

2018 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the

Environment Act 1995

Local Air Quality Management

June 2019

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Report Reference number	ASR 2018
Date	June 2019

Executive Summary: Air Quality in Our Area

Air Quality in Teignbridge 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 and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas^{1,2}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around $\pounds 16$ billion³.

Within the District of Teignbridge local air quality is generally very good. However there are locations where air pollution levels are high – typically along busy congested roads, with the highest levels being experienced where the roads are either narrow and/or have a steep incline and/or have street canyons (ie roads with properties close to the side of the road on both sides). The pollutant of specific concern in these locations is Nitrogen Dioxide. The review and assessment process commenced in 2005 resulting in four Air Quality Management Areas (AQMA's) being declared because it was predicated that the National Air Quality Objective would not be met for Nitrogen Dioxide (NO₂). The original four AQMA's were:-

- Dawlish (Iddesleigh Terrace)
- Teignmouth (A379 along Bitton Park Road)
- Kingskerswell (old A380)
- Newton Abbot (Town Centre)

In 2008 a Detailed Assessment was carried out which resulted in the boundary of the Newton Abbot Town Centre AQMA being revised and expanded to include Wolborough Street, and in Kingsteignton, Newton Road and Gestridge Road. In

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

2017 the geography of the four AQMA's remains unaltered. The four AQMA's to date are:-

- Dawlish (Iddesleigh Terrace)
- Teignmouth (A379 along Bitton Park Road)
- Kingskerswell (old A380)
- Newton Abbot & Kingsteignton

Two main monitoring techniques are used, these being Nitrogen Dioxide diffusion tubes and continuous monitoring stations. An indicative monitoring technique is used for measuring PM_{10} , in the form of an Osiris, light scattering monitor. Monitoring has been undertaken for NO₂ and PM_{10} both within the AQMA's and outside.

Further details of the Air Quality Management Areas, and the Council's Action Plan are available online on <u>our web page about air pollution.</u>

The latest ratified data shows that, despite significant housing and commercial development taking place, there is a year on year trend of NO₂ and PM₁₀ levels reducing across the AQMA's. However, there still remains small numbers of hot spots where levels of Nitrogen Dioxide are above government objectives. In 2018 there were 5 diffusion tube results out of 69 monitored locations with the Teignbridge District that exceeded the National Air Quality Objective for Nitrogen Dioxide. These locations are found in the Newton Abbot & Kingsteignton AQMA (3) and the Teignmouth AQMA (2). It should be pointed out at this stage that all results across the District within 2018 are lower than previous years. It is therefore not possible to draw conclusions about any long-term trend in pollution levels over time, except to say that in 2018 all results across the District were lower.

Newton Abbot and Kingsteignton

In the course of 2018 we monitored 39 tube locations. Of these:-

- 29 locations improved.
- 3 locations exceeded the National Objective.
- 6 locations got worse.

With reference to continuous data, 12 months data has been collected with a 97% data capture rate. The data shows an annualised mean of 39 μ g/m3 and therefore not exceeding the National objective for either a daily mean or a 1 hour mean.

Teignmouth

In the course of 2018 we continued to monitor 9 monitoring tube locations. Of these:-

- All the monitoring tubes showed a reduction.
- 2 locations exceed the National Objective.

With reference to continuous data, 12 months data has been collected with a 96% data capture rate. The data shows an annualised mean of 31 μ g/m³ and therefore not exceeding the National objective for either a daily mean or a 1 hour mean.

Kingskerswell

In the course of 2018 we continued to maintain 14 monitoring tube locations. Of these:-

- Only one monitoring tubes got slightly worse, but still remain well below the National objective.
- 13 monitoring tubes improved

It should be noted that all monitoring tubes are again below the 10% National Objective. As this is our third year of levels being consistently more than 10% below the National Objective it is the Council's intention to apply to revoke this AQMA in 2019.

Dawlish

In the course of 2018 we continued to maintain 4 monitoring tube locations within the AQMA. All locations remained well below the National Objective.

You will see that within the Dawlish area an additional 2 tube monitoring locations have been added. These tubes have been positioned for background levels in anticipation of a large housing development and a new link road, but this has no influence or effect on the existing AQMA. These 2 tubes are well within the National Objective It should be noted that all monitoring tubes in the AQMA are again below the 10% National Objective. As this is our third year of levels being consistently more than 10% below the National Objective it is the Council's intention to apply to revoke this AQMA in 2019.

Actions to Improve Air Quality

Teignbridge District Council took forward a number of measures during 2018 in pursuit of improving local air quality. Key completed measures are:-

• Air Quality Action Plan

A key priority for 2018 was for this Authority to draft a revised Air Quality Action Plan. This draft Action Plan was submitted to DEFRA on the 15th October 2018. The new Action Plan shows strong links to key local policies ie The Devon Local Transport Plan. The main focus of this new Action Plan is targeted measures rather than the existing Action Plan which contains a long list of aspirational measures. The focus on the Plan will be on pollution hotspots within our AQMA's and the aim of the Action Plan will be to demonstrate that measures identified in the new plan are capable of achieving the Air Quality Objectives. We are awaiting the approval of this Action Plan which is anticipated in the early part of 2019.

 Projects to Increase electric vehicles/Low Emission Vehicle Strategy/Clean Air Strategy

The Devon & Exeter Low Carbon Energy & Transport Technology (DELETTI) Application

In the early part of 2017 Teignbridge District Council joined the Greater Exeter Ultra Low Emission Vehicle Partnership in a bid led by Devon County Council to the European Regional Development Fund (ERDF). After completing several bidding rounds the partnership bid formed the Devon and Exeter Low carbon Energy and Transport Technology (DELETTI). The outline application was successful and a bid was submitted by the deadline of the 23rd March 2018 to submit the full application.

In April 2018 quite extensive feedback was received on the full application with a further deadline of the end of April being given. This deadline was reached and additional information was added to the application. At this time, this Authority also confirmed explicit match funding towards the bid.

In September 2018, further concerns were received from the Ministry of Housing Communities for Local Government (MHCLG) regarding the application and an additional 4 weeks was provided to re-submit the application.

In October this Authority attended a stakeholder's workshop held with all parties and a final deadline for submission was provided of the 12th November. This deadline was again met and we are now awaiting the outcome of the final bid in 2019. It is expected that the final decision will be reached in March 2019. If the bid is successful in March 2019, leadership and delivery of the project will be delivered by Devon County Council. For Teignbridge the funding will provide a total of four dual electric vehicle rapid charge points.

The Highways England Electric Vehicle Grant (HELA) Application

This Authority has been working in partnership with Devon County Council on developing the EV Charging Network along the main highways across the Region. In July 2018 a small feasibility bid was submitted to Highways England for Electric Vehicle charging points. Locations were identified along the A38 within our District that would meet the criteria for the application bid.

This bid was successful.

Following the success, we have been working with Devon County Council to ascertain procurement and lease arrangements. In November 2018 a draft specification was agreed.

During the early part of 2019 it is anticipated that all lease agreements and procurement specifications will be issued and we will then be in a position to proceed further with the charging network.

Electric Vehicle Infrastructure and Ultra Low Emission Vehicles Policy

Following the publication of the Government's "Road to Zero" document regarding its plans to ban new diesel and petrol vehicles from sale in the UK from 2040 the Council felt for clarity it necessary to develop a detailed Electric Vehicle Infrastructure and Ultra Low Emission Vehicles Policy to be approved. Although within the Council Strategy there are a number of strategic aims that support the Council in developing an the electric vehicle network a more detailed Electric Vehicle Infrastructure and Ultra Low Emission Vehicles Policy will need to be approved which will allow this Authority to periodically amend and update the policy to keep pace with the wider environment. A Policy has been drafted and this is due to go before the Council's Overview and Scrutiny Committee in the early part of 2019.

Sustainable Travel to Work Survey (Workplace Travel Plan)

This Authority's last Travel to Work survey was carried out in 2015. In June 2018 Teignbridge representatives along with Devon County Council representatives met in order to reproduce the survey.

Once the staff survey was carried out in July 2018, the Workplace Travel Plan Members met and analysed the results in September 2018. As a result of this meeting, there are measures that can be taken forward and it is therefore anticipated that during the early part of 2019 significant measures to improve the Workplace Travel Plan are adopted.

Teignbridge District Council Ten Year Strategy 2016 – 2025.

Air Quality features highly in the Teignbridge Ten Year Strategy 2016 – 2025 and in particular within two super projects – "Moving up a Gear" (to improve travel options) and "Health at the Heart" (to improve health and wellbeing). Involvement in these projects has been taking place during 2018 and projects are progressing well. Specific details of projects and actions relating to these projects can be found in Chapter 2.2 and table 2.2.

Data Collection

Previous issues with regard to the Authority's collection of data have now been resolved and we have now been able to submit full year's data collection results in this ASR for 2018.

Old Newton Road, Heathfield – In the vicinity of British Ceramic Tiles

For some time now, this Authority has not received dust complaints arising from the site. This coincides with improved working practices and investment in infrastructure by the company.

From the data we have received in 2018 (95% data capture) there have been 48 exceedances of the daily average of 50 μ g/m³. For the purpose of this report - it is not possible for this Authority to take any further action regarding these levels as

unfortunately at the start of 2019 the company went into administration and are no longer in operation.

Teignbridge District Council also expects the following measures to be completed over the course of the next reporting year:-

- Consultation and publication of the draft new AQAP.
- Projects to increase electric vehicles and charge points across Teignbridge and other neighbouring authorities.
- Revoke the Dawlish AQMA.
- Revoke the Kingskerswell AQMA.
- Staff Car Sharing Scheme.
- Workplace Travel Plan.

Conclusions and Priorities

One of this Authority's main aims for 2019 is to seek approval of the new Air Quality Action Plan.

As with other local Authorities, one principal challenge and barrier is the scale of growth in house building, and finding source of funding for measures such as Electric Vehicle Charging Points. It is also our aim to progress the Electric Vehicle Infrastructure Network further. If current funding applications are successful, it will be a key priority to implement these programmes within 2019.

To revoke the Dawlish AQMA

To revoke the Kingskerswell AQMA

Local Engagement and How to get Involved

Public participation in Air Quality issues are vital to maintaining standards within the objectives. Everyone in Teignbridge can make small changes to their daily routine to improve air quality including:-

- Walking or cycling more
- Using public transport

- Car Sharing
- Not leaving your vehicles idling
- Checking your vehicle is as economic and green as possible. (sources of information are available on the Council's website for improving air quality. (<u>https://www.teignbridge.gov.uk/environmental-health-and-wellbeing/land-air-and-water-pollution/air-quality</u>))

Involvement takes place with frequent meetings with the Portfolio Holder for Health & Wellbeing and regular interaction with relevant elected Councillors on specific issues regarding current air quality issues. Members from the Air Quality Team also attend Council Committee Meetings regarding Air Quality.

The Council also does a lot of interacting with the public by means of social media (facebook & twitter), advising them of Air Quality Issues.

In 2018 we also dealt with 23 service requests relating to either planning applications having an impact on air quality or concerns from the public regarding the current air quality levels.

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Local Air Quality Management

This report provides an overview of air quality in Teignbridge District Council during 2018. 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 Teignbridge District Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England can be found in **Error! Reference source not found.** in Appendix E.

Actions to Improve Air Quality

Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by Teignbridge District Council can be found in Table 0.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at

https://www.teignbridge.gov.uk/environmental-health-and-wellbeing/land-air-andwater-pollution/air-quality.

In 2019 we propose to revoke the Dawlish AQMA and the Kingskerswell AQMA (see monitoring section).

Table 0.1 – Declared Air Quality Management Areas

AQMA	Date of	Pollutants and Air Quality	Pollutants and Air Quality Objectives	Pollutants and Air Quality Objectives	Pollutants and Air Quality	Pollutants and Air Quality	Pollutants and Air Quality	Pollutants and Air Quality Objectives	Pollutants and Air Quality Objectiv <u>es</u>	Pollutants and Air Quality	Pollutants and Air Quality	Pollutants and Air Quality	Pollutants and Air Quality Objectives	City /	One Line	Is air quality in the AQMA influence d by	Level of (ma (ma monitore concen location exp	Exceedance ximum ed/modelled tration at a of relevant osure)		Action	Plan				
Name	Declar ation	Quality Objectives	Town	Description	Is air quality in the AQMA influence d by roads controlle d by Highway s England? No Devon County Council Hereitan Council		Now	Name	Date of Publication	Link															
lddesleigh Terrace, Dawlish	2005	NO2 annual mean	Dawlish	Small section of road. It is a winding road and forms a street canyon.	No Devon County Council	42.34 μg/m3	35.74 µg/m3	Air Quality Action Plan	2010	https://www.teignbridge. gov.uk/environmental- health-and- wellbeing/land-air-and- water-pollution/air- quality/															
Kingskerswel I	2005	NO2 annual mean	Kingske rswell	Main route into Torbay and experiences very high traffic flows. A congested route with slow moving traffic.	No Devon County Council	50.88 μg/m3	27.03 μg/m3	Air Quality Action Plan	2010	https://www.teignbridge. gov.uk/environmental- health-and- wellbeing/land-air-and- water-pollution/air- quality/															

Newton Abbot & Kingsteignto n	2005 amend ed 2008	NO2 annual mean	Newton Abbot	Congested streets and narrow in places with residential properties within metres of the edge of the roads. The AQMA was further extended in 2008 following a Detailed Assessment.	No Devon County Council	48.82 μg/m3	52.84 μg/m3	Air Quality Action Plan	2010	https://www.teignbridge. gov.uk/environmental- health-and- wellbeing/land-air-and- water-pollution/air- quality/
Teignmouth	2005	NO2 annual mean	Teignm outh	Primary route and main thoroughfare for HGV traffic.	No Devon County Council	56.83 μg/m3	57.99 μg/m3	Air Quality Action Plan	2010	https://www.teignbridge. gov.uk/environmental- health-and- wellbeing/land-air-and- water-pollution/air- quality/

Teignbridge District Council confirm the information on UK-Air regarding their AQMA(s) is up to date (confirm by selecting in box)

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

Defra's appraisal of last year's ASR concluded that the report was well structured, detailed and provided the information specified in the Guidance. It welcomed the submission of the new AQAP. This document has now been drafted and is awaiting appraisal. As previously stated, the main focus of this new Action Plan is targeted measures rather than as per our existing Action Plan, a long list of aspirational measures.

With regard to data capture, no sites needed annualising in 2018 as all of them were at 75% or above data collection.

It was also recommended for further discussion on PM 2.5 issues and please see section 2.3 on page 11 of this report.

Teignbridge District Council has taken forward a number of direct measures during the current reporting year of 2018 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 0.2.

Key completed measures are:

- Submission of draft Air Quality Action Plan for approval.
- Ongoing involvement within the DELETTI grant application process.
- Draft Electric Vehicles, Infrastructure and Ultra Low Emission Vehicle Policy.
- Highway England Electric Vehicle Grant Application.
- Teign Estuary Trail Proposals for a new off-road trail have been submitted and are awaiting approval. This would provide an accessible, safe and active travel option for people travelling between Kingsteignton and Teignmouth. This is an important step towards connecting Kingsteignton, Bishopsteignton and Teignmouth, as reflected in the Local Plan and specified by the Teignbridge Infrastructure Delivery Plan.

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

• Approval of the Air Quality Action Plan

- Approval and Implementation of an Electric Vehicles, Infrastructure and Ultra Low Emission Vehicle Policy.
- Revoke the Dawlish AQMA.
- Revoke the Kingskerswell AQMA.
- Continuation of involvement within Air Quality projects within the Teignbridge Council Ten Year Strategy 2016 – 2025.

Teignbridge District Council's priorities for the coming year are:-

- Approval of the Air Quality Action Plan
- Approval of an Electric Vehicles, Infrastructure and Ultra Low Emission Vehicle Policy.

The principal challenges and barriers to implementation that Teignbridge District Council anticipates facing are:-

<u>Funding</u>

Both the outcome of the DELETTI bid and the HELA bids are expected early 2019. It will not be until after this time that careful progress consideration can be given.

Table 0.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
1	Teignbridg e District Council Ten Year Strategy 2016 - 2025	Policy Guidance and Developm ent Control	Air Quality Planning and Policy Guidance	Teignbridge District Council (TDC)	ongoing	ongoing	TDC Ten Year Strategy 2016 - 2025		ongoing	ongoing with a completion date of 2025	N/A
2	Air Quality Action Plan	Policy Guidance and Developm ent Control	Air Quality Planning and Policy Guidance	TDC	ongoing	ongoing	Reduction below the National Air Quality Objective	Revocation of AQMA	Drafted and awaiting approval	01/06/2018	N/A
3	Planning Applicatio ns	Policy Guidance and Developm ent Control	Air Quality Planning and Policy Guidance	TDC	ongoing	ongoing	Local Plan 2013 - 2033	N/A	ongoing	ongoing with a completion date of 2025	funding
4	Encourag e a cycling revolution	Alternativ es to private vehicle use	Other	TDC	ongoing	ongoing	TDC Ten Year Strategy 2016 - 2025	N/A	submitting funding bids	subject to funding	funding
5	Innovative Transport Schemes	Promoting Travel Alternativ es	Personalised Travel Planning	TDC	ongoing	ongoing	TDC Ten Year Strategy 2016 - 2025	N/A	ongoing	N/A	N/A
6	Health Interventio ns to Local Communit ies	Public Informatio n	Other	TDC	ongoing	ongoing	TDC Ten Year Strategy 2016 - 2025	N/A	ongoing	N/A	N/A

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.

Within Teignbridge District Council, there is not yet capacity for direct monitoring of PM _{2.5}. However DEFRA's national background maps have been used to identify the modelled PM _{2.5} concentrations for the calendar year 2017.

The average of total PM_{2.5} of all 697 locations (centre point of 1 km x 1 km grids) was 6.796 μ g/m³ (Min 6.06 μ g/m³ and Max 8.76 μ g/m³). PM _{2.5} concentrations are considered to be well below the EU Limiti Value of 25 μ g/m³.

Officers from this Authority have also commenced discussions as part of the Devon Pollution Officers working group on a joint project with Public Health at Devon County on an education programme.

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

Summary of Monitoring Undertaken

Automatic Monitoring Sites

This section sets out what monitoring has taken place and how it compares with objectives.

Teignbridge District Council undertook automatic (continuous) monitoring at 8 sites during 2018. Table A.1 in Appendix A shows the details of the sites. National monitoring results are available at https://uk-air.defra.gov.uk.

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.

Teignbridge District Council only undertakes monitoring for NO₂ and Pm₁₀ in our administrative area. NO₂ monitoring has been undertaken utilising diffusion tubes and two continuous analysers. PM₁₀ has been monitoring at various locations using Osiris (indicative monitors) and a BAM (Beta Attenuation Monitor) monitors and it is noted that the Osiris purely used as a screening tool option.

Non-Automatic Monitoring Sites

Teignbridge District Council undertook non- automatic (passive) monitoring of NO₂ at 69 sites during 2018. Table A.2 in Appendix A shows the details of the sites.

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

Individual Pollutants

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

Nitrogen Dioxide (NO₂)

Table A.3 in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past 5 years with the air quality objective of $40\mu g/m^3$.

For diffusion tubes, the full 2018 dataset of monthly mean values is provided in Appendix B.

Table A.4 in Appendix A compares the ratified continuous monitored NO₂ hourly mean concentrations for the past 5 years with the air quality objective of $200\mu g/m^3$, not to be exceeded more than 18 times per year.

The data from 2018 shows that there were 5 roadside locations within the Teignbridge District that exceed the annual National Air Quality Objective for Nitrogen Dioxide. They are distributed as follows:-

3 locations inside the Newton Abbot & Kingsteignton AQMA (85 Wolborough Street, LP Exeter Road and DP 79 Wolborough Street).

2 location inside the Teignmouth AQMA (96 Bitton Park Road and 1 Reed Vale Lodge).

With regard to the exceedances, the extent of the exceedance of the National Objectives range from 2 μ gm/³ at 96 Bitton Park Road, Teignmouth to 13 μ gm/³ at Reed Vale Lodge, Teignmouth.

There was no annual average over 60 μ gm/³ which would indicate that an exceedance of the 1 hour mean objective is also not likely.

It should be pointed out at this stage that all results across the District within 2018 are lower than previous years. It is therefore not possible to draw conclusions about any long-term trend in pollution levels over time, except to say that in 2018 all results ascross the District were lower. Hotspots of pollution clearly remina, and need to be addressed in the new AQAP. The extent of these areas is small than the extent of the AQMA, however Teignbridge District Council has no current plans to amend the AQMA and reduce the area included.

Also of note is that as expected, there are now no longer exceedances within the Kingskerswell AQMA due to the construction of the South Devon Highway and also there were no exceedances in the Dawlish AQMA. Both of these AQMA's have had

results below the National Objective for over 3 years so Teignbridge District Council is now in a position to revoke these AQMA's.

Each year Teignbridge reviews the sites of the diffusion tubes and takes into consideration extending, reducing or revoking an AQMA.

Particulate Matter (PM₁₀)

Error! Reference source not found. in Appendix A compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past 5 years with the air quality objective of $40\mu g/m^3$.

Table A.5 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past 5 years with the air quality objective of $50\mu g/m^3$, not to be exceeded more than 35 times per year.

2018 sees Teignbridge District Council's first full set of monitoring for a couple of years. The results show a data capture range for all monitoring locations of between 81% - 95%. No exceedances of the Annual Mean are achieved and the annual mean range for all monitoring locations is between 10 μ g/m³ – 31 μ g/m³.

However there is an exceedance from our Magnolia BAM site of the PM10 daily mean $>50\mu g/m^3$. Monitoring results (in Table A6) show 13 more exceedances above the National Objective. As previously stated, earlier in the report, unfortunately the company of the probable source of these exceedances has gone into adminsitration in early 2019 and is no longer trading. Teignbridge District Council is proposing to carry out a period of post monitoring at this location to confirm that no future exceedances of the National Objectives are met.

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)
CM1	Halcyon Road, Newton Abbot	Roadside	285681	71393	NO2	YES	Chemiluminescent	5	2	1.7
CM2	Bitton Park Road, Teignmouth	Roadside	293363	73094	NO2	YES	Chemiluminescent	8.5	1.73	1.7
СМЗ	BAM - Magnolia	Roadside	283220	75972	PM10	NO	Absorption of Beta Radiation	14	N/A	1.7
CM4	Queen Street Newton Abbot	Roadside	286617	71332	PM10	YES	Light scattering technique	2.18	2.63	1.7
CM5	11 Brow Hill Heathfield	Other	283149	75937	PM10	NO	Light scattering technique	80	N/A	1.7
CM6	Magnolia Heathfield	Other	283220	75972	PM10	NO	Light scattering technique	14	N/A	1.7
CM7	Battle Road Heathfield	Other	282813	75775	PM10	NO	Light scattering technique	N/A	0	1.7
CM8	A38 Heathfield	Other	283435	75826	PM10	NO	Light scattering technique	N/A	5	1.7

Notes:

(1) Om 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.

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
1	Aller Brake Road N Abbot	Roadside	287396	69902	NO2	NO	1m	5m	NO	1.7
2	DP 155(153) Bitton Park Road, Teignmouth	Kerbside	293277	293277	NO2	YES	0	1m	NO	1.7
3	9 Gestridge Rd, Kingsteignton	Kerbside	286967	73146	NO2	YES	0	1m	NO	1.7
4	DP 85 Wolborough St, Newton Abbot	Kerbside	285526	71010	NO2	YES	0	1m	NO	1.7
5	96 Bitton Park Rd, Teignmouth	Kerbside	293387	73101	NO2	YES	0	1m	NO	1.7
6	157 Queen St, Newton Abbot	Kerbside	286630	71329	NO2	YES	0	1m	NO	1.7
7	54 Newton Rd, Kingsteignton	Roadside	286718	72523	NO2	YES	1m	5m	NO	1.7
8	57 East St, Newton Abbot	Kerbside	285991	71158	NO2	YES	0	1m	NO	1.7
9	Forde House Offices, Newton Abbot	Other	287073	70915	NO2	NO	N/A	N/A	NO	1.7
10	Control	Other	N/A	N/A	N/A	NO	N/A	N/A	NO	N/A
11	12 Torquay Rd, Newton Abbot	Kerbside	286345	71078	NO2	YES	0	1m	NO	1.7
12	Bus Stop/Datal office Torquay Rd, Newton Abbot	Kerbside	287939	68823	NO2	YES	0	1m	NO	1.7

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

13	22 Courtenay Road, Newton Abbot	Urban Background	286061	70812	NO2	NO	24m	1m	NO	1.7
14	Bus StopWestcombe Caravan Park Torquay Rd, N Abbot	Kerbside	288024	68769	NO2	YES	15m	1m	NO	1.7
15	38 Ashburton Road	Roadside	275659	69917	NO2	NO	2m	2m	NO	2
16	46/48 Newton Rd, Kingsteignton	Roadside	286727	72538	NO2	YES	2m	5m	NO	1.7
17	Whitecourt, Iddesleigh Terrace, Dawlish	Kerbside	296299	76738	NO2	YES	0	1m	NO	1.7
18	DP Flat 2, Birchwood Court, Addison Rd, NA	Roadside	287211	70496	NO2	YES	0	2m	NO	1.7
19	DP 49 The Avenue, Newton Abbot	Roadside	286479	71558	NO2	YES	0	5m	NO	1.7
20	Specsavers 16 Queen Street Ground Floor Newton Abbot	Kerbside	286056	71334	NO2	YES	0	1m	NO	1.7
21	Jetty Marsh Lamp Post no. 28 Westward Traffic Flow	Roadside	285813	72061	NO2	YES			NO	
22	Jetty Marsh Lamp Post no. 29 Eastward Traffic Flow	Roadside	285812	72050	NO2	YES			NO	

23	108-110 Queen St First Floor level Newton Abbot	Kerbside	286519	71344	NO2	YES	0	1m	NO	4
24	87 East St, Newton Abbot	Kerbside	286061	71151	NO2	YES	0	1m	NO	1.7
25	DP 7 Station Rd, Newton Abbot	Roadside	286703	70922	NO2	Y	0	4m	NO	1.7
26	Elm Road/New Link Road, Dawlish	Roadside	296175	77738	NO2	NO	0	1	NO	1.7
27	DP 173 Bitton Park Rd, Teignmouth	Kerbside	293231	73085	NO2	YES	0	1m	NO	1.7
28	Western Cottages 1 Greenhill Road KKwell	Roadside	287671	67405	NO2	NO	5m	3m	NO	1.7
29	Jct of Huxnor Rd and Eddginswell Lane Kkwell	Kerbside	287667	67263	NO2	NO	0	1m	NO	1.7
30	1A Piermont Place, Dawlish	Kersbide	296281	296281	NO2	YES	0	1m	NO	1.7
31	DP 108-110 Queen St, Newton Abbot	Kerbside	286517	71336	NO2	YES	0	1m	NO	1.7
32	21 Oakford, Broadway Rd, Kingsteignton	Kerbside	286957	73112	NO2	YES	0	1m	NO	1.7
33	DP 30-34 Bradley Court, Highweek Street NA	Kerbside	285681	71393	NO2	YES	0	1m	NO	1.7

34	Nox Analyser, Halcyon Road, Newton Abbot	Other	286071	71478	NO2	YES	0	N/A	YES	1.7
35	Lamp post St Mary Church Road Newton Abbot	Roadside	287299	70621	NO2	NO	5m	1m	NO	1.7
36	DP Westhill House, Kingskerswell	Kerbside	288111	67872	NO2	YES	0	1m	NO	1.7
37	Telegraph pole Ringslade, Highweek	Kerbside	284851	72101	NO2	NO	0	1m	NO	1.7
38	DP 26 Newton Road, Kingsteignton	Roadside	286757	72583	NO2	YES	2m	5m	NO	1.7
39	Rock House 1 Maddacombe Rd KKwell	Kerbside	287477	67698	NO2	NO	0	1m	NO	1.7
40	Exeter Road, Newton Abbot	Roadside	285565	71929	NO2	YES			NO	
41	DP Aller Farmhouse, Kingskerswell	Kerbside	288077	68761	NO2	YES	0	1m	NO	1.7
42	Lay By Exeter Rd (opp Vauxhall Garage) Whitehill N Abbot	Kerbside	285477	72510	NO2	NO	N/A – pre planning application.	1m	NO	1.7
43	Nox Analyser, Halcyon Road, Newton Abbot	other	285681	71393	NO2	YES	0	N/A	YES	1.7
44	Nox Analyser, Halcyon Road, Newton Abbot	Other	285681	71393	NO2	YES	0	N/A	YES	1.7

45	DP 4 Commercial Rd, Dawlish	Kerbside	296302	76756	NO2	YES	0	1m	NO	1.7
46	DP 3 Iddesleigh Terrace, Dawlish	Kerbside	296318	76763	NO2	YES	0	1m	NO	1.7
47	DP 114 Bitton Park Rd, Teignmouth	Kerbside	293256	73109	NO2	YES	0	1m	NO	1.7
48	DP 1 Reed Vale Lodge, Teignmouth	Kerbside	293446	73091	NO2	YES	0	1m	NO	2
49	DP 68 Bitton Park Rd, Teignmouth	Kerbside	293541	73083	NO2	YES	0	1m	NO	2
50	L/Post Newton Road (Northbound opp Priory Ave) Kkwell	kerbside	288027	68381	NO2	YES	0	1m	NO	1.7
51	DP St Mary's Court, Highweek St,NA	Roadside	285674	71401	NO2	YES	0m	4m	NO	1.7
52	DP 29 Vicarage Hill, Kingsteignton (Blindwell)	Roadside	287544	73067	NO2	NO	2m	5m	NO	1.7
53	90 Wolborough Street Newton Abbot	Kerbside	285537	71035	NO2	YES	0	1m	NO	1.7
54	DP 3 Gestridge Road, Kingsteignton	Kerbside	286969	73130	NO2	YES	0	1m	NO	1.7
55	DP 79 Wolborough St, Newton Abbot	Kerbside	285554	71043	NO2	YES	0	1m	NO	1.7

56	DP Wywurree Bungalow, Addison Road NA	Roadside	287198	70542	NO2	YES	0	10m	NO	1.7
57	West Golds Way, Newton Abbot	Roadside	285942	72254	NO2	NO			NO	
58	L/Post Level with 28 Water laneTorquay Road (Northbound) Kkwell	Kerbside	288168	67516	NO2	YES	0	1m	NO	1.7
59	LP Newton Road, South of Pottery Road, Kingsteignton	Roadside	286730	72518	NO2	YES	15m	2m	NO	1.7
60	Nox Analyser - Bitton Park Road, Teignmouth	Other	293363	73094	NO2	YES	0	N/A	YES	1.7
61	Nox Analyser - Bitton Park Road, Teignmouth	other	293363	73094	NO2	YES	0	N/A	YES	1.7
62	Nox Analyser - Bitton Park Road, Teignmouth	Other	293363	73094	NO2	YES	0	N/A	YES	1.7
63	DP 3 Gestridge Rd, Kingsteignton (Broadway Rd)	Kerbside	286965	73120	NO2	YES	0	1m	NO	1.7
64	Telegraph Pole, 22 Gestridge Road, Kingsteignton	Kerbside	286985	73111	NO2	NO	0	1m	NO	1.7

65	96 Wolborough St, Newton Abbot	Kerbside	285518	71018	NO2	YES	0	1m	NO	1.7
66	Halfway House Torquay Road (next to Hare +Hound) Kkwell	Kerbside	288339	66936	NO2	YES	0	1m	NO	1.7
67	Coventry Cottage Torquay Road (Southbound)	Kerbside	288487	66690	NO2	YES	0	1m	NO	1.7
68	Shorland House, Elm Grove Road, Dawlish	Kerbside	296485	77134	NO2	NO	5	1	NO	1.7
69	Highweek Inn crossroad	Kerbside	284813	72062	NO2	NO	0	1m	NO	1.7

Notes:

(1) Om 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.

2018

28.46

32.62

32.93

44.18

42.19

31.91

27.19

31.08

14.43

0.22

30.57

17.31

8.56

13.71

	Cito Turo	Monitoring	Valid Data Capture for	Valid Data		NO ₂ Annual M	ean Concentra	ation (µg/m³) ⁽³	3)
Site ID	Site Type	Туре	Monitoring Period (%) ⁽¹⁾	2018 (%) ⁽²⁾	2014	2015	2016	2017	
1	Roadside	Diffusion Tube	75	75	<u>20.80</u>	27.66	29.39	32.72	
2	Kerbside	Diffusion Tube	83.33333333	83.33333333	<u>38.88</u>	36.97	38.31	41.36	
3	Kerbside	Diffusion Tube	100	100	<u>38.41</u>	37.37	38.19	37.30	
4	Kerbside	Diffusion Tube	100	100	<u>51.40</u>	50.12	51.73	47.36	
5	Kerbside	Diffusion Tube	91.666666667	91.66666667	<u>46.05</u>	42.08	46.86	42.68	
6	Kerbside	Diffusion Tube	100	100	<u>36.79</u>	34.97	39.36	36.12	
7	Roadside	Diffusion Tube	100	100	<u>30.72</u>	30.76	32.37	30.74	
8	Kerbside	Diffusion Tube	91.666666667	91.66666667	<u>31.62</u>	30.75	34.97	33.21	
9	Other	Diffusion Tube	100	100	<u>16.51</u>	13.84	15.68	15.15	
10	Other	Diffusion Tube	100	100	<u>0.11</u>	0.13	0.11	0.33	
11	Kerbside	Diffusion Tube	100	100	<u>37.41</u>	31.46	34.14	31.98	
12	Kerbside	Diffusion Tube	91.666666667	91.666666667	<u>15.05</u>	37.65	25.13	20.87	
13	Urban Background	Diffusion Tube	100	100	<u>8.93</u>	8.33	10.25	8.41	
14	Kerbside	Diffusion	100	100	13.51	31.38	19.16	16.97	

Table A.3 – Annual Mean NO2 Monitoring Results

Tube

15	Roadside	Diffusion Tube	100	100	<u>30.77</u>	27.08	31.78	30.05	25.03
16	Roadside	Diffusion Tube	100	100	<u>36.57</u>	36.40	36.72	36.92	31.39
17	Kerbside	Diffusion Tube	100	100	<u>40.07</u>	36.03	37.75	33.57	31.86
18	Roadside	Diffusion Tube	100	100	<u>25.25</u>	22.68	25.07	24.46	21.64
19	Roadside	Diffusion Tube	100	100	<u>28.05</u>	24.19	28.12	26.91	22.14
20	Kerbside	Diffusion Tube	100	100	<u>21.21</u>	19.45	23.67	21.78	18.52
21	Roadside	Diffusion Tube	100	100	<u>21.07</u>	19.39	22.80	43.13	37.00
22	Roadside	Diffusion Tube	91.666666667	91.666666667	<u>28.45</u>	25.49	28.21	38.75	33.69
23	Kerbside	Diffusion Tube	100	100	<u>38.62</u>	36.34	39.51	37.28	33.30
24	Kerbside	Diffusion Tube	83.333333333	83.33333333	<u>42.46</u>	39.91	43.62	39.95	39.23
25	Roadside	Diffusion Tube	100	100	<u>36.67</u>	36.03	37.57	37.36	33.14
26	Roadside	Diffusion Tube	100	100	-				6.49
27	Kerbside	Diffusion Tube	100	100	<u>44.74</u>	40.27	37.92	41.11	35.91
28	Roadside	Diffusion Tube	91.666666667	91.666666667	-	9.72	13.15	12.27	12.00
29	Kerbside	Diffusion Tube	100	100	-	11.01	13.59	11.62	11.91
30	Kersbide	Diffusion Tube	100	100	<u>29.64</u>	34.30	38.51	35.74	33.64
31	Kerbside	Diffusion Tube	100	100	<u>42.71</u>	38.09	41.73	41.07	32.68
32	Kerbside	Diffusion Tube	100	100	26.43	25.12	24.58	26.12	22.63

33	Kerbside	Diffusion Tube	91.66666667	91.66666667	<u>43.58</u>	41.28	43.69	43.77	38.68
34	Other	Diffusion Tube	100	100	<u>29.06</u>	28.11	30.37	28.19	25.66
35	Roadside	Diffusion Tube	100	100	<u>30.33</u>	27.49	30.95	26.48	26.11
36	Kerbside	Diffusion Tube	100	100	<u>37.78</u>	34.18	19.37	15.39	12.66
37	Kerbside	Diffusion Tube	100	100	<u>39.04</u>	17.81	21.01	20.17	20.47
38	Roadside	Diffusion Tube	100	100	<u>34.76</u>	32.90	34.42	32.19	29.27
39	Kerbside	Diffusion Tube	91.666666667	91.666666667	-	14.99	20.21	19.68	18.32
40	Roadside	Diffusion Tube	83.33333333	83.33333333	-			52.84	53.70
41	Kerbside	Diffusion Tube	100	100	<u>45.90</u>	24.57	16.25	15.31	12.31
42	Kerbside	Diffusion Tube	91.666666667	91.666666667	-	20.39	25.05	22.79	21.32
43	other	Diffusion Tube	100	100	<u>29.31</u>	27.45	30.97	26.93	25.00
44	Other	Diffusion Tube	100	100	<u>28.64</u>	27.64	30.87	27.60	25.18
45	Kerbside	Diffusion Tube	91.666666667	91.666666667	<u>27.65</u>	26.35	29.13	24.90	23.79
46	Kerbside	Diffusion Tube	100	100	<u>41.81</u>	32.30	30.84	28.48	24.54
47	Kerbside	Diffusion Tube	100	100	<u>28.34</u>	26.13	28.92	27.17	22.58
48	Kerbside	Diffusion Tube	100	100	70.43	41.35	62.02	57.99	53.59
49	Kerbside	Diffusion Tube	75	75	<u>48.70</u>	47.25	53.93	54.04	39.22
50	kerbside	Diffusion Tube	100	100	23.31	44.73	24.66	21.25	18.40

51	Roadside	Diffusion Tube	100	100	<u>26.58</u>	26.09	28.86	24.97	25.18
52	Roadside	Diffusion Tube	100	100	<u>24.54</u>	19.92	23.93	25.74	28.00
53	Kerbside	Diffusion Tube	100	100	<u>44.15</u>	45.89	48.31	46.46	38.43
54	Kerbside	Diffusion Tube	100	100	<u>36.73</u>	35.00	36.99	36.29	32.12
55	Kerbside	Diffusion Tube	100	100	<u>50.69</u>	48.76	49.15	47.09	44.67
56	Roadside	Diffusion Tube	100	100	<u>26.35</u>	25.45	27.84	27.03	23.86
57	Roadside	Diffusion Tube	91.666666667	91.666666667	<u>33.53</u>	32.27	35.22	12.34	12.50
58	Kerbside	Diffusion Tube	100	100	<u>23.17</u>	42.35	22.38	19.71	16.25
59	Roadside	Diffusion Tube	83.33333333	83.33333333	<u>30.50</u>	29.36	29.96	30.94	27.00
60	Other	Diffusion Tube	100	100	<u>23.45</u>	20.92	24.02	21.69	21.00
61	other	Diffusion Tube	100	100	<u>23.01</u>	21.31	24.15	21.67	20.47
62	Other	Diffusion Tube	100	100	<u>22.73</u>	21.26	23.87	21.13	21.10
63	Kerbside	Diffusion Tube	100	100	<u>12.13</u>	22.28	28.85	28.71	26.68
64	Kerbside	Diffusion Tube	100	100	<u>21.16</u>	23.36	21.08	19.93	18.02
65	Kerbside	Diffusion Tube	100	100	<u>30.88</u>	30.76	30.76	29.45	28.19
66	Kerbside	Diffusion Tube	91.666666667	91.666666667	<u>28.43</u>	39.03	24.37	20.50	18.84
67	Kerbside	Diffusion Tube	100	100	<u>25.07</u>	41.43	26.54	23.63	19.67
68	Kerbside	Diffusion Tube	91.66666667	91.66666667	_				13.04

69	Kerbside	Diffusion Tube	100	100	-	12.86	15.31	14.30	14.35
BP	Roadside	Automatic	96.59	96.59	<u>19.29</u>	19.82	0.00	11.39	31.90
HR	Roadside	Automatic	97.63	97.63	<u>44.63</u>	29.01	0.00	18.51	39.26

☑ Diffusion tube data has been bias corrected (confirm by selecting in box)

□ Annualisation has been conducted where data capture is <75% (confirm by selecting in box)

Notes:

Exceedances of the NO₂ annual mean objective of $40\mu g/m^3$ 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.

(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) Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure A.1 – Trends in Annual Mean NO₂ Concentrations





Table A.4 – 1-Hour Mean NO₂ Monitoring Results

Site ID		Monitoring	Valid Data Capture	Valid Data	N	O₂ 1-Hour	Means >	200µg/m ³	3 (3)
	Sile Type	Туре	Period (%) ⁽¹⁾	2018 (%) ⁽²⁾	2014	2015	2016	2017	2018
HR	Roadside	Automatic	97.63	97.63	18	No data	No data	3	0
BP	Roadside	Automatic	96.59	96.59	0	No data	No data	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**.

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

Table A.5 – Annual Mean PM10 Concentration Results

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2018 (%) ⁽²⁾	PM ₁₀ Annual Mean Concentration (μg/m ³) ⁽³⁾							
				2014	2015	2016	2017	2018			
Mag	Roadside	95.36	95.36	55.06	25.79	No Data	26.98	31.87			
Brow Hill	Special	91.1	91.1	16.15	No Data	No Data	No Data	25.7			
Magnolia	Special	81.7	81.7	25.9	49.38	No Data	No Data	18.85			
A38	Special	91.94	91.94	128.59	No Data	No Data	No Data	15.44			
Queen Street	Roadside	92.2	92.2	61.56	No Data	No Data	No Data	13.82			
Battle Road	Special	91.94	91.94	9.52	No Data	No Data	No Data	10.89			

□ Annualisation has been conducted where data capture is <75% (confirm by selecting in box)

Notes:

Exceedances of the PM_{10} annual mean objective of $40\mu g/m^3$ 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%).

(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%. See Appendix C for details.

Cito ID	Cito Turo	Valid Data Capture for Monitoring	Valid Data Capture	PM ₁₀ 24-Hour Means > 50μg/m ^{3 (3)}						
Sile iD	Site Type	Period (%) ⁽¹⁾	2018 (%) ⁽²⁾	2014	2015	2016	2017	2018		
Mag	Roadside	95.36	95.36	No Data	No Data	No Data	31	48		
Brow Hill	Special	91.1	91.1	No Data	No Data	No Data	No Data	37		
Magnolia	Special	81.7	81.7	0	0	No Data	No Data	12		
A38	Special	91.94	91.94	No Data	No Data	No Data	No Data	0		
Queen Street	Roadside	92.2	92.2	0	No Data	No Data	No Data	0		
Battle Road	Special	91.94	91.94	No data	No data	No Data	No Data	0		

Table A.5 – 24-Hour Mean PM₁₀ Monitoring Results

Notes:

Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/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%).

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

Appendix B: Full Monthly Diffusion Tube Results for 2018

Table B.1 – NO₂ Monthly Diffusion Tube Results - 2018

	NO ₂ Mean Concentrations (μg/m ³)														
														Annual Mea	in
Site ID	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.87) and Annualised	Distance Corrected to Nearest Exposure
1	32.2	31.3	34.0	28.2	29.8	М	31.6	М	34.8	39.4	33.2	М	32.7	28.4606	28.4606
2	35.9	28.2	35.7	М	М	40.3	45.2	41.4	36.4	34.0	43.4	34.6	37.5	32.6	32.6
3	42.12	33.02	35.18	34.82	36.63	32.55	37.96	32.3	36.73	42.16	45.08	45.65	37.9	32.9	32.9
4	50.73	34.29	49.01	50.86	54.32	58.52	48.75	42.1	46.48	51.04	61.13	62.1	50.8	44.2	44.2
5	44.04	54.3	51.48	50.38	59.34	49.92	43.45	47.73	38.72	48.28	45.81	М	48.5	42.2	42.2
6	35.31	41.36	37.81	35.87	39.13	38.43	32.9	29.37	30.32	38.53	39.95	41.13	36.7	31.9	31.9
7	31.47	34.56	31.91	27.09	31.2	29.42	32.58	25.47	28.44	35.38	33.73	33.73	31.2	27.2	27.2
8	35.55	36.25	38.12	35.87	М	39.09	30.06	26.49	33.91	46.15	19.18	52.24	35.7	31.1	31.1
9	17.83	18.36	19.25	14.86	15.64	14.31	12.8	12.6	14.89	19.33	17.82	21.28	16.6	14.4	14.4
10	0.23	0.6	0.59	0.23	0.2	0.14	0.08	0.05	0.14	0.2	0.15	0.48	0.3	0.2	0.2
11	34	33.41	39.21	36.48	32.92	32.35	30.36	29.17	33.66	32.08	43.28	44.73	35.1	30.6	30.6
12	20.89	21.1	22.45	18.59	21.41	20.31	16.44	М	16.73	21.56	17.95	21.42	19.9	17.3	17.3
13	10.15	11.78	11.22	9.32	9.43	8.7	7.13	7.44	7.19	12.59	12.61	10.45	9.8	8.6	8.6
14	20.08	18.72	18	15.86	12.99	12.55	10.22	14.23	15.42	17.81	16.4	16.81	15.8	13.7	13.7
15	31.61	22.62	34.58	27.37	26.57	25.33	21.38	25.11	27.56	30.63	34.22	38.2	28.8	25.0	25.0
16	52.36	36.59	37.02	31.66	29.35	31.74	32.9	29.96	34.6	41.85	24.72	50.24	36.1	31.4	31.4

17	30.4	34.97	33.52	37.82	38.92	40.52	40.19	34.23	33.66	37.65	38.75	38.82	36.6	31.9	31.9
18	25.01	26.82	26.86	25.26	21.38	21.97	22.99	21.28	24.61	28.15	25.77	28.39	24.9	21.6	21.6
19	27.2	26.64	28.85	24.5	22.95	21.31	22.13	22.1	23.77	32.43	24.8	28.75	25.5	22.1	22.1
20	22.51	22.2	24.94	21.23	19.9	20.54	18.53	15.82	19.23	23.98	23.9	22.62	21.3	18.5	18.5
21	43.35	39.2	39.74	43.88	37.71	45.88	39.74	39.85	41.05	46.85	48.75	44.31	42.5	37.0	37.0
22	45.27	41.76	37.59	38.39	М	33.93	34.05	32.35	39.19	44.53	36.9	42.03	38.7	33.7	33.7
23	40.05	36.9	42.22	37.82	35	35.56	34.25	30.3	35.71	35.16	48.06	48.25	38.3	33.3	33.3
24	42.69	49.28	М	44.85	44.93	45	42.59	36.66	М	46.78	52.86	45.29	45.1	39.2	39.2
25	41.86	37.88	34.79	39.2	41.62	41.15	36.73	30.92	35.11	42.96	34.87	40.03	38.1	33.1	33.1
26	7.17	7.62	9.13	7.78	6.22	6.96	6.2	5.63	5.38	8.05	10.09	9.29	7.5	6.5	6.5
27	38.57	34.67	35.73	44.96	45.8	44.06	53.73	37.38	41.95	38.41	38.57	41.54	41.3	35.9	35.9
28	15.62	15.16	15.91	14.15	9.09	11.55	10.48	М	11.71	16.38	15.41	16.28	13.8	12.0	12.0
29	13.45	16.28	15.23	15.07	14.43	13.74	10.28	9.19	11.75	17.98	13.12	13.69	13.7	11.9	11.9
30	37.4	38.99	36.16	39.07	47.93	47.44	42.57	31.56	34.89	35.4	39.02	33.56	38.7	33.6	33.6
31	42.1	35.54	37.47	36.48	38.53	35.97	35.32	32.69	34.09	36.71	45.24	40.67	37.6	32.7	32.7
32	26.83	27.65	28.69	23.39	22.51	22.07	23.89	21.69	24.3	28.01	32.09	31.07	26.0	22.6	22.6
33	50.54	44.91	41.83	41.9	40.43	М	41.75	43.54	43.32	48.26	43.59	48.94	44.5	38.7	38.7
34	30.2	32.55	30.64	32.87	31.99	29.65	26.74	22.03	27.31	32.29	27.45	30.17	29.5	25.7	25.7
35	31.96	35.83	28.41	31.45	30.5	30.14	25.45	21.88	27.74	37.04	29.78	29.97	30.0	26.1	26.1
36	17.68	15.99	17.9	14.53	11.94	12.26	11.9	11.01	12.49	17.3	16.3	15.33	14.6	12.7	12.7
37	21.29	27.62	22.61	23.65	25.32	20.97	19.25	17.95	19.86	30.38	28.35	25.14	23.5	20.5	20.5
38	42.53	39.74	31.68	36.54	32.45	29.79	25.72	29.71	35.09	40.13	22.67	37.72	33.6	29.3	29.3
39	21.55	23.57	М	20.33	20.44	20.74	19.47	17.07	18.49	24.86	21.15	23.98	21.1	18.3	18.3
40	58.47	59.38	53.8	М	М	77.58	63.59	52.74	60.09	71.42	63.09	57.03	61.7	53.7	53.7
41	17.04	16.01	16.56	15.32	12.02	11.2	11.45	10.3	11.67	16.77	15.13	16.3	14.1	12.3	12.3
42	23.65	26.63	24.46	27.03	М	22.62	20.9	18.59	25.45	28.34	26.37	25.47	24.5	21.3	21.3
43	28.47	33.88	28.02	29.75	31.43	30.45	27.8	21.28	22.93	33.76	29.47	27.52	28.7	25.0	25.0

44	26.71	33.15	27.4	32.53	32.4	30.49	26.94	23.18	21.25	33.39	30.12	29.79	28.9	25.2	25.2
45	23.23	27.94	27.19	29.58	31.69	М	31.06	24.68	22.99	31.49	25.72	25.27	27.3	23.8	23.8
46	33.54	29.57	25.62	27.49	28.17	27.05	27.74	27.32	29.97	30.47	24.86	26.72	28.2	24.5	24.5
47	30.45	27.94	18.96	29.27	24.41	26.92	24.26	23.9	24.41	24.04	27.31	29.61	26.0	22.6	22.6
48	53.93	61.14	52.25	59.46	75.59	75.92	70	57.51	55.59	59.87	58.08	59.77	61.6	53.6	53.6
49	53.57	26.11	45.3	51.25	46.86	51.64	49.3	50.42	М	М	М	31.27	45.1	39.2	39.2
50	22.35	24.1	21.66	22.13	19.93	20.31	19.86	14.46	18.61	26.78	21.59	22.08	21.2	18.4	18.4
51	25.83	29.56	29.4	31.65	36.43	35.16	28.52	19.97	23.42	32.55	29.02	25.81	28.9	25.2	25.2
52	23.95	29.23	25.11	30.27	34.09	31.04	31.26	30.07	31.65	43.08	36.89	39.52	32.2	28.0	28.0
53	50.61	35.43	38.85	46.98	41.8	45.13	45.17	38.08	46.85	44.57	49.76	46.83	44.2	38.4	38.4
54	41.55	39.35	32.93	37.41	37.12	34.09	35.48	31.71	31.72	36.61	38.87	46.16	36.9	32.1	32.1
55	52.72	41.88	41.99	59.03	55.82	60.32	55.45	40.9	50.55	53.05	53.56	50.81	51.3	44.7	44.7
56	29.45	29.04	23.82	27.04	27.44	27.56	28.05	23.83	27.64	29.36	26.63	29.29	27.4	23.9	23.9
57	16.91	16.05	16.47	14.64	13.04	12.41	9.93	10.01	11.71	17.38	19.54	М	14.4	12.5	12.5
58	19.95	20.74	20.16	18.59	17.51	15.68	15.89	14.66	16.79	23.4	20.41	20.41	18.7	16.3	16.3
59	38	36.24	М	М	27.78	27.93	27.93	27.44	28.69	35.01	32.91	28.37	31.0	27.0	27.0
60	24.49	23.12	18.56	26.73	27.37	27.21	26.33	20.46	20.72	26.04	24.86	23.8	24.1	21.0	21.0
61	20.02	22.32	20.71	26.63	27.01	28.03	25.59	19.87	19.02	25.74	26.16	21.24	23.5	20.5	20.5
62	22.13	22.72	24.13	27.16	27.29	27.72	27.17	20.47	19.33	24.1	25.72	23.08	24.3	21.1	21.1
63	30.31	34.14	30.05	31.43	32.78	29.79	27.11	23.78	29.01	34.91	34.51	30.19	30.7	26.7	26.7
64	20.73	23.42	19.09	19.08	20.38	18.84	17.18	14.71	17.34	26.06	26.76	25	20.7	18.0	18.0
65	34.44	23.33	32.35	32.94	32.6	33.11	32.72	27.27	35.54	33.58	35.18	35.76	32.4	28.2	28.2
66	22.68	19.36	21.39	21.36	М	21.31	19.94	18.02	19.74	25.65	24.39	24.32	21.7	18.8	18.8
67	23.78	22.15	23.46	21.47	21.11	20.8	20.97	18.33	21.99	26.62	23.96	26.67	22.6	19.7	19.7
68	М	15.19	17.4	13.92	15.04	15.27	14.13	11.48	13.8	15.6	15.84	17.17	15.0	13.0	13.0
69	17.67	17.79	17.08	16.33	17.05	15.44	14.19	12.89	15.11	19.14	17.95	17.35	16.5	14.4	14.4

- □ Local bias adjustment factor used (confirm by selecting in box)
- ☑ National bias adjustment factor used (confirm by selecting in box)
- □ Annualisation has been conducted where data capture is <75% (confirm by selecting in box)
- □ Where applicable, data has been distance corrected for relevant exposure (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**.

- (1) See Appendix C for details on bias adjustment and annualisation.
- (2) Distance corrected to nearest relevant public exposure.

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

QA/QC of Automatic Monitoring

NO_x Analysers

The guidance contained in Technical Guidance LAQM.TG (09) advises that a welldocumented quality assurance and quality control programme must be followed in order to ensure reliable and credible measurements. An ongoing resource commitment to QA/QC is required in any monitoring survey, to ensure that measurements fully comply with the requirements of the air quality review and assessment and are therefore fit for the purpose.

The fundamental aims of the QA/QC programme are as follows:

- Data should be representative of ambient concentrations existing in the area under investigation.
- Measurements need to be sufficiently accurate and precise to meet the defined monitoring requirements.
- Data must be intercomparable and reproducible. Results from multi-site networks need to be internally consistent and comparable with national, international or other acceptable standards.
- Measurements should be consistent over time, particularly if long-term trend analysis is to be undertaken.

QA/QC procedures were applied to both sets of automatic monitoring data throughout the monitoring periods. The Chemiluminescent analysers are continuous automatic real time monitors and are housed in 'M' type purpose built air-conditioned enclosures. In order to minimise measurement uncertainty it is important to apply stringent QA/QC procedures to monitoring programmes. The following procedures were carried out in Teignbridge in order to meet the criteria.

Calibration Checks

The following calibration checks were carried out: -

- Daily 'automatic' calibration
- Fortnightly manual calibrations
- 6 monthly reference calibrations

During the daily automatic calibration, a two point calibration is used to quantify the analyser 'zero' and 'span' response. The 'zero' response is the response of the analyser when the pollutant species being measured is not present in the sample air stream. The 'span' response is the response, of the analyser to a gas mixture of accurately known concentration. In order to ensure reproducible data quality, automatic monitoring instruments must be properly calibrated using reliable and traceable calibration standards.

The gas mixture was of mixture type U, nitric oxide 2.5 and nitrogen 5.0, and was provided by E.T. under the service and maintenance contract. Teignbridge trained staff

carried out the fortnightly calibration checks and the visits included checking the equipment, sampling systems and security of the enclosure and analyser. E.T. carries out the six monthly reference calibrations and the last one was completed on the $3^{rd}/4^{th}$ June 2009.

Equipment Service and Maintenance

Teignbridge has an ongoing service and maintenance contract with E.T. for the NOx Analysers. The contract provides the following cover:-

- Routine six monthly service visits in accordance with the manufacturers instruction and warranty conditions;
- Guaranteed breakdown call out service;
- Written reports showing work carried out and status of instrumentation;
- All work and documentation is carried out in accordance with BS ISO 9002;
- Dedicated telephone support in normal working hours.

Data Capture

The LAQM.TG(16) recommends a data capture rate of 90% for ratified (usable) data. Teignbridge employs the following methods to ensure maximum data capture: -

- The deployment of a proven NOx analyser;
- Automatic daily data collection using dedicated software (Opis EnviMan using the ComVisioner and Reporter modules). This enabled frequent checks of the data so that on-site problems could be identified quickly;
- M200A in built data storage capability;
- Rapid servicing, maintenance and repair;
- Comprehensive and documented site operational protocols;
- Regular and frequent site visits;
- Trained Teignbridge staff operators.

Data Processing

The M200A records the concentration of pollutants as continuous analogue voltage signals.

The signal is averaged over an hour period. An in-built data logger carries out this averaging process and the data is then downloaded via a modem to a computer in the Environment & Safety Services team. The modem is automatically dialled up three times a day at set times. The raw data collected has to be converted to more useful pollutant concentrations and this conversion is achieved using the 'zero' and 'span' calibration factors that are recorded during the manual fortnightly visits. The two-point calibration quantify's the analyser 'zero' and 'span' response. The 'zero' response, Vz, is the response in measurement units of the analyser when the pollutant species being measured is not present in the sample air stream. The 'span' response, Vs, is the response of the analyser to an accurately known concentration, c, in ppb (parts per billion) of the pollutant species. The instrument 'zero' and 'span' factors are then calculated using these data as follows:

Instrument zero : Vz

Instrument span, F = c/(Vs - Vz) Ambient pollution data are then calculated by applying these factors to logged output signals as follows:

```
Pollutant concentrations
(ppb) = F (Va - Vz)
```

Where Va is the recorded signal from the analyser sampling ambient air. The fortnightly calibration factors applied to the raw data are then filed.

Data Ratification

Once the calibration factors have been applied to the raw data, the data is screened, by visual examination to see if they contain any spurious and/or unusual measurements. Any suspicious data, such as large spikes or spurious high concentrations can be 'flagged' and investigated more fully. This process is known as validation. Data validation is followed by data ratification, which is carried out at 3-6 month intervals. Steps in the ratification process included: -

- Examination of calibration records to ensure correct application of calibration factors;
- Examination of data for other pollutants and monitoring sites to highlight any anomalies;
- Deletion of data shown i.e. spikes generated by the analyser;
- Correction of any baseline drift as indicated by examination of daily calibration records;
- Examination of any local scale changes to the site environment;
- Application of correction factors from QA/QC audits.

When data verification has been completed then the data is ready for further statistical and critical examination for reporting purposes.

QA/QC of the BAM

The BAM-1020 is a continuous automatic real time analyser with a Graseby Anderson 10 sampling lead. It is housed in an M type purpose built air-conditioned enclosure.

The following procedures were carried out in Teignbridge in order to meet the criteria.

Calibration Checks

The BAM-1020 has a built in Mass Membrane Calibrator. The membrane is automatically moved into the Beta Pathway to determine the mass of the membrane each hour or when the filter tape advances. Each membrane has a factory verified mass and the value is stored in the BAM-1020. When the hourly membrane calibration is made, the computed value is compared to the stored factory value to

determine proper operation. Should the instrument fail to perform to specification an error is logged in memory and data is flagged.

Zero testing of blank filter paper is performed at the beginning and end of each sample period to ensure the stability of the measurement system.

E.T. also carries out 6 monthly calibrations under the service and maintenance contract.

Equipment Service and Maintenance

Teignbridge has an ongoing service and maintenance contract with E.T. The contract provides the following cover:-

- Routine six monthly service visits in accordance with the manufacturers instruction and warranty conditions
- Guaranteed breakdown call-out service
- Written reports showing work carried out and status of instrumentation
- All work and documentation is carried out in accordance with BS ISO 9002
- Dedicated telephone support in normal working hours

The monitoring equipment has routine (fortnightly) on site checks and maintenance visits by Teignbridge staff. These routine visits include regular filter changes, sampling head cleaning, filtering tape changes and airflow/analyser test function checks at set intervals.

Non-routine visits, as a result of equipment failure or spurious data, are also carried out. All visits are fully documented and details kept of all works carried out i.e. adjustments, modifications and repairs completed.

BAM Monitoring Adjustment

The un-heated BAM inlet meets the equivalence criteria for PM₁₀ monitoring, provided the results are corrected for slope. The measured concentrations have been divided by a factor of 1.21.

QA/QC of Osiris Monitors

The Osiris monitors are real-time, portable particulate matter monitors that use lightscattering technology to measure the concentration of different sized particles (PM_{1} , $PM_{2.5}$ and PM_{10}). Although Osiris' are not an approved method for measuring PM_{10} levels, as it is not possible to compare directly with the air quality objectives, it does provide indicative levels. The monitors are much easier and cheaper and less labour intensive than gravimetric analysers.

Teignbridge has an ongoing service and maintenance service contract with Turnkey Instruments Ltd for each of the monitors. The monitors are routinely checked every 3 months by trained Teignbridge DC officers. This involves a filter change and air flow test of the pump. The following parameters are also logged in a maintenance book filter minutes, filter weight and pump hours. The monitors are sent back to Turnkey Instruments annually for a complete service and calibration.

The monitors are dialled up weekly by trained Teignbridge DC officers and the data is downloaded onto Air Q for windows software. The data is screened by visual examination.

QA/QC of Diffusion Tube Monitoring

The NO₂ tubes diffusion tubes are analysed by Gradko International Limited in Winchester utilising 20% TEA in water for a 1-month exposure duration. Periodically samples of tubes prepared for exposure are spiked with known concentrations of nitrate solution and measured. Blank tube values are also monitored from each new batch of tubes prepared. Once a month, a stock solution containing a known amount of nitrate is received from AEA Technology and measured. The results are used as part of the UK NO₂ Survey QA/QC scheme. This stock solution is used by Gradko to check the ultra-violet spectrophotometer calibration graph. Gradko also participate in the inter-laboratory round robin exercise via the WASP scheme. The performance of the laboratory is rated as satisfactory in the centralised AIR NO₂ PT scheme for quality assurance and quality control.

Gerry Stuchbury of Gradko International also sits on the Working Group on the Harmonisation of Diffusion Tubes. The Working Group's aim was to harmonise the methodology used in preparing, utilising and analysing diffusion tubes.

NO₂ Diffusion Tube Handling Procedures

Teignbridge District Council's NO₂ diffusion tube monitoring is carried out in full accordance with the site quality assurance procedures contained in the UK Automatic Network Site Operator's Manual. Teignbridge also participates in the NO₂ UK Network.

Data Quality Objective and Roles

Adopted within our Policy and Strategy are our Council's Data Quality Objectives which have been drafted to create a memorable acronym (HEART). The objectives embrace the Audit Commissions data quality guidance and encompass the six characteristics that they use to define quality data as data that is: accurate, valid, reliable, timely, relevant and complete. These six characteristics are incorporated into our data quality objectives which we use throughout the year to test compliance and help us ascertain any likely risk.

Held by Evidenced Accurate	who has responsibility for specific data audit trail or work complaint with good data quality procedures decision-makers should be clear about their information requirements for accuracy
Relevant	must be sure that it describes the actual state under discussion (doesn't mislead).
Timely	Data captured is reported yearly using an Annual Status Report format set out by central government

Tubes received / stored / put out following current NOx route / recovered / and sent to Gradko in accordance with nationally approved handling procedure. In March 2018 procedure reviewed via webinar to ensure methodology is consistently applied. Results come back and are screened by Technical Officers for obvious anomalies. Technical Support Officers enter data into spreadsheet. Random checks carried out by BW to verify data received with data inputted.

Spreadsheet has inbuilt conditional format which is designed by Data Officer who applies current government guidance to do so. Spreadsheet has been set to show all exceedances over N/Objective.

Data captured is reported yearly using an Annual Status Report format set out by central government

ROLE/PRO		OFFIC	FREQUEN
МРТ	DETAIL OF TASK (WITH IINKS)	ER	СҮ
New Tubes received through the post	Tubes placed in refrigerator storage	Any	monthly
New Tubes numbered up	New tubes are numbered up based on current location sheet and returned to refrigerator storage asap G:\Environment & Safety Service\Environmental Control\92NOISE&AIRPOLLUTION\922AIRPO LLUTION\9226Air Quality Review\Monitoring\NOX TUBE Info about\TUBE Collection Routes and Calendars	Technical Officer	monthly
Tubes put out and old tubes recovered	Gather in the old tubes and install the new tubes. Complete the "Current NOx location sheet" using waterproof marker pen.	See rota for the year	monthly
Old Tubes placed in fridge	On return to office old Tubes placed in fridge asap, and completed the current NOx location sheet put into Ian Roberts IN tray	See rota for the year	
Package and return Old Tubes to Gradko	Carried out within 2 days of recovering tubes, package and return "old tubes" to Gradko following "Procedure for sending off Diffusion Tubes 2013" G:\Environment & Safety Service\Environmental Control\92NOISE&AIRPOLLUTION\922AIRPO LLUTION\9226Air Quality Review\Monitoring\NOX TUBE Info about	Technical Officer	Within 2 days Monthly

ROLE/PRO		OFFIC	FREQUEN
МРТ	DETAIL OF TASK (WITH IINKS)	ER	СҮ
Notify any missing tubes	Email to Becky W and Colin B about any missing tubes, any observations.	Technical Officer	
data entry to spreadsheet.	Up to 3 weeks after postage results email is sent from Gradko to Ian R and they are copied and saved to excel spreadsheet "NOx Tubes 2018" Z:\Environment & Safety Service\Environmental Control\92NOISE&AIRPOLLUTION\922AIRPO LLUTION\9226Air Quality Review\POLLUTANT DATA\Nitrogen Dioxide\2018	Technical Officer	monthly
Random checks of data received against data inputted to excel Spreadsheet	Check to verify that data received has been accurately transposed to the spread sheet. Also to identify emerging issues e.g. repeated missing tubes, random outlier results, significant variations between reference monitors and co-located tubes.	Technical Officer	Quarterly Minimum
Review of in built conditional format	Excel spreadsheet "NOx Tubes 2018"has an inbuilt conditional format designed to process the raw data. The design applies current government guidance (LAQM T G 16*) to highlight all exceedances over the current National Objective *See Z:\Environment & Safety Service\Environmental Control\92NOISE&AIRPOLLUTION\922AIRPO LLUTION\9226Air Quality Review\GUIDANCE Defra GOV.UK LAQM Technical Guidance 2016	Data Officer	Yearly
Calculate yearly Annual Bias adjustment	Calculate yearly Annual Bias adjustment factor using National figure issued by Defra (usually announced in March). to show no of tubes exceeding in the year	Data Officer	Yearly
Apply Annual Bias adjustment	Apply Annual Bias adjustment factor to the Excel spreadsheet "NOx Tubes 2018" and calculate and complete the Annualised Bias Adjusted Mean for each tube location	Data Officer	Yearly
Review of processed Data	Review data processing to make sure it satisfies the validation and ratification criteria of current government guidance (LAQM T G 16*)	Technical Officer	

ROLE/PRO		OFFIC	FREQUEN
МРТ	DETAIL OF TASK (With links)	ER	СҮ
Annual Status Report	Data reported yearly using an Annual Status Report format set out by central government	Technical Officer	By the end of the following June
Review of NOx tube locations	Yearly Screening Review of results from current NOx tube locations (in context of current guidance (LAQM T G 16*) and identify any locations that should be made redundant and any new locations needed to be established to better inform about potentially emerging local air quality issues	Technical Officer	Yearly
Review all procedures for the capture and reporting of air quality data	Carry out review by applying the H.E.A.R.T. principles of the Council's Data Quality Objectives H eld by Who has responsibility for specific data E videnced Audit trail or work complaint with good data quality procedures A ccurate Decision-makers should be clear about their information requirements for accuracy. R elevant Must be sure that it describes the actual state under discussion (doesn't mislead). T imely Data captured is reported yearly using an Annual Status Report format set out by central government.	Technical Officer	Yearly

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

DAWLISH AQMA and Monitoring Locations





HEATHFIELD Monitoring Locations

KINGSKERSWELL AQMA and Monitoring Locations (1)





KINGSKERSWELL AQMA and monitoring Locations (2)

NEWTON ABBOT & KINGSTEIGNTON AQMA Map of Monitoring Locations (1)





NEWTON ABBOT & KINGSTEIGNTON AQMA Map of Monitoring Locations (2)

TEIGNMOUTH AQMA Map of Monitoring Locations



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Dollutont	Air Quality Objective ⁴							
Fonutant	Concentration	Measured as						
Nitrogen Dioxide	200 μg/m ³ not to be exceeded more than 18 times a year	1-hour mean						
(NO2)	40 μg/m ³	Annual mean						
Particulate Matter	50 μg/m ³ , not to be exceeded more than 35 times a year	24-hour mean						
(FIVI10)	40 μg/m ³	Annual mean						
	350 μg/m ³ , not to be exceeded more than 24 times a year	1-hour mean						
Sulphur Dioxide (SO ₂)	125 μg/m ³ , not to be exceeded more than 3 times a year	24-hour mean						
	266 μg/m ³ , not to be exceeded more than 35 times a year	15-minute mean						

 $^{^4}$ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Glossary of Terms

Abbreviation	Description					
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'					
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives					
ASR	Air quality Annual Status Report					
Defra	Department for Environment, Food and Rural Affairs					
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England					
EU	European Union					
FDMS	Filter Dynamics Measurement System					
LAQM	Local Air Quality Management					
NO ₂	Nitrogen Dioxide					
NOx	Nitrogen Oxides					
PM10	Airborne particulate matter with an aerodynamic diameter of $10 \mu m$ (micrometres or microns) or less					
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of $2.5 \mu m$ or less					
QA/QC	Quality Assurance and Quality Control					
SO ₂	Sulphur Dioxide					

References

Teignbridge District Council website <u>www.teignbridge.gov.uk</u>

Teignbridge District Council Action Plan 2010

www.teignbridge.gov.uk/environmental-health-and-wellbeing/land-air-and-waterpollution/air-quality

National bias adjustment factor spreadsheet <u>https://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html</u>

Local Air Quality Management Technical Guidance 2016 – LAQM.TG (16)