Bias Adjustment Factors

Falkirk Council have applied a **local** bias adjustment factor of **1.06** to the 2025 monitoring data. A summary of bias adjustment factors used by Falkirk Council over the past five years is presented in C.1.

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2025	Local	-	1.06
2024	Local	-	0.84
2023	Local	-	0.88
2022	Local	-	0.84

2021	Local	-	0.84
------	-------	---	------

NO₂ Diffusion Tube Bias Adjustment Factor (Local and National)

In accordance with LAQM TG22^{Ref 2}, a locally derived bias adjustment factor has been calculated for the 2025 NO₂ diffusion tube results based on the following two co-location sites: NA42 Grangemouth Municipal Chambers and NA111 Falkirk West Bridge Street. The local results have been submitted to the LAQM Helpdesk to contribute to the national bias factor.

The results of the locally derived bias adjustment factor spreadsheets are shown in Figure 30 A) and B).

The national diffusion tube bias adjustment factor spreadsheet is displayed in Figure 31 for comparison purposes. The overall national bias factor in 2025 was **0.92**.

A comparison in summary form of the local and national bias factor summary is shown in table C.2.

Table C.2 – Comparison of Local vs National Bias Factor Summary

Local NO₂ Bias Adjustment Factor	1.06
National NO₂ Bias Adjustment Factor	0.92
Difference	-0.14

In accordance with LAQM TG22^{Ref 2} Box 7.13 data quality checks of the local bias adjustment spreadsheet have been assessed as 'good' for the Falkirk West Bridge Street and Grangemouth Municipal Chambers site (Precision and Monitoring Data). Falkirk Council have a full years' worth of co-location data at the representative locations (A7 West Bridge Street: roadside – traffic related, elevated NO₂ levels at typical daytime peak traffic periods and A10 Grangemouth Municipal Chambers: Urban background / Industrial – typical off-street urban location that is likely to measure traffic and industrial emissions).

Using the above reasons, it has been decided to apply the locally derived bias adjustment factor for the NO₂ diffusion tube results.

NO₂ Fall-off with Distance from the Road

No diffusion tube NO₂ monitoring locations within Falkirk Council required distance correction during 2025.

Figure 30 – NO₂ Locally Derived Bias Adjustment Factor Spreadsheets

A) A7 Falkirk West Bridge St

Checking Precision and Accuracy of Triplicate Tubes


AEA Energy & Environment
 From the AEA group

Diffusion Tubes Measurements									
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean
1	08/01/2025	05/02/2025	32.2	30.9	-	32	0.9	3	8.1
2	05/02/2025	05/03/2025	37.3	34.5	33.8	35	1.9	5	4.6
3	05/03/2025	02/04/2025	33.9	33.3	30.8	33	1.7	5	4.2
4	02/04/2025	30/04/2025	34.7	35.1	31.0	34	2.3	7	5.6
5	30/04/2025	04/06/2025	25.6	25.6	26.1	26	0.3	1	0.7
6	04/06/2025	02/07/2025	23.4	20.5	20.1	21	1.8	8	4.4
7	02/07/2025	06/08/2025	22.2	18.6	21.1	21	1.8	9	4.6
8	06/08/2025	03/09/2025	20.2	20.4	22.3	21	1.2	6	2.9
9	03/09/2025	01/10/2025	19.9	23.6	22.8	22	1.9	9	4.8
10	01/10/2025	05/11/2025	20.6	20.4	18.1	20	1.4	7	3.4
11	05/11/2025	03/12/2025	28.4	28.0	29.1	29	0.6	2	1.4
12	03/12/2025	07/01/2026	28.2	25.8	25.9	27	1.4	5	3.4
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

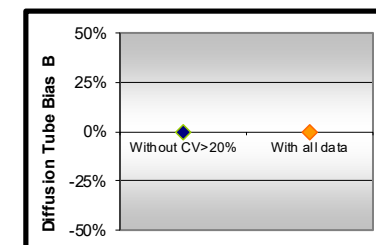
Automatic Method		Data Quality Check	
Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
34.6	99	Good	Good
32.6	100	Good	Good
30.3	87	Good	Good
30.4	100	Good	Good
21	100	Good	Good
13	99	Good	Good
15	100	Good	Good
20	100	Good	Good
32	58	Good	or Data Captu
22	98	Good	Good
29	99	Good	Good
31.2	99	Good	Good
Overall survey -->		Good precision	Good Overall DC

(Check average CV & DC from Accuracy calculations)

Site Name/ ID:	Falkirk WBS
Accuracy (with 95% confidence interval) without periods with CV larger than 20% Bias calculated using 11 periods of data Bias factor A Bias B	
Diffusion Tubes Mean:	27 μgm^{-3}
Mean CV (Precision):	5
Automatic Mean:	25 μgm^{-3}
Data Capture for periods used:	98%
Adjusted Tubes Mean:	μgm^{-3}

Precision 12 out of 12 periods have a CV smaller than 20%

Accuracy (with 95% confidence interval) WITH ALL DATA Bias calculated using 11 periods of data Bias factor A Bias B	
Diffusion Tubes Mean:	27 μgm^{-3}
Mean CV (Precision):	5
Automatic Mean:	25 μgm^{-3}
Data Capture for periods used:	98%
Adjusted Tubes Mean:	μgm^{-3}

Jaume Targa, for AEA
Version 04 - February 2011

B) A10 Grangemouth Municipal Chambers

Checking Precision and Accuracy of Triplicate Tubes

 **AEA Energy & Environment**
From the AEA group

Diffusion Tubes Measurements									
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean
1	08/01/2025	05/02/2025	17.91	18.15	17.5	18	0.3	2	0.8
2	05/02/2025	05/03/2025	11.95	12.48	13.72	13	0.9	7	2.3
3	05/03/2025	02/04/2025	12.17	11.39	11.47	12	0.4	4	1.1
4	02/04/2025	30/04/2025	10.48	10.89	9.44	10	0.7	7	1.9
5	30/04/2025	04/06/2025	8.31	8.66	8.12	8	0.3	3	0.7
6	04/06/2025	02/07/2025	8.98	9.11	8.85	9	0.1	1	0.3
7	02/07/2025	06/08/2025	9.04	7.85	7.86	8	0.7	8	1.7
8	06/08/2025	03/09/2025	7.29	8.15	8.08	8	0.5	6	1.2
9	03/09/2025	01/10/2025	11.95	11.91	10.72	12	0.7	6	1.7
10	01/10/2025	05/11/2025	10.22	-	-				
11	05/11/2025	03/12/2025	15.84	18.21	-	17	1.7	10	15.1
12	03/12/2025	07/01/2026	16.7	8.62	-	13	5.7	45	
13									

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Automatic Method		Data Quality Check	
Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
26.3	99	Good	Good
16.5	99	Good	Good
16.2	98	Good	Good
14.1	90	Good	Good
10	99	Good	Good
9	97	Good	Good
9	96	Good	Good
10	98	Good	Good
13	65	Good	or Data Captu
13	96		Good
18.4	98	Good	Good
19.8	95	Poor Precision	Good

Overall survey -->

Good precision	Good Overall DC
-------------------	--------------------

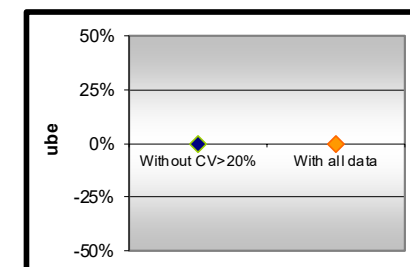
Site Name/ ID:

Accuracy (with 95% confidence interval)	
without periods with CV larger than 20%	
Bias calculated using 9 periods of data	
Bias factor A	
Bias B	
Diffusion Tubes Mean:	11 μgm^{-3}
Mean CV (Precision):	5
Automatic Mean:	14 μgm^{-3}
Data Capture for periods used:	97%
Adjusted Tubes Mean:	μgm^{-3}

Precision 10 out of 11 periods have a CV smaller than 20%

Accuracy (with 95% confidence interval)	
WITH ALL DATA	
Bias calculated using 10 periods of data	
Bias factor A	
Bias B	
Diffusion Tubes Mean:	12 μgm^{-3}
Mean CV (Precision):	9
Automatic Mean:	15 μgm^{-3}
Data Capture for periods used:	97%
Adjusted Tubes Mean:	μgm^{-3}

Accuracy calculations



Jaume Targa, for AEA
Version 04 - February 2011

Figure 31 – 2025 NO₂ National Bias Adjustment Factor Spreadsheets

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 03/26				
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.					Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.					
Step 1:	Step 2:	Step 3:	Step 4:							
Analysed By ¹	Method To undo your selection, choose (All) from the pop-up list	Year ⁵ To undo your selection, choose (All)	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision ⁶	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	50% TEA in acetone	2025	UB	City Of London Corporation	12	24	22	8.4%	G	0.92
Gradko	50% TEA in acetone	2025	R	City Of London Corporation	12	31	28	9.8%	G	0.91
Gradko	50% TEA in acetone	2025	R	Lb Hounslow	10	31	25	22.1%	G	0.82
Gradko	50% TEA in Acetone	2025	UC	Falkirk Council	11	27	25	6.1%	G	0.94
Gradko	50% TEA in Acetone	2025	UB	Falkirk Council	11	11	15	-22.6%	G	1.29
Gradko	50% TEA in acetone	2025	KS	Marylebone Road Intercomparison	12	37	31	17.7%	G	0.85
Gradko	50% TEA in acetone	2025	SU	Redcar And Cleveland Borough Council	12	11	9	29.0%	G	0.78
Gradko	50% TEA in Acetone	2025	R	London Borough Of Merton	12	27	22	22.7%	G	0.81
Gradko	50% TEA in acetone	2025	UB	London Borough Of Wandsworth	12	20	18	9.0%	G	0.92
Gradko	50% TEA in acetone	2025	R	London Borough Of Richmond Upon Thames	12	15	18	-17.8%	G	1.22

Gradko	50% TEA in acetone	2025	KS	London Borough Of Richmond Upon Thames	10	30	26	15.9%	G	0.86
Gradko	50% TEA in acetone	2025	B	London Borough Of Richmond Upon Thames	12	13	13	1.5%	G	0.99
Gradko	50% TEA in acetone	2025	R	Sandwell Mbc	11	28	24	16.6%	G	0.86
Gradko	50% TEA in acetone	2025	UB	Sandwell Mbc	11	19	20	-5.2%	G	1.05
Gradko	50% TEA in acetone	2025	UB	City Of York Council	12	13	12	13.4%	G	0.88
Gradko	50% TEA in acetone	2025	R	City Of York Council	12	20	19	6.6%	G	0.94
Gradko	50% TEA in acetone	2025	R	City Of York Council	10	16	15	7.0%	G	0.93
Gradko	50% TEA in acetone	2025	R	City Of York Council	11	21	18	18.1%	G	0.85
Gradko	50% TEA in acetone	2025		Overall Factor³ (18 studies)				Use		0.92

QA/QC of Automatic Monitoring

Table C.3 – Details of the QA / QC at the Automatic Monitoring Stations in 2025

QA / QC in 2025		
Site	Analyser	Network
A3. Bo'ness	SO ₂	SAQN
	PM _{10+2.5} (Fidas)	
A4. Falkirk Haggs	NO _x	SAQN
	PM _{10+2.5} (Fidas)	
A5. Falkirk Hope St	NO _x	SAQN
	SO ₂	
	PM _{10+2.5} (Fidas)	
A7. Falkirk West Bridge St	NO _x	SAQN
	PM _{10+2.5} (Fidas)	
A8. Grangemouth AURN (Inchyra)	NO _x	AURN
	PM ₁₀ (BAM)	
	PM _{2.5} (BAM)	
	SO ₂	
A9. Grangemouth Moray	NO _x	AURN

	SO ₂	SAQN
	PM _{10+2.5} (Fidas)	
A10. Grangemouth Municipal Chambers	NO _x	SAQN
	PM _{10+2.5} (Fidas)	
	SO ₂	
A11. Grangemouth Zetland Park	SO ₂	SAQN
	PM _{10+2.5} (Fidas)	
A15 Main St Bainsford	NO _x	SAQN
	PM _{10+2.5} (Fidas)	SAQN

Local sites:

- Analyser data is downloaded, and a flow check is completed on a fortnightly basis.
- A filter change is completed on an approximate four weekly basis, although this is dependent on the weather and filter loading. The filters are retained for analysis.
- As with the other sites all LSO site visits are completed by Falkirk Council staffs that are audited to AURN standards.

AURN and Scottish AQ network sites:

- All NO_x and SO₂ analysers receive fortnightly zero and span checks and filter changes.
- BAM PM₁₀ and PM_{2.5} nozzles are cleaned and tapes are changed every eight weeks.
- All LSO site visits are conducted by Falkirk Council staffs that are audited to AURN standards.
- Analysers are covered by an emergency callout contract and receive a service every six months.
- QA / QC are conducted to AURN / 'national' standards.

- All air quality data presented within this APR are fully ratified. Ratified data is collected from the [Air Quality in Scotland](https://www.scottishairquality.scot/) website. Full details of the data QA / QC ratification process are detailed here: <https://www.scottishairquality.scot/data/verification-ratification>
- Live air quality data from all Falkirk Council sites are presented on the [Air Quality in Scotland](https://www.scottishairquality.scot/) website.
- Falkirk Council also checks the data on its internal systems and is in regular communication with Ricardo to ensure the best data quality is collected / presented. Unscaled data is supplied by Falkirk Council to Ricardo for the Scottish AQ Network sites on a six-monthly basis to improve data capture.

PM₁₀ and PM_{2.5} Monitoring Adjustment

In accordance with the SG Guidance Note: Measurement of Ambient Particulate Matter (PM) and the LAQM Reporting of Measured Concentrations, May 2023^{Ref 3}. Corrected and uncorrected results (greyed out) are displayed in Table A.6 – Annual Mean PM₁₀ Monitoring Results (µg/m³) and Table A.8 – Annual Mean PM_{2.5} Monitoring Results (µg/m³) for PM concentrations with Palas Fidas 200 analysers in operation.

Automatic Monitoring Annualisation

Annualisation was required for the Falkirk Hope Street automatic monitoring station for PM₁₀ and PM_{2.5} only as the analyser annual data capture rate (67%) was less than 75%. Relevant annualisation data is presented in Table C.4

NO₂ Fall-off with Distance from the Road

No automatic NO₂ monitoring locations within Falkirk Council required distance correction during 2025.

Table C.4 – Diffusion Tube and Automatic Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Diffusion Tube Annualisation Calculations

Diffusion Tube ID	Annualisation Factor Falkirk Haggs	Annualisation Factor Falkirk Hope Street	Annualisation Factor Falkirk Main Street, Bainsford	Annualisation Factor Falkirk West Bridge Street	Average Annualisation Factor	Raw Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)	Annualised Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)
115	0.8933	0.8528	0.8753	0.9390	0.8901	13.1	11.7

Automatic Monitoring Calculations ($\text{PM}_{10}+\text{PM}_{2.5}$)

Site ID	Annualisation PM_{10} Factor – A7 Falkirk West Bridge Street	Annualisation PM_{10} Factor – A15 Main Street, Bainsford	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
A5 – Falkirk Hope Street (PM_{10})	1.2	1.12	1.16	11	12.8

Background Site	Annual PM_{10} Mean 2025 (Am)	Period PM_{10} Mean 2025 (Pm) - May to Oct	Ratio (Am/Pm)
A7 - Falkirk West Bridge Street	13	10.8	1.20
A15 - Main Street, Bainsford	11	9.8	1.12
	Average (Ra)		1.16

Automatic Monitoring Calculations (PM₁₀+PM_{2.5}) Cont.

Site ID	Annualisation PM _{2.5} Factor – A7 Falkirk West Bridge Street	Annualisation PM _{2.5} Factor – A15 Main Street, Bainsford	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
A5 – Falkirk Hope Street (PM _{2.5})	1.27	1.13	1.2	6	7.2	

Background Site	Annual PM2.5 Mean 2025 (Am)	Period PM2.5 Mean 2025 (Pm) - May to Oct	Ratio (Am/Pm)
A7 - Falkirk West Bridge Street	8	6.3	1.27
A15 - Main Street, Bainsford	6	5.3	1.13
	Average (Ra)		1.20

Table C.5 – Local Bias Adjustment Calculations

A) Calculation of Two Colocation Results: A7 Falkirk West Bridge St and A10 Grangemouth Municipal Chambers – Data Extracted from the Diffusion Tube Data Processing Tool (v6.0) Spreadsheet

	Falkirk West Bridge Street Data	Grangemouth MC Data
Periods used to calculate bias	11	10
Bias Adjustment Factor A		
Diffusion Tube Bias B		
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	27.0	11.5
Mean CV (Precision)	5.3%	5.5%
Automatic Mean ($\mu\text{g}/\text{m}^3$) (for periods used to calculate bias)	24.4	14.4
Data Capture (for periods used to calculate bias)	99%	100%
Overall Data Capture	95%	100%
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)		
Combined Local Bias Adjustment Factor	1.06	

Notes: A combined local bias adjustment factor of **1.06** has been used to bias adjust the 2025 diffusion tube results.

Appendix D - Additional Air Quality Works Undertaken by Falkirk Council During 2025

[2026 Falkirk Town Centre NO₂ AQMA Revocation Report](#)

Glossary of Terms

Abbreviation	Description
AADT	Annual Average Daily Traffic – total volume of vehicle traffic on a highway or road for a year divided by 365 days.
AQAP	Air Quality Action Plan – A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA 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
AQIA	Air Quality Impact Assessment
APR	Annual Progress Report in relation to air quality
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
BAM	Beta Attenuation Monitor
CAFS	Cleaner Air for Scotland
DEFRA	Department for Environment, Food and Rural Affairs
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
ECSVEP	East Central Scotland Vehicle Emissions Partnership
EfW	Energy from Waste
EIA	Environmental Impact Assessment
EPUK	Environmental Protection UK
EU	European Union
ESU	Equipment Support Unit
FEL	Forth Environment Link
FDMS	Filter Dynamics Measurement System

FPS	Flood Prevention Scheme
GCMS	Gas Chromatography–Mass Spectrometry - analysis method
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LDV	Light Duty Vehicle
MCPD	Medium Combustion Plant Directive
NAQS	National Air Quality Strategy
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
PDU	Public Display Unit
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
PV	Photovoltaic (in relation to solar energy)
QA/QC	Quality Assurance and Quality Control
SEA	Supporting Environmental Appraisal
SEPA	Scottish Environment Protection Agency
SO ₂	Sulphur Dioxide
TD	Thermal Desorption – Analysis Method
TEOM	Tapered Element Oscillating Microbalance
TGT	Tail Gas Treatment

References

1. <https://www.gov.scot/coronavirus-covid-19/> The Scottish Government 'Coronavirus (Covid-19) in Scotland' Information, 11 May 2021.
2. <https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf> DEFRA and Devolved Administrations, August 2022.
3. <https://www.scottishairquality.scot/technical-reports/equivalence-study-investigate-particulate-matter-monitoring-scotland-using-fidas> "Equivalence Study to Investigate Particulate Matter Monitoring in Scotland Using the Fidas 200", Ricardo for The Scottish Government, Ref: ED11195, Issue 1, Published: 10/05/2023
4. [Civil Aviation Authority, UK Airport Statistics](#), CAA, Accessed May 2026.