2022 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

Date: July, 2022

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Executive Summary: Air Quality in Our Area

Air Quality in Rother District Council

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

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages[3], with a total estimated healthcare cost to the NHS and social care of £157 million in 2017[4].

Rother District Council (RDC) manages local air quality in close collaboration with East Sussex County Council, which provided part of the monitoring until 2014, and with the Sussex Air Quality Partnership (Sussex Air). The partnership provides assistance to members and information to the public via its website with recent air quality data, news updates, educational resources, links and other services such as airAlert.

Nitrogen Dioxide (NO_2) concentrations have previously exceeded the annual mean AQS objective in the district (the latest occasion being at A2100 Beauport Park and High Street Flimwell diffusion tube sites in 2016). However, in recent years (2017-2021) concentrations at these locations and all others were below the AQS objective.

PM_{10} is monitored in Rother at De La Warr Road, Bexhill, and in recent years concentrations have been generally low (well below the annual mean AQS objective of 40 µg/m^3), with no significant increasing or decreasing tendency, although there is some

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

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

[3] Defra. Air quality appraisal: damage cost guidance, July 2021

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

year-on-year variability. $PM_{2.5}$ was derived from the PM_{10} concentrations, and in recent years has not exceeded the annual mean AQS objective of 20 µg/m^3.

As in other suburban and rural areas of East Sussex, ozone (O_3) is of considerable concern. O_3 was monitored at Rye Harbour during 2021. There are plans to decommission the O_3 monitor during 2022 as Sussex Air has now switched to using data from the Met Office instead in their calculations of O_3 levels.

A large area of the countryside in the District is within the High Weald Area of Outstanding Natural Beauty (AONB). The impact of traffic-related air pollution on some of these areas has been assessed in past years. Current and future traffic flows are not expected to put the Pevensey Levels Special Area of Conservation (SAC) at risk from excessive nitrogen deposition.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 Clean Air Strategy[5] sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero[6] sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

RDC is helping the public to avoid the worst effects of ozone pollution by monitoring ozone levels at Rye Harbour and informing the public of pollution events through the airAlert pollution warning service. This service is provided and maintained through the Sussex Air partnership.

RDC contributes to the Air Quality and Emissions Mitigation Guidance for Sussex. The guidance supports the principles of the Sussex Air Quality Partnership to improve air quality across Sussex, encourage emissions reductions and improve the environment and

[5] Defra. Clean Air Strategy, 2019

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

health of the population. Other actions being implemented to improve public health include promoting active modes of transportation like walking, cycling and using public transport, as well as car clubs and car sharing.

Conclusions and Priorities

Annual mean NO_2 concentrations recorded at continuous monitors and diffusion tubes in RDC are within the annual mean AQS objective of 40 µg/m^3, and there were no exceedances of the short term hourly AQS objective.

There were also no exceedances of either the annual mean or daily mean PM_{10} AQS objectives in 2021, or for the previous years from 2017.

RDC is committed to taking action to improve air quality, in particular through involvement with the Sussex Air Quality Partnership. In 2021 the Council maintained contact with Sussex Air and other Local Authority Officers working in air quality. The Council is continuing their work on a new Local Plan that will cover the period 2019-2039.

The main challenge in maintaining the generally good levels of air quality across the district is likely to be the careful management of planning applications and developments. Detailed and rigorous air quality assessments and mitigation cost calculations will continue to be needed, especially where multiple developments may occur close together.

There is also a risk that post Covid-19, there will be a lack of funds for LAs and other public bodies occurring at the same time as there is a need to grow and recover the economy. Funds need to be available to employ and retain staff so there is a renewed commitment to improving air quality in the area.

There are three main priorities for addressing air quality in 2022 and beyond. These are:

- To install a $PM_{2.5}$ analyser in Rother to establish baseline concentrations for the area.
- To work with the new Environment Manager in RDC to introduce policies into the local plan to help improve air quality through the planning system.
- To continue work with Sussex Air and other Local Authorities and consult on the Draft Environment Strategy and Action Plan 2020-2030 to ensure air quality mitigation is adequately addressed.

Local Engagement and How to get Involved

Everyone concerned about air quality in Rother and the rest of Sussex can find real-time information on pollution levels on the Sussex Air website sussex-air.net. People are encouraged to sign up for advance warnings with the airAlert service at airalert.info. Warnings are provided by text or voice message, email, or using an Android or iOS app. Additionally, members of the public should engage with Sustrans, who work with Sussex Air to go into local schools to undertake education programs about the importance of air quality.

Drivers planning to replace their vehicles are encouraged to consider low and ultra-low emission vehicles, such as electric cars, plug-in hybrids and extended-range electric vehicles. The Energise Network provides members with access to more than 150 electric vehicle charging points across the South East. These include most local authority charge points in Kent, Surrey and Sussex, plus a number of Southern Rail fast chargers. For more details, please visit https://www.zap-map.com/charge-points/public-charging-point-networks/energise-network/. The reduction in using cars to travel to work, continued home working and increasing walking and cycling post Covid-19 are encouraged.

Local Responsibilities and Commitment

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

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If you have any comments on this ASR please send them to Greg Minns at:

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1 Local Air Quality Management

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

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

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

RDC currently does not have any declared AQMAs, because previous monitoring and modelling studies have not indicated any likelihood of the AQS objectives being exceeded.

Since RDC has no AQMAs, no formal AQAP has been implemented for the district.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
Rother District Council has no declared AQMAs								

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

☒ **Rother District Council confirm that all current AQAPs have been submitted to Defra.**

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

Defra's appraisal of last year's ASR concluded the report was well structured, detailed, and provided the information specified in the Guidance. The following comments were provided, which have been addressed in this year's report:

1. Trends are clearly presented and discussed and a robust comparison with air quality objectives is provided.
2. Annual mean NO_2 concentrations were well below the objectives at all sites. Consideration could be given to relocating some site locations that have been compliant for over 5 years to help identify new hotspots. *The council has reviewed diffusion tube locations and picked some new locations for data collection in 2022. These new locations will be updated in the 2023 ASR.*
3. A link was provided to the Public Health Outcomes Frameworks, however the report could present the estimated proportion of mortality attributed to $PM_{2.5}$ in Rother District Council. Please contact the LAQM Helpdesk if support is required. *In Section 2.3, the estimated proportion of mortality has been added for RDC and a comparison provided with the South East and England regional averages.*

RDC has taken forward a number of direct measures during the current reporting year of 2021 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. Seven measures are included within Table 2.2, with the type of measure and the progress RDC have made during the reporting year of 2021 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

Key achievements by RDC during 2021 include:

1. Successful joint Sussex Air bid to Defra for the establishment of a new $PM_{2.5}$ analyser and walk in cabinet in Rother.
2. Begun working with Sussex Air to re-write planning conditions, to improve air quality through the planning system. This re-write will also involve Sustainability officers.
3. Review of diffusion tube locations and selection of new locations for data collection in 2022. This is to establish baseline conditions in areas which might be more greatly impacted by traffic from future housing developments: to help better inform reports undertaken by consultants through the planning process. Especially as some existing

tube locations have shown low and similar levels of NO_2 over many years (for example some rural background sites) and some were considered to be in less useful areas for identify any risk to human receptors.

RDC's priorities for the coming year are:

- The installation of a $PM_{2.5}$ analyser in Rother.
- To commence $PM_{2.5}$ monitoring to establish baseline concentrations. To continue working with Sussex Air on the successful DEFRA bid to obtain such data across Sussex.
- Finish writing planning conditions with Sussex Air.
- Work with the new Environment Manager in RDC to introduce policies into the local plan to help improve air quality through the planning system (in line with RDCs Environment Strategy).

The principal challenges and barriers to implementation that RDC anticipates facing are;

- Consistently very high staff workloads, meaning that work on Air Quality and introduction of the $PM_{2.5}$ analyser is not of high priority
- Lack of funds available to employ and retain staff

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Air Quality and Emissions Mitigation Guidance for Sussex	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2014	2019	Sussex Air Quality Partnership	-	-	-	-	Completed	N/A	N/A	Completed	-
2	Air Quality Strategic Plan 2010	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2010	2015	Sussex Air Quality Partnership	-	√	Successful funding as part of a joint bid to DEFRA for a $PM_{2.5}$ analyser	-	Implementation	N/A	N/A	Discussions about how to distribute and use the funding	Time due to other workloads taking priority.
3	Sussex Air website / Air Alert	Public Information	Via the Internet	2014	Ongoing	Sussex Air Quality Partnership	-	-	-	-	Implementation	N/A	Number of subscribers to AirAlert	Ongoing	-
4	Council Policy for Homeworking	Promoting Travel Alternatives	Encourage / Facilitate home-working	2014	Ongoing	Rother District Council	-	-	-	-	Implementation	N/A	N/A	Ongoing	-
5	Active Rother	Promoting Travel Alternatives	Promotion of Cycling	2016	Ongoing	Rother District Council	-	-	-	-	Implementation	N/A	N/A	Ongoing	-
6	Rothers Cycling and Walking Strategy	Promoting Travel Alternatives	Promotion of Walking	2016	Ongoing	Rother District Council	-	-	-	-	Implementation	N/A	N/A	Ongoing	-
7	Transport for the South East	Traffic Management	Other	2020	Ongoing	Transport for the South East	-	-	-	-	Planning	N/A	N/A	Initial Engagement	-

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

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of $PM_{2.5}$ (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that $PM_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

The Public Health Outcomes Framework (see https://fingertips.phe.org.uk/profile/public-health-outcomes-framework) includes an indicator relating to the impact of particulate pollution on human health. Indicator D01 – Fraction of mortality attributable to particulate air pollution (new method) provides an estimation of the mortality burden associated with long-term exposure to $PM_{2.5}$ as a percentage of the annual deaths from all causes in those aged 30+. The D01 indicator value for Rother is 5.4% in 2020 This is below the regional average for the South East (6.0%) and the national English average (5.6%).

Rother District Council is taking the following measures to address $PM_{2.5}$:

- Took part in a joint bid from Sussex Authorities to Defra to secure funding for a new $PM_{2.5}$ analyser for Rother/Wealden and walk in cabinet. The bid was successful and discussions are now underway (in 2022) about the distribution of funds and prospective locations of analysers. The installation of a continuous monitor for $PM_{2.5}$ will help establish baseline levels for the area.
- Continued engagement with Transport for the South East, which aims to decarbonise the transport sector;
- Continuing to support the Energise Network of electric vehicle charging points, together with the Sussex Air Quality Partnership;
- Discussions are being held with Public Health and other Local Authorities as part of Sussex Air to re-write planning conditions with a view to improving air quality through the planning process; and
- Publishing information discouraging the burning of garden waste and encouraging sustainable alternatives such as composting and recycling.

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

This section sets out the monitoring undertaken within 2021 by RDC and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2017 and 2021 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

RDC undertook automatic (continuous) monitoring at two sites during 2021: De La Warr Road, Bexhill (RY2, monitoring nitrogen dioxide (NO_2) and particulate matter with an aerodynamic diameter of 10µm or less (PM_{10})) and Rye Harbour (RY1, monitoring O_3). $PM_{2.5}$ is currently not monitored in the district. Table A.1 in Appendix A shows the details of the automatic monitoring sites.

Both stations are part of the Sussex Air Quality Monitoring Network (SAQMN). Regional monitoring results are available at www.sussex-air.net.

Data capture for 2021 was good, as outlined below:

- De La Warr Road, Bexhill: 99.2% for NO_2, 98.4% for PM_{10}; and
- Rye Harbour: 99% for O_3.

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

3.1.2 Non-Automatic Monitoring Sites

RDC undertook non- automatic (i.e. passive) monitoring of NO_2 at 20 sites during 2021. Triplicate diffusion tubes are co-located with the De La Warr Road automatic monitoring station for the derivation of a local bias adjustment factor. Table A.2 in Appendix A presents the details of the non-automatic sites.

Due to repeated tube theft at Rye Cinque Ports Street (DT19), monitoring was ceased at this site at the end of 2016. This site was later reinstated in a slightly different location along Cinque Ports Street in May 2017, where data capture has significantly improved. The diffusion tube at Rye South Undercliff (DT21) was relocated in September 2016 to another location (A259 Bowling Green, Rye; DT30) due to a temporary issue with accessing the site. The Rye South Undercliff (DT21) diffusion tube site was reinstated at the original location in March 2017 after issues with access to the site had been resolved, and monitoring continued at the new DT30 site. Diffusion tube site (DT31) was commissioned in March 2017 at 128 Barnhorn Road, Bexhill. There have been no changes to the network since then.

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

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

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

For diffusion tubes, the full 2021 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 does not include distance corrected values, as all bias-adjusted concentrations were below 36 µg/m^3 in 2021.

The results indicate that the annual mean NO_2 concentrations at the De La Warr Road, Bexhill automatic monitoring site were well within the AQS objective (40 µg/m^3) in all years

between 2017 and 2021. Figure A.1 shows that the trend in annual mean NO_2 concentrations at De La Warr Road is relatively static with some variability year to year, although there was a notable decrease in concentrations in 2020 and 2021.

All diffusion tube sites achieved the AQS objective in 2021, with the highest concentration of 26.0 µg/m^3 monitored at DT21 (Rye South Undercliff). The lowest concentration of 8.9 µg/m^3 was monitored at DT13 (Battle Wellington Gardens). Data capture for all tubes in 2021 was equal or greater than 75%. Figure A.2 shows NO_2 concentrations at most diffusion tube locations remained fairly constant between 2020 and 2021.

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

The De La Warr Road, Bexhill automatic monitoring site did not exceed the 200 µg/m^3 AQS objective in any year in the 2017 to 2021 period.

Diffusion tubes cannot provide hourly measurements of NO_2; however, the Defra Technical Guidance states that where annual mean NO_2 concentrations measured by diffusion tubes exceed 60 µg/m^3 there is a likelihood that the 1-hour AQS objective may be exceeded. All of the annual mean NO_2 concentrations at diffusion tube monitoring locations between 2017 and 2021 inclusive, were well below 60 µg/m^3 and so the 1-hour AQS objective is very unlikely to have been exceeded. The results indicate that the 1-hour NO_2 AQS objective is unlikely to be exceeded at any location in the district.

3.2.2 Particulate Matter (PM_{10})

PM_{10} concentrations are monitored in the district at the monitoring site De La Warr Road, Bexhill. Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the AQS objective of 40 µg/m^3. The results indicate that annual mean PM_{10} concentrations were well below the AQS objective between 2017 and 2021. Figure A.3 shows some evidence of a slight upward trend in PM_{10} concentrations at De La Warr Road, although with considerable year to year variability.

Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the AQS objective of 50 µg/m^3, not to be exceeded more than 35 times per year. These results show that the De La Warr Road site achieved the daily PM_{10} objective every year from 2017 and 2021.

3.2.3 Particulate Matter ($PM_{2.5}$)

There is no $PM_{2.5}$ monitoring undertaken within RDC. The annual mean PM_{10} concentrations measured at the De La Warr Road site have been used to estimate $PM_{2.5}$ annual average concentrations by using the nationally derived correction ratio of 0.7 suggested in Defra's Technical Guidance TG.16. Based on this assumption, the estimated annual mean $PM_{2.5}$ concentrations during the 2017 and 2021 period were in the range of 15 µg/m^3 to 19 µg/m^3. As for PM_{10}, Figure A.4 shows a slight upward trend in estimated $PM_{2.5}$ concentrations but with marked year on year variability.

Table A.8 in Appendix A presents the estimated monitored $PM_{2.5}$ annual mean concentrations for the past five years.

3.2.4 Ozone (O_3)

Table A.9 in Appendix A presents the ratified continuous monitored O_3 concentrations for the past 5 years at the Rye Harbour rural site. Between 2017 and 2021, the annual mean O_3 concentrations ranged from 51.9 µg/m^3 to 57.4 µg/m^3. There is no annual mean AQS objective or target value for O_3.

Table A.10 in Appendix A compares the continuous monitored running 8-hour mean O_3 concentrations for the past 4 years with the AQS objective of 100 µg/m^3, not to be exceeded on more than 10 days per year. The monitoring results show that the Rye Harbour monitoring site exceeded the O_3 running 8-hour mean objective in the years 2017- 2020. The highest number of days above the 100 µg/m^3 level was in 2019, with the level being exceeded on 28 days, while in 2020 it was exceeded on 20 days. In 2021 the 100 µg/m^3 level was exceeded on 10 days.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
RY1	Rye Harbour	Rural	594440	119150	O3	N	UV Absorption	N/A	N/A	3.5
RY2	De La Warr Road	Kerbside	575595	108054	NO_2, PM_{10}	N	Chemi-luminiscence, TEOM	N (2m)	1m	2.02

Notes:

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

(2) N/A if not applicable

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT2	North of Northam	Kerbside	583515	126517	NO_2	No	10.0	1.0	No	1.9
DT3	A2100 Beauport Park	Kerbside	578727	113439	NO_2	No	>150	1.0	No	1.8
DT4	A269 Battle Hospital	Kerbside	573071	115896	NO_2	No	40.0	1.0	No	2.1
DT5	B2089 West of Rye	Kerbside	591196	120213	NO_2	No	50.0	1.0	No	2.2
DT7	Holliers Hill, Bexhill	Kerbside	574296	108917	NO_2	No	10.0	1.0	No	2.4
DT8	A259 New Winchelsea Road, Rye	Kerbside	591652	119148	NO_2	No	10.0	1.0	No	1.8
DT9	A21 Robertsbridge	Kerbside	574057	124328	NO_2	No	40.0	1.0	No	1.8
DT10	Catsfield Church	Kerbside	572742	113521	NO_2	No	15.0	1.0	No	2.1
DT12	High St Flimwell	Kerbside	571431	131224	NO_2	No	5.0	1.0	No	2.0
DT13	Battle Wellington Gardens	Urban Background	574357	116222	NO_2	No	30.0	N/A	No	2.1
DT14	Battle A2100	Kerbside	574509	116846	NO_2	No	10.0	1.0	No	2.2

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT16	Battle High Street	Kerbside	574775	115925	NO_2	No	0.0	1.0	No	2.4
DT17	Rye North Salts	Urban Background	592339	120975	NO_2	No	15.0	1.0	No	2.1
DT19	Rye Cinque Ports Street	Urban Background	592121	120543	NO_2	No	8.0	N/A	No	2.1
DT21	Rye South Undercliff	Kerbside	592011	120148	NO_2	No	2.0	1.0	No	2.3
DT22	Bexhill-on-Sea Sackville Road	Kerbside	573985	107409	NO_2	No	2.0	1.0	No	2.1
DT25	A259 Bexhill-on-Sea	Kerbside	573871	108033	NO_2	No	20.0	1.0	No	2.1
DT27, DT28, DT29	Bexhill Triplicate 3	Kerbside	575595	108060	NO_2	No	15.0	1.0	Yes	2.0
DT30	A259 Bowling Green, Rye	Kerbside	592248	120525	NO_2	No	0.0	1.0	No	2.0
DT31	128 Barnhorn Road, Bexhill	Kerbside	570366	107817	NO_2	No	10.0	1.0	No	2.0

Notes:

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

(2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
RY2	575595	108054	Kerbside	99.7	99.7	21.8	20.1	20.2	14.9	14.0

☐ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

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

Notes:

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

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

All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

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

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
DT2	583515	126517	Kerbside	100	100.0	19.5	18.7	16.7	13.7	13.2
DT3	578727	113439	Kerbside	90.4	90.4	39.1	34.5	33.3	27.3	25.1
DT4	573071	115896	Kerbside	100	100.0	21.4	19.2	19.0	14.4	14.2
DT5	591196	120213	Kerbside	100	100.0	26.7	28.7	26.4	20.7	18.6
DT7	574296	108917	Kerbside	100	100.0	21.2	21.6	21.1	15.7	17.0
DT8	591652	119148	Kerbside	100	100.0	20.8	21.4	19.7	16.4	15.5
DT9	574057	124328	Kerbside	100	100.0	25.8	27.9	28.9	17.5	19.0
DT10	572742	113521	Kerbside	100	100.0	13.9	13.2	13.0	9.0	9.1
DT12	571431	131224	Kerbside	100	100.0	32.3	36.6	35.6	23.0	24.4
DT13	574357	116222	Urban Background	100	100.0	12.9	12.1	11.9	8.9	8.9
DT14	574509	116846	Kerbside	100	100.0	29.6	28.6	28.6	20.0	21.7
DT16	574775	115925	Kerbside	100	100.0	16.9	15.6	15.4	11.7	11.3
DT17	592339	120975	Urban Background	100	100.0	15.0	13.9	13.6	11.0	10.3

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 2021 (%) [2]	2017	2018	2019	2020	2021
DT19	592121	120543	Urban Background	100	100.0	26.7	23.7	22.1	17.5	16.5
DT21	592011	120148	Kerbside	92.3	92.3	34.9	36.8	35.0	26.0	26.0
DT22	573985	107409	Kerbside	90.4	90.4	29.0	28.8	29.4	21.2	22.7
DT25	573871	108033	Kerbside	100	100.0	29.7	29.8	28.7	22.7	23.5
DT27, DT28, DT29	575595	108060	Kerbside	100	100.0	22.2	21.0	19.9	15.3	16.1
DT30	592248	120525	Kerbside	100	100.0	24.5	22.6	21.8	16.9	17.3
DT31	570366	107817	Kerbside	90.4	90.4	25.4	24.6	23.4	17.6	18.5

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

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

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

Notes:

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

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

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

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations (Automatic Sites)

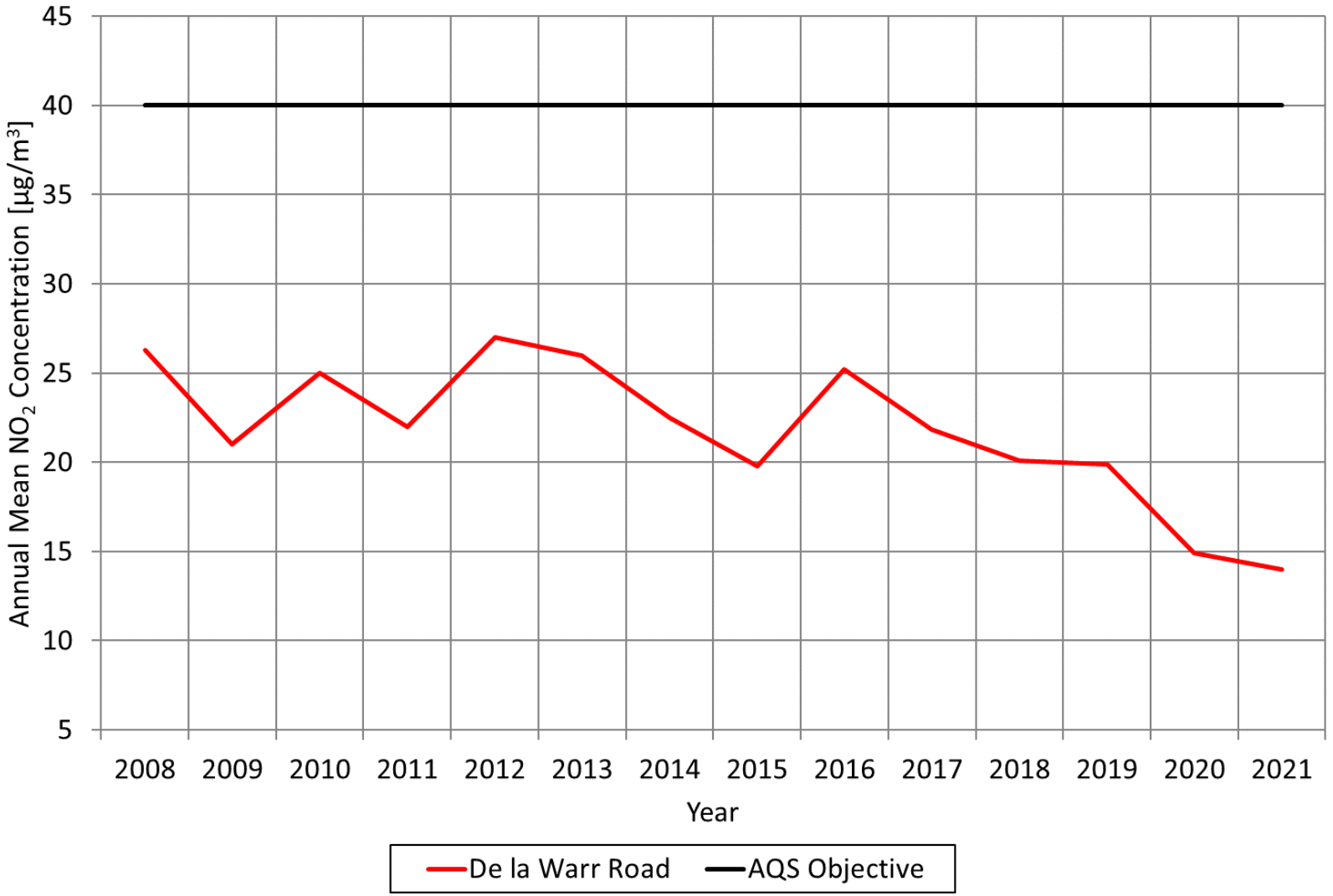


Figure A.2 – Trends in Annual Mean NO_2 Concentrations (Diffusion Tube Sites)

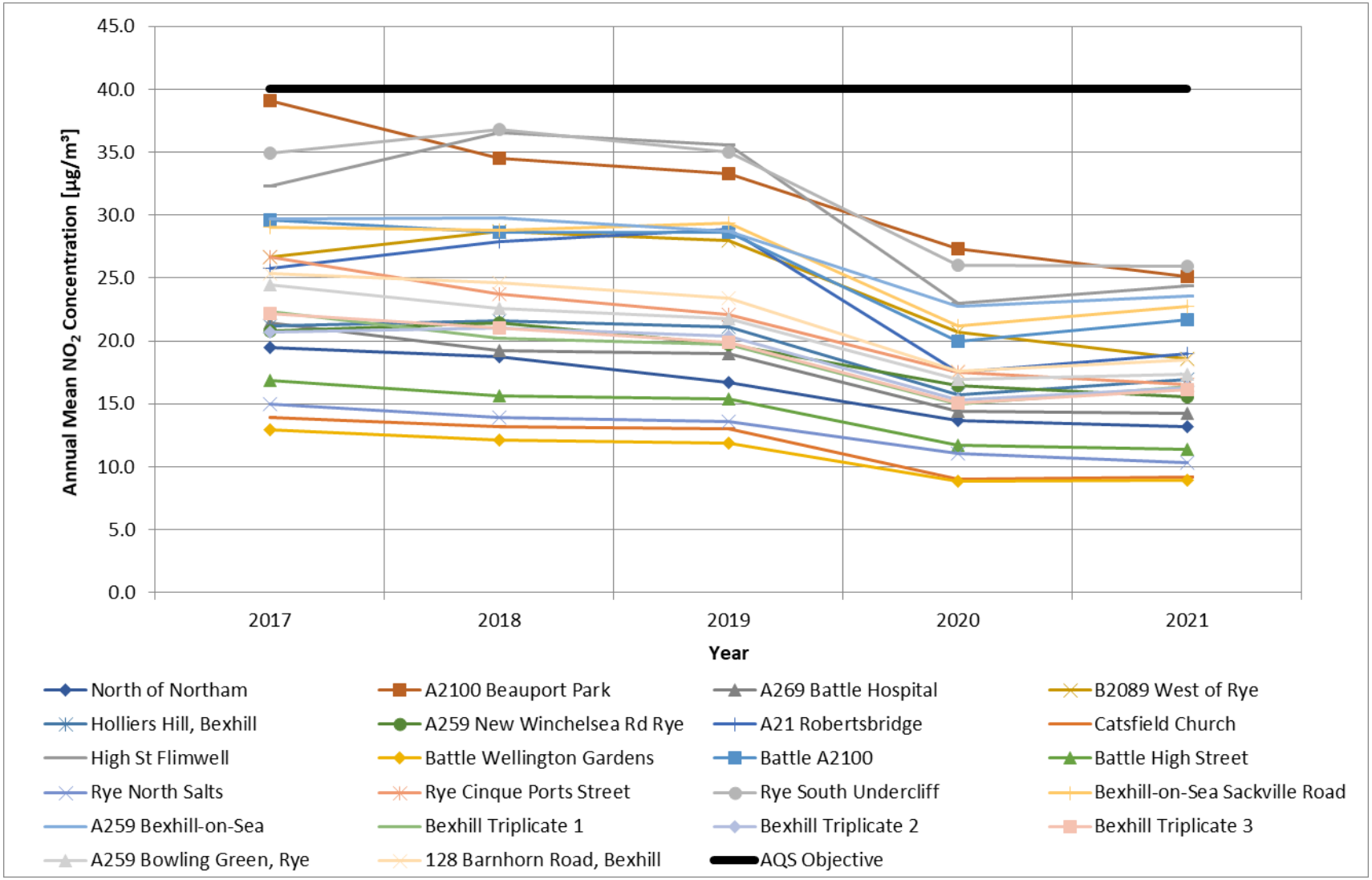


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
RY2	575595	108054	Kerbside	Automatic	99.7	0	0	0	0	0

Notes:

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

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

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

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

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

Table A.6 – Annual Mean PM_{10} Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
RY2	575595	108054	Kerbside	82.0	82.0	21.4 (3)	21.4 (3)	20.5	20.1	27.1

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

Notes:

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

Exceedances of the PM_{10} annual mean objective of 40µg/m^3 are shown in **bold**.

All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

(3) All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16, valid data capture for the full calendar year is less than 75%.

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

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
RY2	575595	108054	Kerbside	82.0	82.0	4	6	7	2	6 (31.7)

Notes:

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

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

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

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

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
RY2	575595	108054	Kerbside	82.0	82.0	15	15	14.4	14.1	19.0

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

Notes:

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

All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

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

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

Figure A.4 – Trends in Estimated Annual Mean $PM_{2.5}$ Concentrations

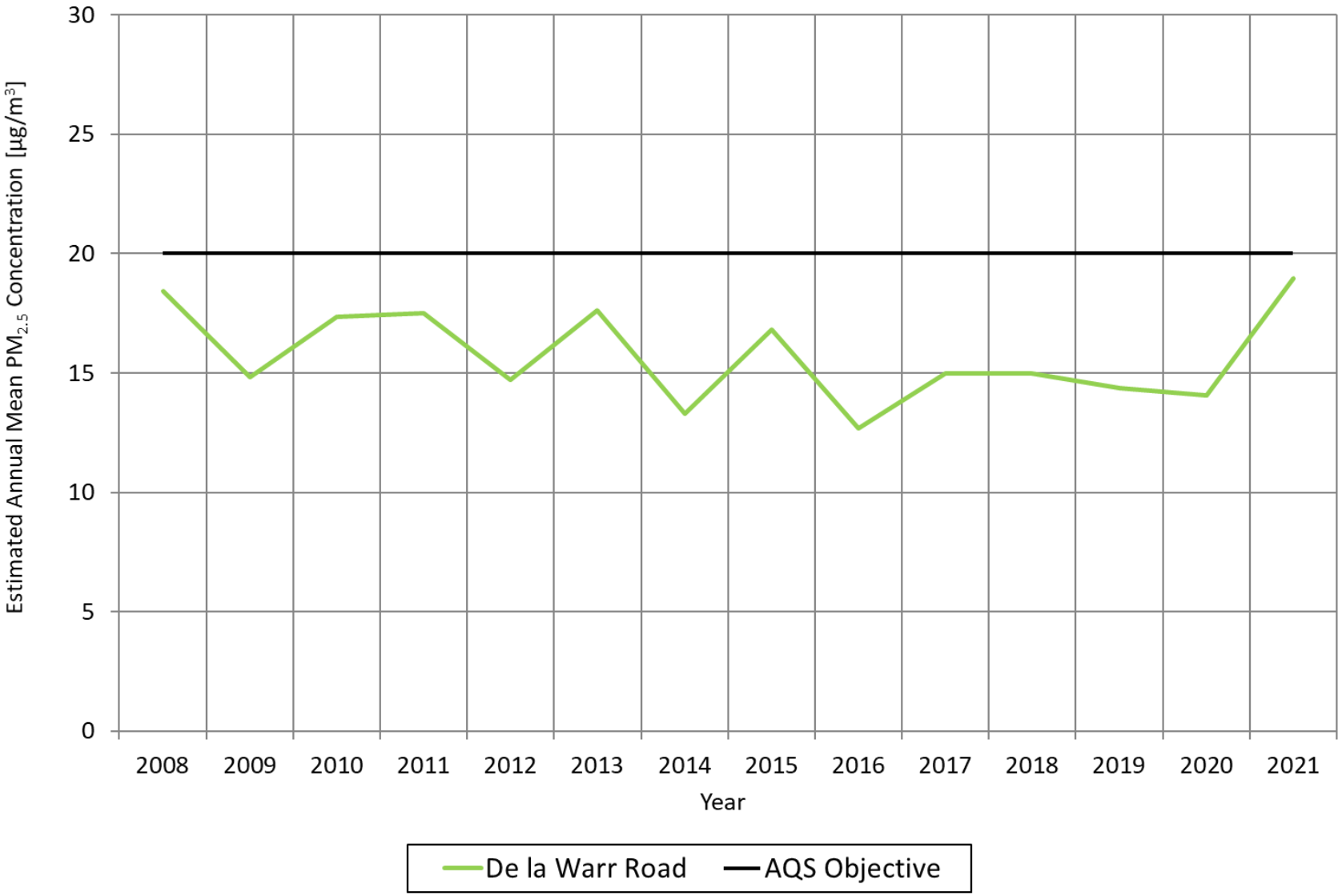


Table A.9 – Annual Mean O_3 Monitoring Results (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
RY1	594440	119150	Rural	99	99	53.5	56.7	55	57.4	51.9

Notes:

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

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

(3) All means have been "annualised" as per Technical Guidance LAQM.TG16, valid data capture for the full calendar year is less than 75%.

Table A.10 – Running 8-Hour Mean O_3 Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	Days With O_3 Running 8-Hour Means > 100 µg/m^3				
						2017	2018	2019	2020	2021
RY1	594440	119150	Rural	99	99	**24**	**27**	**28**	**20**	10

Notes:

Exceedances of the O_3 running 8-hour mean objective (100 µg/m^3 not to be exceeded more than 10 days/year) are shown in **bold.**

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

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

Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO_2 2021 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT2	583515	126517	19.1	18.5	17.6	15.2	14.1	11.3	12.0	13.4	15.7	16.5	20.4	14.5	15.7	13.2	-	
DT3	578727	113439	28.0	26.6	27.8	23.0	33.0	34.0	32.4	28.4	34.1	28.2	33.7		29.9	25.1	-	
DT4	573071	115896	17.9	18.3	17.7	12.7	17.0	16.1	16.6	13.7	17.5	19.9	19.6	16.5	17.0	14.2	-	
DT5	591196	120213	14.8	28.5	21.4	19.4	23.0	21.9	22.6	18.2	27.2	20.6	23.5	23.9	22.1	18.6	-	
DT7	574296	108917	24.0	25.9	23.5	18.2	18.0	18.8	17.6	14.1	19.3	19.3	24.4	19.6	20.2	17.0	-	
DT8	591652	119148	15.0	22.8	16.9	19.3	15.1	21.7	18.8	16.5	21.2	17.8	20.5	16.2	18.5	15.5	-	
DT9	574057	124328	19.0	23.0	16.6	20.1	22.3	30.4	26.4	21.1	28.6	21.1	24.6	18.6	22.6	19.0	-	
DT10	572742	113521	12.9	12.7	11.5	7.8	9.4	11.8	10.2	7.6	10.6	10.6	15.1	10.2	10.9	9.1	-	
DT12	571431	131224	27.6	32.4	24.6	28.7	28.5	31.8	30.8	25.1	35.5	27.8	30.6	25.2	29.1	24.4	-	
DT13	574357	116222	13.1	15.3	11.5	8.5	8.9	9.5	8.8	6.7	9.9	10.2	13.7	11.5	10.6	8.9	-	
DT14	574509	116846	24.0	26.6	25.0	21.4	27.4	25.2	26.3	24.7	29.1	26.0	29.9	24.2	25.8	21.7	-	
DT16	574775	115925	15.7	15.7	14.5	10.5	12.6	12.9	13.9	9.0	13.2	14.2	17.0	12.9	13.5	11.3	-	
DT17	592339	120975	15.3	17.8	11.8	10.2	11.0	10.9	11.1	7.4	11.4	10.5	15.7	14.1	12.3	10.3	-	
DT19	592121	120543	21.0	22.4	18.0	17.1	19.2	19.1	18.4	16.6	21.3	19.7	22.9	20.5	19.7	16.5	-	
DT21	592011	120148	33.2	33.4	32.6	30.0	32.0		30.1	28.6	32.5	25.8	32.9	28.9	30.9	26.0	-	
DT22	573985	107409	28.9	32.7	26.8	27.6	26.6	25.3	25.8	19.6	30.6	24.2	29.5		27.1	22.7	-	
DT25	573871	108033	29.6	29.9	29.3	25.8	25.5	28.6	28.0	21.3	31.0	28.7	30.5	28.1	28.0	23.5	-	
DT27	575595	108060	21.4	21.0	21.6	18.8	16.5	20.7	17.0	11.7	22.3	18.1	24.9	19.6	-	-	-	Triplicate Site with DT27, DT28 and DT29 - Annual data provided for DT29 only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT28	575595	108060	21.4	22.5	20.7	19.3	19.37	18.8	17.1	12.6	20.9	15.0	26.2	18.2	-	-	-	Triplicate Site with DT27, DT28 and DT29 - Annual data provided for DT29 only
DT29	575595	108060	20.7	21.7	19.4	17.8	15.27	20.8	15.8	12.8	21.2	18.5	19.6	23.0	19.2	16.1	-	Triplicate Site with DT27, DT28 and DT29 - Annual data provided for DT29 only
DT30	592248	120525	25.8	22.4	21.3	18.5	16.6	18.3	15.5	18.4	20.6	21.2	29.1	20.2	20.6	17.3	-	
DT31	570366	107817	23.1	24.1	21.0	18.1	23.3	23.5	22.7	18.8	22.9	19.8	25.8	20.9	22.0	18.5	-	

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

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.**

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **Rother District Council confirm that all 2021 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**.

Notes:

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

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

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Rother District Council During 2021

RDC has not identified any new sources relating to air quality within the reporting year of 2021.

Additional Air Quality Works Undertaken by Rother District Council During 2021

RDC has not completed any additional works within the reporting year of 2021.

QA/QC of Diffusion Tube Monitoring

AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, which combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL Workplace Analysis Scheme for Proficiency (WASP) PT scheme.

Defra and the Devolved Administrations advise that diffusion tubes used for Local Air Quality Management should be obtained from laboratories that have demonstrated satisfactory performance in the AIR PT scheme[7]. RDC used Gradko International for the supply and analysis of diffusion tubes, with a 20% triethanolamine (TEA) in water preparation.

The percentage of results submitted by Gradko International Ltd that were subsequently determined to be satisfactory was 25% for AIR-PT Round AR042 (January – March 2021).

[7] LGC (2019) Summary of Laboratory Performance in AIR NO_2 Proficiency Testing Scheme (January 2019 – March 2021) Available at: https://laqm.defra.gov.uk/documents/LAQM%20NO2%20Performance%20data_Up%20to%20March%202021_v2.pdf

All monitoring has been completed in adherence with the 2021 Diffusion Tube Monitoring Calendar.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within RDC recorded data capture of 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

RDC have applied a national bias adjustment factor of 0.84 to the 2021 monitoring data. A summary of bias adjustment factors used by RDC over the past five years is presented in **Error! Not a valid bookmark self-reference.**.

RDC has a co-location of triplicate diffusion tubes alongside the automatic continuous analyser at De La Warr Road, Bexhill. The local bias adjustment factor using these locations was calculated to be 0.73 as detailed in **Error! Reference source not found.**.

In 2021, it was possible to derive a local bias adjustment factor as well as the national bias adjustment factor obtained from the national database (0.84, 32 studies, version 03/22). A local bias adjustment factor is generally preferred as recommended by LAQM.TG16. However, in this occasion the national factor was chosen instead. The national factor was higher than the local derived factor for Rother so provides a worst-case scenario, which is likely to be more appropriate for the entire network of monitoring sites in RDC.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	3/22	0.84

2020	Local	-	0.88
2019	Local	-	0.97
2018	Local	-	0.93
2017	Local	-	0.90

NO_2 Fall-off with Distance from the Road

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

No diffusion tube NO_2 monitoring locations within RDC required distance correction during 2021.

QA/QC of Automatic Monitoring

As previously described in Section 2.1, monitoring stations within Rother are part of the SAQMN and, therefore, measurements made at these sites are traceable to national standards and operational procedures defined for the regional network. WeCare4Air undertakes the equipment's maintenance and calibration.

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

The PM_{10} data from the TEOM continuous analyser at De La Warr Road (RY2) has been corrected using the volatile correction model[8] (VCM) to ensure gravimetric equivalence.

PM_{10} annual average concentrations have used to estimate $PM_{2.5}$ concentrations by using the nationally derived correction ratio of 0.7 suggested in Defra's Technical Guidance LAQM.TG.16.

[8] King's College London Volatile Correction Model. Information available at: http://www.volatile-correction-model.info/

Automatic Monitoring Annualisation

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

NO_2 Fall-off with Distance from the Road

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

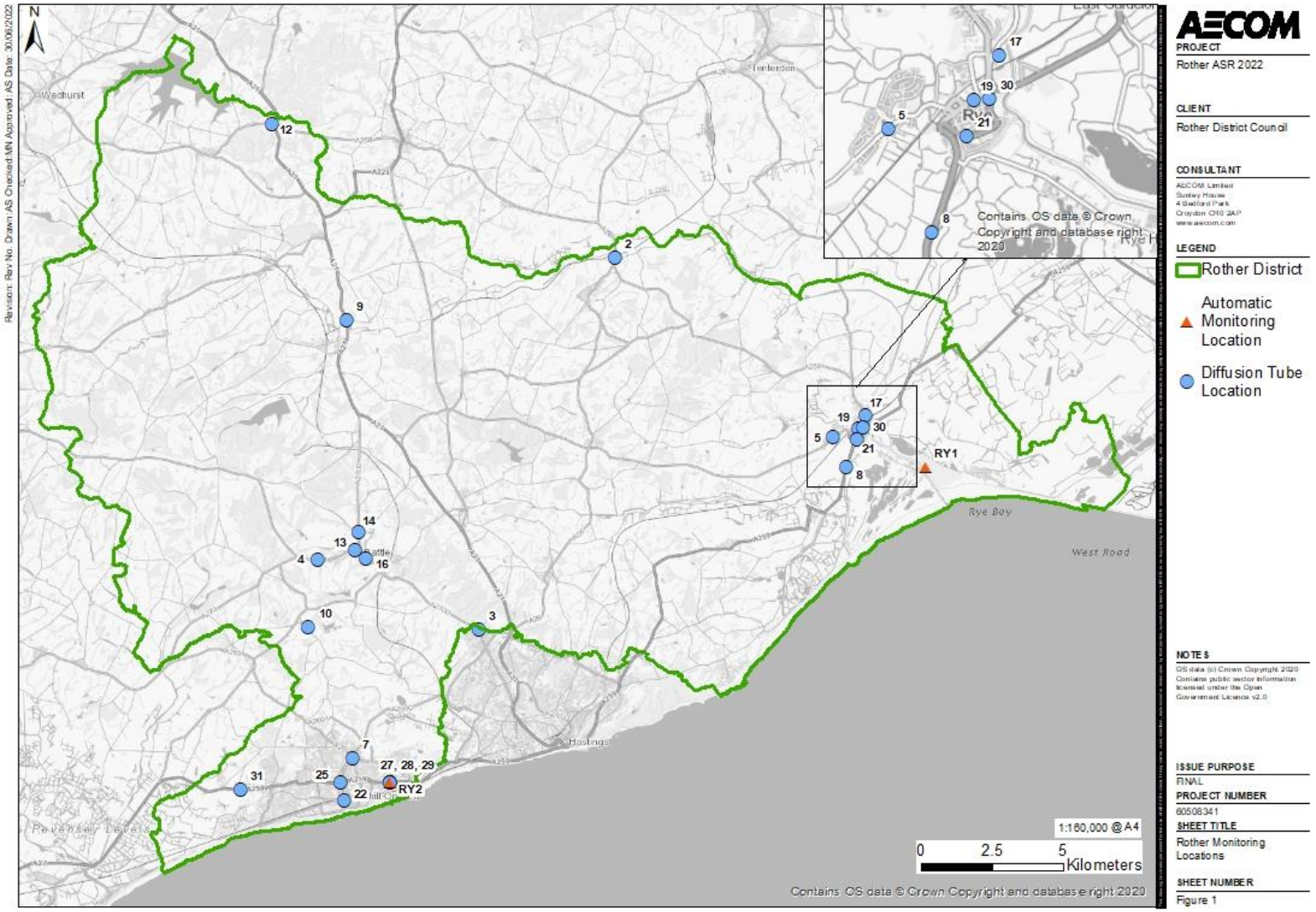
No automatic NO_2 monitoring locations within RDC required distance correction during 2021, as concentrations were below 36 µg/m^3.

Table C.2 – Local Bias Adjustment Calculation

	Local Bias Adjustment Input 1
Periods used to calculate bias	11
Bias Factor A	0.73 (0.68 - 0.79)
Bias Factor B	37% (27% - 47%)
Diffusion Tube Mean (µg/m^3)	19.4
Mean CV (Precision)	6.4%
Automatic Mean (µg/m^3)	14.2
Data Capture	98%
Adjusted Tube Mean (µg/m^3)	14 (13 - 15)

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

Figure D.1 – Map of Monitoring Sites



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[9]

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

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

Glossary of Terms

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

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
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- LGC (2019) Summary of Laboratory Performance in AIR NO2 Proficiency Testing Scheme (January 2019 – March 2021) Available at: https://laqm.defra.gov.uk/documents/LAQM%20NO2%20Performance%20data_Up%20to%20March%202021_v2.pdf