



# 2019 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the  
Environment Act 1995  
Local Air Quality Management

September 2019

## East Hampshire District Council

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## Executive Summary: Air Quality in Our Area

This report is East Hampshire District Council's 2018 Annual Status Report and forms part of the review and assessment of air quality in East Hampshire.

The report has been prepared by reference to Government's published Policy Guidance LAQM.PG (16) and in accordance with the Technical Guidance LAQM.TG(16).

## Air Quality in East Hampshire District

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<sup>1,2</sup>.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>3</sup>.

Air quality within the East Hampshire District is generally good. The Annual Status Report shows that the air quality objectives for all pollutants, but particularly those for nitrogen dioxide, sulphur dioxide and particulates (PM<sub>10</sub>), are likely to be achieved throughout East Hampshire district. As a result of this no need has been identified to declare an Air Quality Management Area for any pollutants.

Nitrogen Dioxide which is mainly from road transportation continues to be the only pollutant that has shown elevated concentrations. As a result, the emphasis has been placed on consideration of this pollutant within the main body of the report. While it is afforded special consideration the air quality objectives for nitrogen dioxide continue to be met. Of the 14 sites monitored, nitrogen dioxide increased at 5 (one site in Alton, three in Bordon and one in Horndean) between 2017 and 2018. The area that continues to have the highest levels of pollution is the centre of Bordon. Of

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<sup>1</sup> Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

<sup>3</sup> Defra. Abatement cost guidance for valuing changes in air quality, May 2013

the three background sites two showed an increase on the 2017 measured concentration.

## Actions to Improve Air Quality

The Council continues to regularly review potential sources and to monitor air quality across the district for this purpose. The East Hampshire District Council published an Energy Strategy in November 2014<sup>4</sup>. As well as seeking to establish energy security through sustainable means it sets out to reduce pollution. A number of projects have been initiated that have direct benefit to air quality including:

- Installation of an electric vehicle charging network.
- The procurement of electric fleet vehicles.
- The Council working towards becoming a green energy supplier.
- Working with the Local Strategic Partnerships to reduce car usage.
- The Green, Healthy and Connected programme, including COSY energy retrofit programme.
- District Wide “Enhance East Hants” which promotes low carbon and cycling.

Complementing this work the ‘Vehicle Parking Standards’ Supplementary Planning Document (SPD) was revised and adopted in July 2018 and encourages the provision of electric vehicle charge points in new developments in most parts of the Council Area. In addition, the emerging Local Plan fosters implementation of EV charge-points in new developments

The Whitehill & Bordon regeneration project has developed the Green, Healthy and Connected programme to deliver a self-sufficient and sustainable local community. This includes the development of a network of footpaths and cycle ways known as the green grid and will encourage walking and cycling, reduce reliance on cars. The Whitehill & Bordon regeneration project will provide electric vehicle charging point.

The new relief road which opened in January 2019, is anticipated to reduce congestion in the centre where air quality was close to breaching the U.K. limits. The Whitehill & Bordon regeneration team is working with Hampshire County Council to improve the current bus provision to the neighbouring towns.

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<sup>4</sup> <http://www.easthants.gov.uk/energy-strategy>

## Conclusions and Priorities

Nitrogen dioxide (NO<sub>2</sub>) is only pollutant of concern but does not exceed air quality objectives therefore no AQMA has been declared. Monitoring of NO<sub>2</sub> will continue. No new or alternative locations will be monitored as there are no changes to the sources and local knowledge does not suggest the need for further monitoring.

The priorities for the coming year are described below.

- The Energy Strategy will continue to be a key local priority. It has potential to reduce carbon emissions, reduce local pollution, and improve housing stock (through insulation schemes and replacement of energy consuming systems with more efficient ones). There are direct public health benefits in the reduction of pollution and improving ambient temperatures in the housing stock as well as addressing energy poverty.
- The Cycling and Walking Strategy (formerly the Active Transport Strategy) is being updated with a view to promoting these forms of transport. Further actions are likely once this has been published.
- The Whitehill & Bordon Regeneration project remains a key corporate priority. The intention is to deliver some 3,500 new homes as well as take action to improve the existing housing stock. This is a 20-year project with final delivery due in 2036. It should deliver significant economic and environmental benefits.

## Local Engagement and How to get Involved

Road traffic gives rise to much of the air pollution in the East Hampshire district.

There are a range of ways for people to get involved and help tackle this.

Businesses can:

- set up workplace travel plans and more information is available here: <http://www3.hants.gov.uk/workplacetravel>.
- subscribe to scheme such as Easit to obtain discount on travel and electric vehicles: <https://www.easit.org.uk/>

Everyone can:

- Walk, cycle, car share or use public transport. For information about journey planning visit <http://myjourneyhampshire.com/>.
- Switch to low emission vehicles. Grants are still available: <https://www.gov.uk/plug-in-car-van-grants/what-youll-get>. Further information and advice on electric vehicles and charging locations is available here: <https://www.zap-map.com/>.
- Insulate buildings and wherever possible use electric heating system or low NO<sub>x</sub> emitting boilers to reduce background pollution levels.

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## 1 Local Air Quality Management

This report provides an overview of air quality in East Hampshire 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 East Hampshire 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: Summary of Air Quality Objectives in England.

## 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 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.

East Hampshire District Council currently does not have any AQMAs. DEFRA PG.16 recommends that authorities that have areas that are close to the air quality objectives should consider having a local air quality strategy. With the exception of the centre of Bordon, East Hampshire District Council does not have any of these areas.

Four of the monitoring sites (BR6, BR8, BU1 and HR7) have recorded an increase in NO<sub>2</sub> concentrations since 2014, none of these sites have ever recorded an exceedance of the NAQS (National Air Quality Strategy) objective for NO<sub>2</sub>. It is predicted that NO<sub>2</sub> concentrations will fall further with the Whitehill & Bordon regeneration as a result of initiatives including the new relief road and the generation of the green grid to facilitate active travel techniques. It is for these reasons that the East Hampshire District Council does not consider that it is necessary to draft a local air quality strategy.

For reference, a map of East Hampshire District Council's monitoring locations is available in Appendix D: Map(s) of Monitoring Locations and AQMAs.

## 2.2 Progress and Impact of Measures to address Air Quality in East Hampshire District Council

Defra's appraisal of last year's ASR concluded that its findings were acceptable for all sources and pollutants. It noted that the Council are maintaining an active programme of measures to reduce transport emissions in the district which it welcomed.

The appraisal noted that four diffusion tube sites (BR4, BR5, BR7 and HR1) were within 10% of the AQO threshold. Of these four sites only one (BR4) remains within 10% of the threshold with all four reducing in annual mean concentration between 2017 and 2018.

It was suggested that the Council should monitor the impact from the new relief road in the Bordon area which has been continued allowing the Council to review air quality in the area.

The appraisal also noted that distance corrections had not been applied for any of the results in last years' ASR, these have been added and can be found in Appendix B: Full Monthly Diffusion Tube Results for 2018.

Despite not having any air quality management areas, East Hampshire 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 2.1.

More detail on these measures can be found in their respective Action Plans. Key completed measures are:

- Council Low Emission Fleet - Promoting low emission transport through the purchase of several low emission vehicles.
- Electric Charge Point Network - Promoting low emission transport through the installation of 10 electric vehicle charging points

Table 2.1 – 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	Council Low Emission Fleet	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	East Hampshire District Council	Completed	Completed	Purchase of Nissan Leaf and NV 200 completed	N/A	Vehicles purchased March 2017	March 2017	
2	Electric Charge Point Network	Promoting Low Emission Transport	Other	East Hampshire District Council	Completed	Completed	Installation of 8 charging points	N/A	10 charge bays installed	October 2018	Ten installed by Council and others available locally
3	Modeshift STARS	Promoting Travel Alternatives	School Travel Plans	Hampshire County Council & East Hampshire District Council	Completed	Ongoing	Number of schools participating	N/A	8 bronze achieved and 1 silver	Ongoing	
4	Park and Stride	Traffic Management	Other	East Hampshire District Council	Completed	2016-2017	-	N/A	Advertised on web and scheme in place	Ongoing	School drop off to nearby car park and then walk remainder
5	Work travel plans	Promoting Travel Alternatives	Workplace Travel Planning	Hampshire County Council	Completed	2011-2031	-	N/A	Information published on internet and support available	Ongoing	Sustrans provide implementation for Hampshire County Council
6	Shipwrights Quay	Transport Planning and Infrastructure	Cycle Network	Hampshire County Council	Completed	Completed	Opening of 50 mile cycle route	N/A	Completed July 2016	N/A	
7	High speed broadband coverage	Promoting Travel Alternatives	Encourage / Facilitate home-working	Hampshire County Council	Completed	2011-2031	-	N/A	Phase 1 (94% coverage) completed to July 2018	December 2018 estimated 96% coverage	Objective 11, Hants Transport Plan 2011-2031

## East Hampshire District Council

8	"My Journey - Helping Hampshire Getting Around" Travel Awareness Campaign	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	Hampshire County Council	Completed	2011-2031	-	N/A	Website established	Ongoing	Includes travel planning and car sharing
9	Bikeability training	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	Hampshire County Council	Completed	2011-2031	-	N/A	Advertised on web and scheme in place	Ongoing	
10	Licensing requirement for taxis	Promoting Low Emission Transport	Taxi Licensing conditions	East Hampshire District Council	Completed	Ongoing	-	N/A	Vehicles over six years old are required to have MOT every six months	Ongoing	
11	Cleaner buses	Promoting Low Emission Transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	Hampshire County Council	Completed	Ongoing	Percentage of fleet complying with Euro V standard	N/A	Stagecoach has 70% of fleet Euro V and has plans to replace 6 older buses during 2016	Ongoing	

## 2.3 PM<sub>2.5</sub> – 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<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

East Hampshire District Council is taking the following measures to address PM<sub>2.5</sub>:

- Working with other organisations including the Hampshire County Council to ensure a complementary and co-ordinated approach to reducing emissions of PM<sub>2.5</sub>.
- Creating or improving low emission transport networks for example the installation of electric vehicle charging points and encouraging electric vehicle charging provision in new development to encourage people toward electric vehicle ownership; and improvement of walking and cycle paths.
- Ensuring that developments with potential to have an impact on air quality submit air quality assessments and implement appropriate mitigation measures to ensure that development is sustainable and does not have an adverse impact on air quality.
- As construction activities can result in significant particulate emissions due to grinding, cutting, earthmoving and vehicle exhaust emissions, Construction Environment Management Plans are required to ensure that air quality is protected throughout the construction phase.

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

### **3.1 Summary of Monitoring Undertaken**

#### **3.1.1 Automatic Monitoring Sites**

East Hampshire District Council ceased automatic (continuous) monitoring during 2017 due to an equipment breakdown. This has not been replaced, and therefore no automatic monitoring data is presented in this report.

#### **3.1.2 Non-Automatic Monitoring Sites**

East Hampshire District Council undertook non- automatic (passive) monitoring of NO<sub>2</sub> at 14 sites during 2018. Table A.1 in Appendix A: Monitoring Results shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D: Map(s) of Monitoring Locations and AQMAs. 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: Supporting Technical Information / Air Quality Monitoring Data QA/QC.

## 3.2 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: Supporting Technical Information / Air Quality Monitoring Data QA/QC.

### 3.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

Table A.2 in Appendix A: Monitoring Results compares the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past 5 years with the air quality objective of 40µg/m<sup>3</sup>.

For diffusion tubes, the full 2018 dataset of monthly mean values is provided in Appendix B: Full Monthly Diffusion Tube Results for 2018.

**Error! Reference source not found.** in Appendix A: Monitoring Results compares the ratified continuous monitored NO<sub>2</sub> hourly mean concentrations for the past 5 years with the air quality objective of 200µg/m<sup>3</sup>, not to be exceeded more than 18 times per year.

There have been no exceedances of either the annual or hourly objective value, however, the following observations are made:

- All monitoring locations, with the exception of AB1, BR6, BR8, BU1 and HR7 reported a decrease in NO<sub>2</sub> concentrations between 2017 and 2018.
- Only the BR6, BR8, BU1 and HR7 monitoring locations reported an increase in NO<sub>2</sub> concentrations between 2014 and 2018.

## Appendix A: Monitoring Results

Table A.1 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?	Height (m)
AB1	Orchard House	Urban Background	472109	139487	NO <sub>2</sub>	No	0	N/A	No	3
BR1	Ashmead	Roadside	479707	135438	NO <sub>2</sub>	No	0	10	No	2
BR2	Chalet Court	Roadside	479695	135356	NO <sub>2</sub>	No	0	6	No	1.5
BR3	10 Chalet Hill	Roadside	479711	135321	NO <sub>2</sub>	No	1.5	2.4	No	2
BR4	Corals (1) Chalet Hill	Roadside	479666	135345	NO <sub>2</sub>	No	2	2.9	No	2.56
BR5	High Street (1)	Roadside	479654	135312	NO <sub>2</sub>	No	2	1.9	No	2.26
BR6	Air Quality Cabin	Roadside	479646	135341	NO <sub>2</sub>	No	0	4.8	Yes	2
BR7	Corals (2) Chalet Hill	Roadside	479666	135345	NO <sub>2</sub>	No	1	1	No	3.31
BR8	High Street (2)	Roadside	479654	135312	NO <sub>2</sub>	No	0.5	1.9	No	3.17
BU1	Bassenthwaite Gdns	Urban Background	479795	136267	NO <sub>2</sub>	No	0	N/A	No	1.7
HR1	London Road	Roadside	470554	113582	NO <sub>2</sub>	No	2.3	2	No	2.6
HR7	Gales Brewery	Roadside	470655	113259	NO <sub>2</sub>	No	0.7	2.28	No	2.5
PB1	Town Hall	Urban Background	474989	123241	NO <sub>2</sub>	No	0	N/A	No	2
WR1	Petersfield Rd	Roadside	479314	134307	NO <sub>2</sub>	No	18	1	No	3.25

**Notes:**

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

(2) N/A if not applicable.

Table A.2 – Annual Mean NO<sub>2</sub> Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2018 (%) <sup>(2)</sup>	NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> ) <sup>(3)</sup>				
					2014	2015	2016	2017	2018
AB1	Urban Background	Diffusion Tube	100%	100%	14.10	12.70	10.60	13.34	11.76
BR1	Roadside	Diffusion Tube	92%	92%	19.60	19.80	18.16	18.06	18.37
BR2	Roadside	Diffusion Tube	100%	100%	23.50	23.00	20.83	23.19	21.46
BR3	Roadside	Diffusion Tube	92%	92%	27.80	26.00	24.41	28.13	26.30
BR4	Roadside	Diffusion Tube	100%	100%	37.40	39.00	34.16	38.72	37.86
BR5	Roadside	Diffusion Tube	100%	100%	37.00	36.90	32.89	39.01	35.40
BR6	Roadside	Diffusion Tube	100%	100%	23.10	22.80	20.01	22.71	21.31
BR7	Roadside	Diffusion Tube	100%	100%	37.60	37.80	32.17	38.09	36.40
BR8	Roadside	Diffusion Tube	100%	100%	34.60	32.00	29.53	35.23	31.93
BU1	Urban Background	Diffusion Tube	100%	100%	11.90	10.80	9.56	11.64	10.26
HR1	Roadside	Diffusion Tube	100%	100%	32.20	33.30	31.56	36.80	33.82
HR7	Roadside	Diffusion Tube	100%	100%		25.90	23.52	32.81	30.31
PB1	Urban Background	Diffusion Tube	100%	100%	14.30	13.70	11.39	15.20	13.75
WR1	Roadside	Diffusion Tube	100%	100%	33.20	32.50	29.67	34.48	31.83

Diffusion tube data has been bias corrected

**Annualisation has been conducted where data capture is <75%**

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 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 NO<sub>2</sub> Concentrations at Bordon monitoring sites

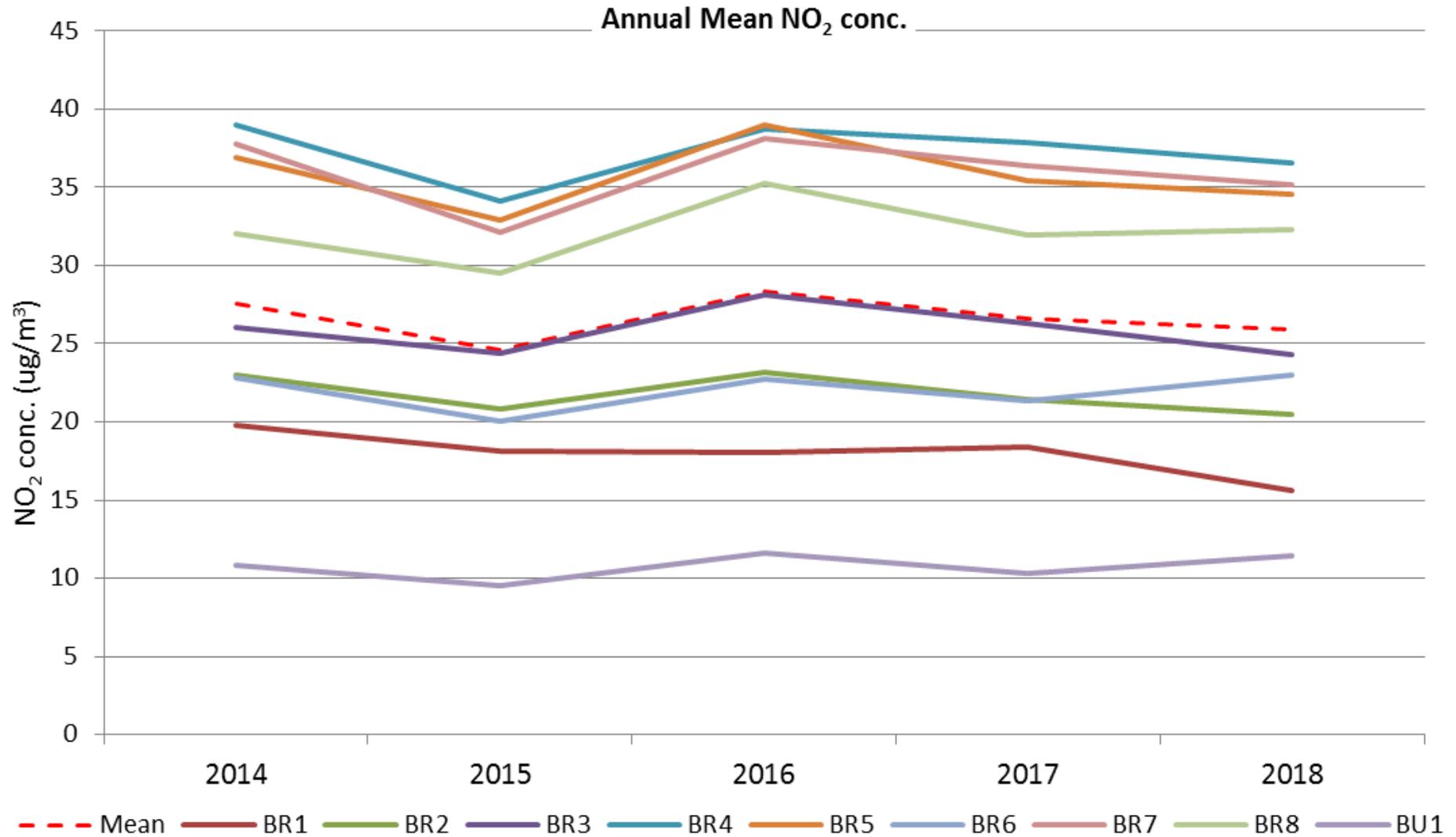
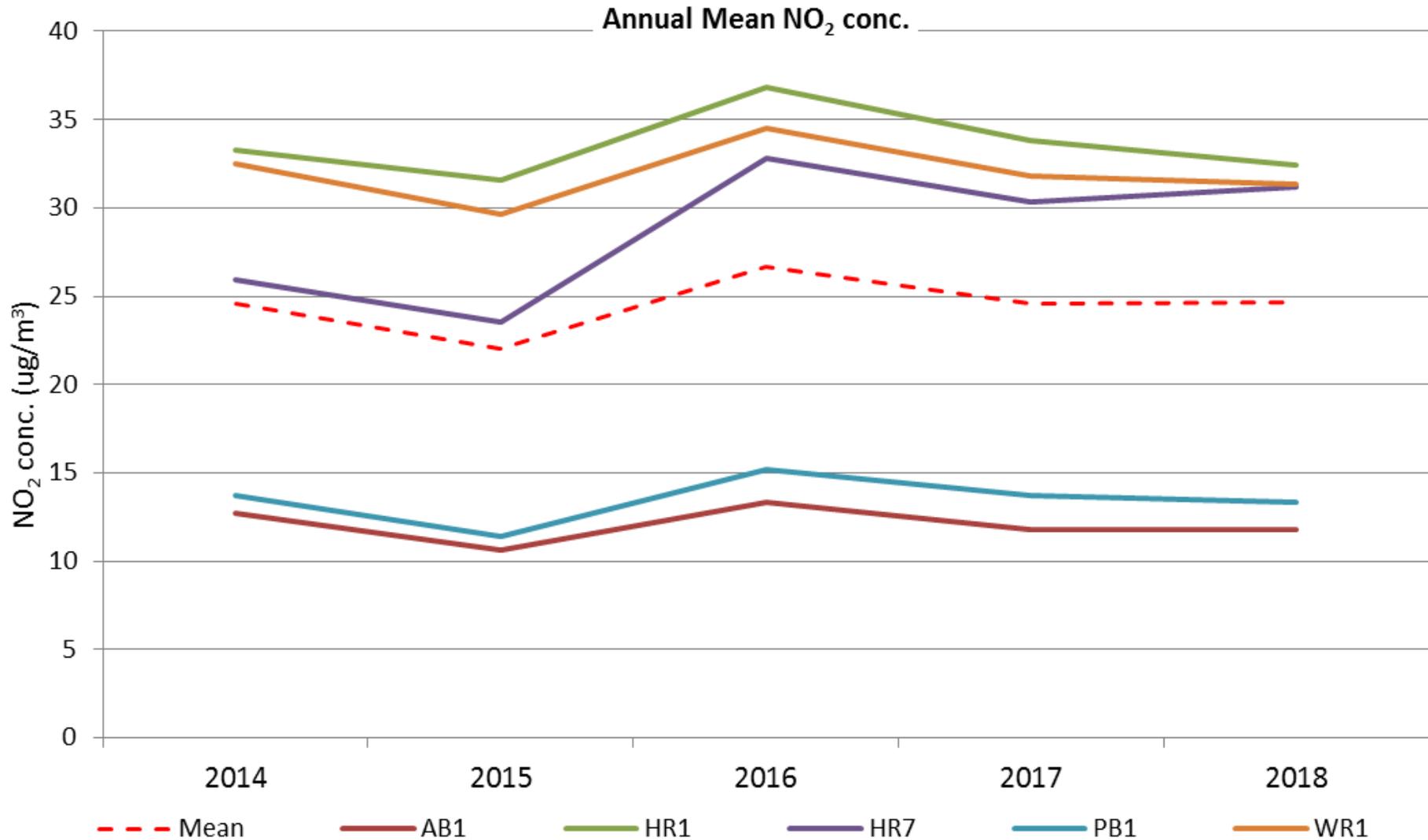


Figure A.2 – Trends in Annual Mean NO<sub>2</sub> Concentrations at other East Hampshire monitoring sites



## Appendix B: Full Monthly Diffusion Tube Results for 2018

Table B.1 – NO<sub>2</sub> Monthly Diffusion Tube Results - 2018

Site ID	NO <sub>2</sub> Mean Concentrations (µg/m <sup>3</sup> )												Annual Mean		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.89) and Annualised <sup>(1)</sup>	Distance Corrected to Nearest Exposure <sup>(2)</sup>
AB1	17.6	17.2	12.3	12.3	12.1	10.7	10.4	11.1	12.2	8.5	19.0	15.6	13.2	11.8	11.8
BR1	23.8	22.5	22.6	17.1	15.1	12.3	15.7	15.6	16.5	10.4	20.5	18.1	17.5	15.6	15.6
BR2		28.1	15.2	18.1	26.7	20.8	26.3	24.9	24.9	15.3	27.3	24.9	23.0	20.4	20.4
BR3	28.5		32.2	27.6	29.2	20.1	27.4	26.7	27.8	16.8	31.3	32.4	27.3	24.3	22.8
BR4	<b>47.1</b>	<b>42.9</b>	36.6	<b>45.0</b>	<b>45.2</b>	33.4	<b>50.6</b>	<b>40.6</b>	<b>42.3</b>	22.1	<b>42.1</b>	<b>44.8</b>	<b>41.1</b>	36.5	33.3
BR5	37.4	<b>42.7</b>	<b>41.9</b>	<b>43.5</b>		34.7	<b>43.3</b>	36.2	35.9	24.9	<b>43.4</b>	<b>43.1</b>	38.8	34.6	30.8
BR6	27.7	29.9	27.2	25.9	27.2	19.2	25.6	20.8	21.0	14.4	32.5	23.6	25.8	23.0	21.0
BR7	<b>42.0</b>	38.6	<b>43.7</b>	<b>40.7</b>	<b>43.3</b>	29.6	<b>45.3</b>	<b>42.6</b>	<b>42.5</b>	22.9	<b>41.5</b>	<b>41.0</b>	39.5	35.1	31.9
BR8	35.2	38.5	<b>41.6</b>	38.0	<b>46.5</b>	30.0	<b>42.1</b>	33.1	33.9	22.2	39.3	34.7	36.3	32.3	31.2
BU1	14.8	17.7	17.7	12.9	12.5	9.8	9.8	9.8	10.0	7.6	17.5	14.3	12.9	11.4	11.4
HR1	<b>45.9</b>	<b>40.5</b>	<b>43.7</b>	39.7	37.7	25.6	37.9	34.5	38.3	20.7	30.9	<b>42.1</b>	36.5	32.4	29.6
HR7	37.6	39.6	<b>43.5</b>	34.1	37.0	29.6	36.6	33.3	33.1	22.2	37.1	36.7	35.0	31.2	30.2
PB1	18.6	20.1	16.4	14.3	14.4	12.7	12.9	13.5	15.4	8.6	17.9		15.0	13.4	13.4
WR1	38.2	<b>40.4</b>	38.5	36.0	38.2	34.4	36.3	33.5	34.0	20.9	34.2	38.2	35.2	31.3	19.1

- National bias adjustment factor used
- Annualisation has been conducted where data capture is <75%
- Where applicable, data has been distance corrected for relevant exposure

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 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

### INTRODUCTION

#### Source Information

There have been no significant changes to source inputs.

#### Monitoring

This section contains information on the diffusion tube quality assurance and quality control techniques; the calculation and choice of bias factors.

There are no plans to reduce the monitoring carried out. The Bordon area monitoring is required to verify that the concentrations fall as is anticipated by the regeneration project.

#### PM<sub>2.5</sub> Information

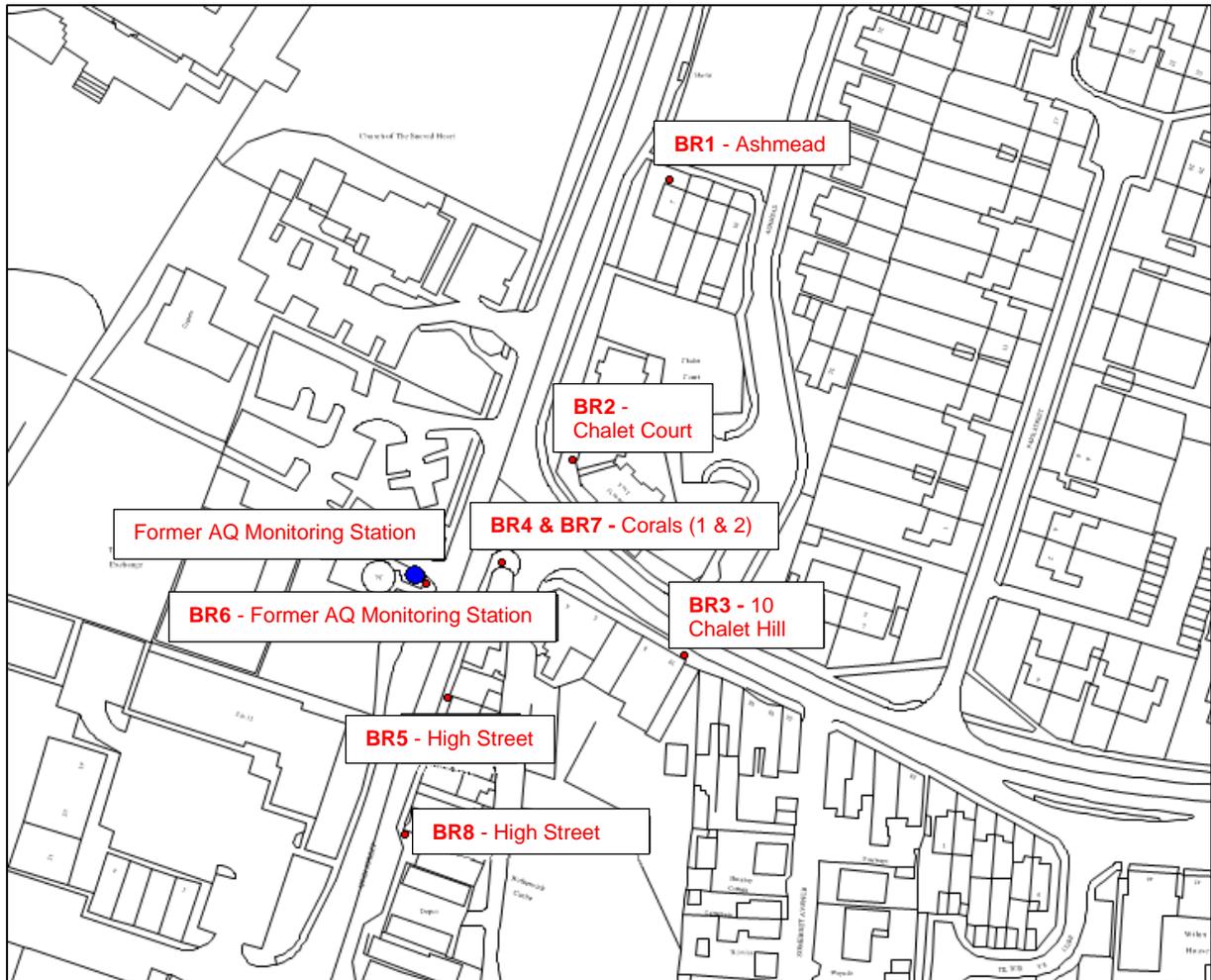
Data has been obtained from the National Atmospheric Emissions Inventory and Chilbolton Observatory to improve understanding of the levels likely to be encountered locally but there are no proposals to conduct monitoring.

#### Diffusion Tube Bias Adjustment Factors

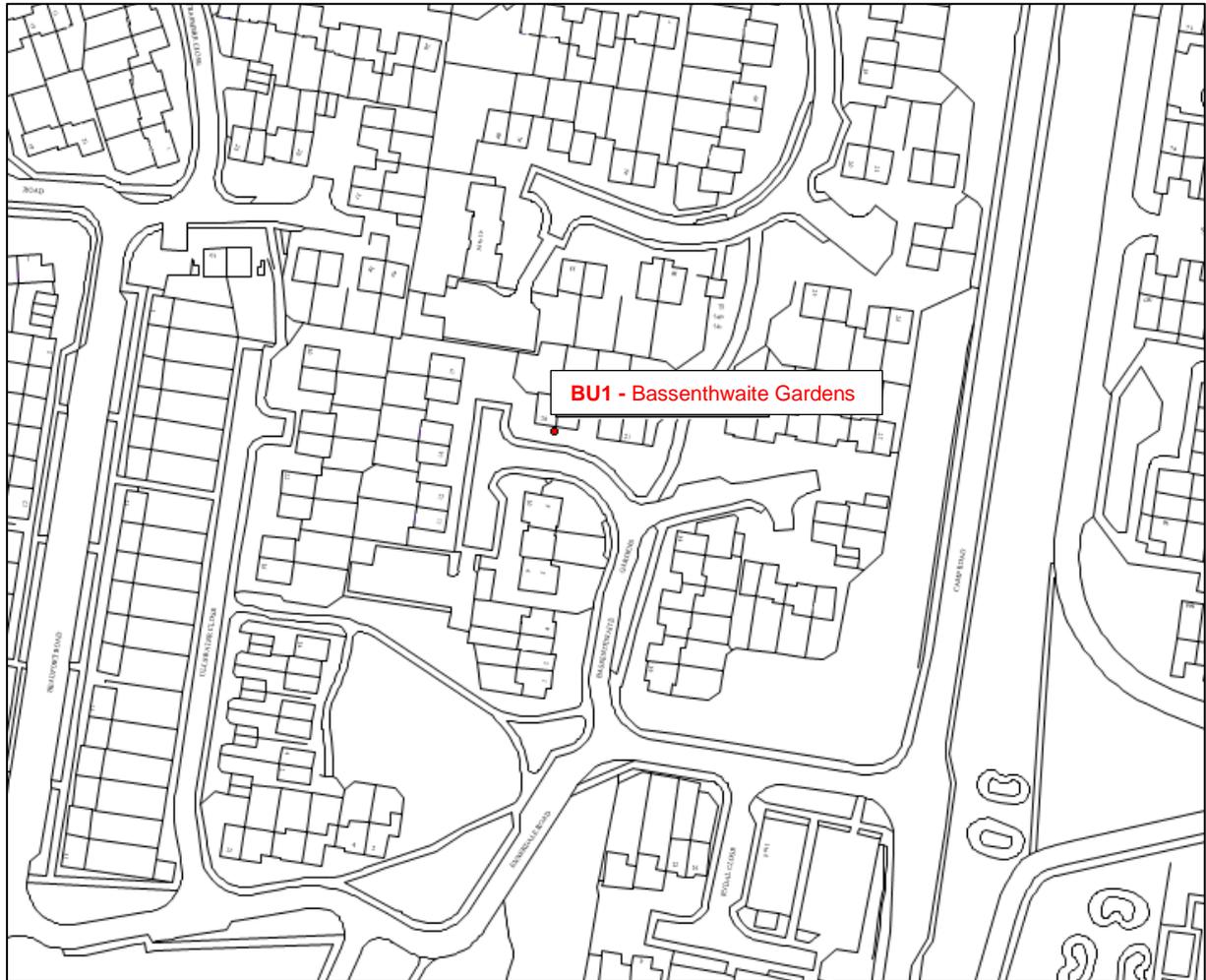
The diffusion tubes used by East Hampshire District Council are supplied and analysed by Gradko International Ltd and prepared by using 50% TEA in acetone methodology. Gradko International Ltd is a UKAS accredited laboratory. The bias adjustment factor for 2018 available from the Local Air Quality Management Helpdesk Database (version 06/19) at the time of writing this report was 0.89. This was based on 18 studies.



Diffusion Tube Monitoring Location: A325/Chalet Hill, Bordon



Diffusion Tube Monitoring Location: Bassenthwaite Gardens, Bordon

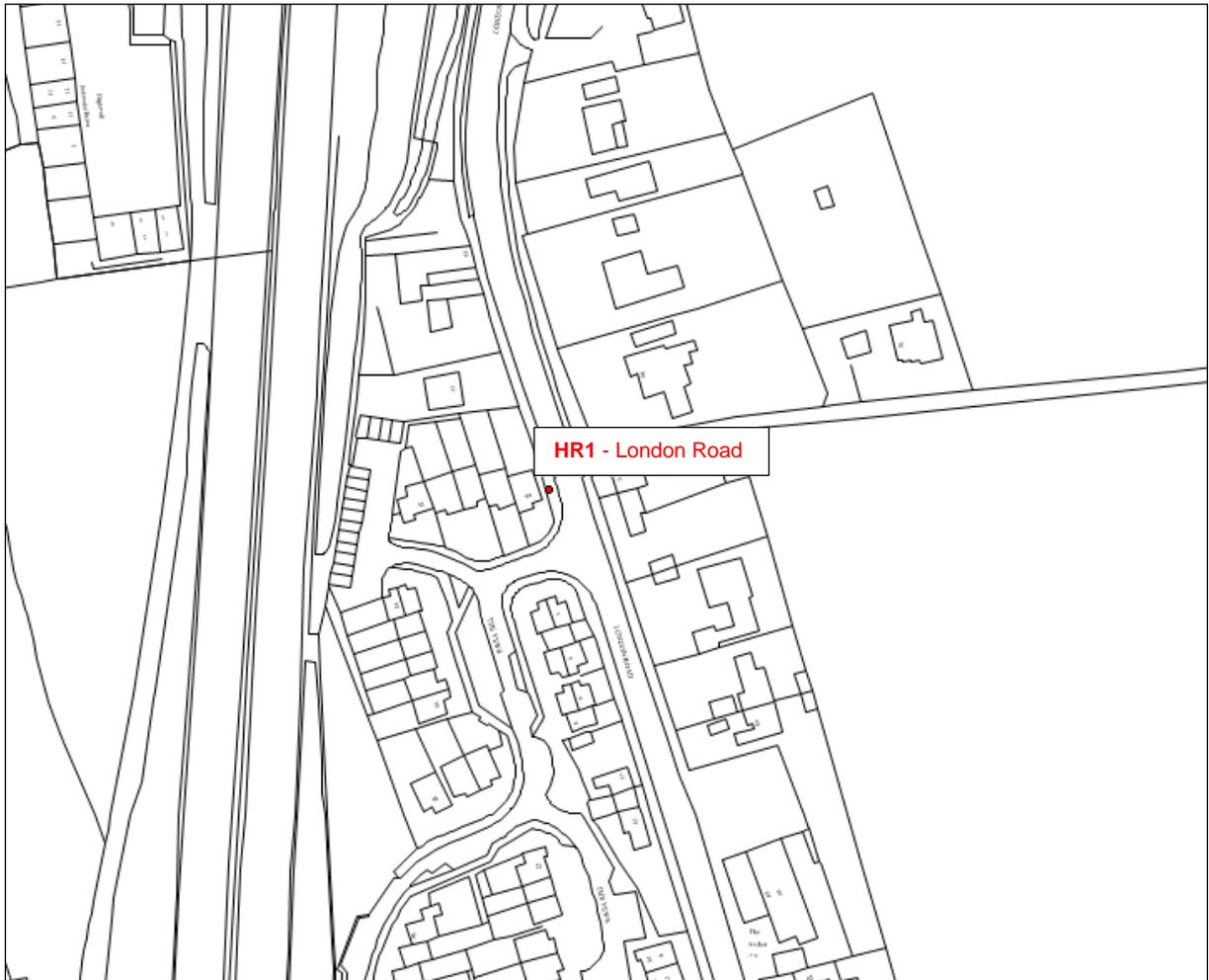


Diffusion Tube Monitoring Location: Petersfield Road, Whitehill





Diffusion Tube Monitoring Location: London Road, Horndean



Diffusion Tube Monitoring Location: Gales Brewery, Horndean



## Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective <sup>5</sup>	
	Concentration	Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

<sup>5</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## Glossary of Terms

Abbreviation	Description
AQ	Air Quality
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
AQO	Air Quality Objective
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
NAQS	National Air Quality Strategy
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## References

1. AQDM on behalf of East Hampshire District Council. Air Quality Report East Hampshire Bordon 2016. s.l. : AQDM, 2016.
2. DEFRA. Background Mapping data for local authorities. DEFRA. [Online] Department of Environment Food & Rural Affairs. [Cited: 02 September 2019.] <https://uk-air.defra.gov.uk/data/laqm-background-home>.
3. DEFRA Local Air Quality Management Policy Guidance LAQM.PG(16), 2016
4. DEFRA Local Air Quality Management Technical Guidance LAQM.TG(16), 2016
5. Public Health England. Estimating Local Mortality Burdens associated with air pollution. s.l. : Public Health England, 2014.
6. World Health Organization. Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide Global update 2005 Summary of risk assessment. s.l. : World Health Organization, 2006.