2019 Air Quality Annual Status Report (ASR)

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

July 2019

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Executive Summary: Air Quality in Our Area

Air Quality in Hart 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 £16 billion[3].

Air Quality Management Areas (AQMAs) can be declared when there is an exceedance or likely to be an exceedance of an air quality objective. Hart District Council does not currently have any AQMAs.

Hart District Council measures nitrogen dioxide (NO_2) at 15 locations within the district using passive diffusion tubes. All annual average NO_2 concentrations measured during 2018 were below the 40 $\mu g.m^{-3}$ annual air quality objective. Measured annual mean NO_2 concentrations in the district have generally declined over the last five years.

A review of planning applications, the local road network and industrial processes in the district has not identified any new major sources of emissions in 2018.

Actions to Improve Air Quality

Hart District Council have undertaken a number of measures to help improve air quality in the district:

- Promoting the uptake of low and zero emission vehicles, including installation of a new electric vehicle charging point.
- Protecting air quality through our planning processes, new local plan and Local Transport Plans and strategies.

[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

Conclusions and Priorities

The NO_2 concentrations measured in Hart District Council were below the national limit value at all measurement sites. A review of current planning applications identified no new developments that are likely to have significant adverse impacts on air quality.

Hart District Council will continue to monitor NO_2 using our network of passive diffusion tubes. We will continue to encourage the uptake of low emission transport and protect air quality through the local planning process.

Local Engagement and How to get Involved

A key source of localised air pollution is road traffic. The public can help improve air quality within Hart District Council by:

- Using your car less and use public transport instead if you can
- Walk or cycle (which is good for your health too)
- Car share if possible
- Use a low emission vehicle such as an electric or hybrid car
- Avoid driving during congested peak traffic periods

Heating systems for homes and other buildings can be a source of air pollution, for example the combustion of fuels (e.g. coal, gas or wood) result in emissions of pollutants to air. The emissions to air from domestic heating can be reduced by:

- Insulate your home efficiently and be energy efficient
- Use electric heating powered by non-combustion forms of renewable energy

More information on this and links to other resources are available at http://www.hart.gov.uk/pollution-nuisance and https://uk-air.defra.gov.uk/

DEFRA have published their Clean Air Strategy 2019 document highlighting sources of air pollution and the best approach to reducing emissions. For more information please visit https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf

Public Health England have published an air pollution guidance document (available at https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution). This guidance focuses on the health impacts and cost that air pollution can impose on the population, highlighting the financial and social need to reduce air pollution.

Guidance on domestic fires and wood burning

Open fires and wood-burning appliances can be a source of air pollution. The public can help reduce poor air quality when using these appliances by:

- Regularly maintaining and servicing your stove
- Regularly sweep chimneys
- Burn seasoned wood (including Ready to Burn)
- Not burning treated waste wood or household rubbish
- Consider purchasing a stove that has been approved for use in smoke control areas by Defra or Ecodesign Ready stove
- Check whether you live in a Smoke Controlled Area

More information (including Smoke Control Areas legislation) can be found at the following links:

- DEFRA Open fires and wood burning stoves (A practical guide)
- https://woodsure.co.uk/are-you-ready-to-burn/
- https://smokecontrol.defra.gov.uk/fuels.php
- https://smokecontrol.defra.gov.uk/appliances.php
- https://burnright.co.uk/

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1 Local Air Quality Management

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

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.

Hart District Council currently does not have any AQMAs. For reference, a map of Hart District Council's monitoring locations is presented in Appendix D.

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

Defra's appraisal of last year's ASR concluded that monitoring results continue to demonstrate that Hart DC is compliant with national air quality objectives. Hart DC were commended for carrying out a review of the 2017 monitoring network and implementing appropriate changes. As good practice, Hart DC will continue to review the monitoring network.

Hart 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 2.2.

Key completed measures are:

- Installation of an electric vehicle charging point in Church Road car park in Fleet town centre in August 2016 to promote the uptake of low and zero emission vehicles.
- Planning policies and Local Transport Plans in place to help protect air quality.

The Council submitted the Draft Local Plan Strategy and Sites 2016-2032 Proposed Submission Version for examination on Monday 18th June 2018.

Hart District Council anticipates that the measures stated above will help contribute to continued compliance with the national air quality objectives.

Table 2. 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	Planning policies and Local Transport Plans in place to help protect air quality.	Policy Guidance and Development Control	Other policy	Local Authority	n/a – complete	On-going	Number of planning applications where air quality has been screened/assessed	Not quantifiable	Implementation on-going	Policy already in place	
2	Installation of an electric vehicle charging point	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	Local Authority	2016	August 2016	Use of the charging point		Implementation on-going	August 2016	

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

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

Hart District Council is taking the following measures to address $PM_{2.5}$: Hart District Council is committed to promoting the uptake of low and zero emission vehicles. Our first electric vehicle charging point was installed in Church Road, Fleet, in August 2016. The Council is entering a 15-year lease agreement on six car park spaces with private investment company Engenie for the installation and maintenance of two double electric vehicle charging points. The chargers will be high power (rapid) units which can fully charge a vehicle in under thirty minutes. Use of the chargers will be monitored to determine when future investment EV chargers in other parts of the district would be appropriate.

How Hart District Council's planning policy will benefit air pollution

The current local plan contains Policy GEN8 Pollution which until replaced through the new local plan remains Hart's planning policy on pollution as follows:

> ***GEN 8 Pollution***
> *GEN 8 PROPOSALS FOR DEVELOPMENT WHICH COULD SIGNIFICANTLY ADVERSELY AFFECT THE QUALITY OF AIR, SURFACE WATER OR GROUND WATER, WILL NOT BE PERMITTED.*
> *Polluting land uses or processes such as certain types of industry can adversely affect health, the natural environment and general amenity. Such land uses are particularly inappropriate near residential areas, water-courses and sites of nature conservation interest. When considering such applications, advice will be sought from the Council's Environmental Health section and the Environment Agency. Where nature conservation sites may be affected, the local planning authority will also consult English Nature.*

Circular 1/97 Planning Obligations states that planning obligations should only be sought where they are necessary to make a proposal acceptable in land-use planning terms. PPG23 'Planning and Pollution Control' at paragraph 1.31 acknowledges that the potential for pollution affecting the use of land is capable of being a material consideration in deciding whether to grant planning permission. In this respect, planning obligations will be sought to provide appropriate aftercare on sites likely to be harmed by pollution where shown to be necessary to enable the development to proceed. The Environment Agency has prepared a Catchment Management Plan for the River Blackwater catchment, which covers most of the District. This includes targets for reducing pollution levels in the River Blackwater, and maintaining the presently unpolluted waters of the Rivers Whitewater and Hart.

Guidance on considerations affecting the acceptability of development from a ground water protection viewpoint has been prepared by the Environment Agency Thames Region entitled "Policy and Practice for the Protection Of Ground Water".

There are a number of habitats in and around the district, which are dependent on correct quantity and quality of water being available. This may be compromised by changes in water extraction for industry, agriculture or domestic water supply.

Central Government advice on this issue is included in PPG23 on Planning and Pollution Control. Polluting land uses are also controlled under the Hazardous Substances Act.

Developer contributions towards transport improvements including sustainable transport

The Council secures developer contributions for transport improvements on behalf of Hampshire County Council (see Hart's Community Infrastructure Policy and Hampshire County Council's Transport Contributions Policy). These contributions go towards the implementation of the North Hampshire Transport Strategy, Fleet Town Access Plan and other schemes for which there is an up to date evidence base. These include measures to promote sustainable transport or alleviate traffic congestion. Hampshire County Council control the spending of transport contributions.

New Local Plan

The emerging Hart Local Plan Strategy and Sites 2014-2032 has been subject to an examination in public by a Planning Inspector and is expected to be formally adopted by autumn 2019. This Local Plan sets out the overall development strategy, key policies and sites for delivering housing, economic growth, infrastructure and environmental protection.

There are no AQMAs in Hart for the local plan to take account of. However, the local plan has been prepared in accordance with national planning policy and guidance and includes policies which in turn will supersede existing policy GEN8. In particular, it includes policy NBE12 which complies with and contributes towards EU limit values and national objectives for pollutants and the cumulative impacts on air quality from individual sites in local areas (in accordance with NPPF paragraph 181[4], and NPPG paragraph 002 reference ID 32-002-20140306[5]). The policy contained in the Proposed Submission Local Plan is as follows:

> ***Policy NBE12 Pollution***
>
> *Development will be supported provided:*
>
> *a) it does not give rise to, or would be subject to, unacceptable levels of pollution (including cumulative effects); and*
>
> *b) it is satisfactorily demonstrated that any adverse impacts of pollution, either arising from the proposed development or impacting on proposed sensitive development or the natural environment will be adequately mitigated or otherwise minimised to an acceptable level.*
>
> *Where development is proposed on or near a site that may be impacted by, or may give rise to, pollution, such a proposal must be accompanied by an assessment that investigates the risks associated with the site and the possible impacts on the development, its future users and the natural and built environment. The assessment shall propose adequate mitigation or remediation when required to achieve a safe and acceptable development. Impacts on air quality should be considered in combination with other relevant plans or projects.*

[4] https://www.gov.uk/government/publications/national-planning-policy-framework--2
[5] https://www.gov.uk/guidance/air-quality--3

The Proposed Submission Local Plan also contains a transport policy which requires developments that would generate a significant transport impact to incorporate measures to reduce the need to travel by car and promote sustainable forms of travel, for example through travel plans. For more on travel plans see HCC website at http://www3.hants.gov.uk/workplacetravel

Once the Local Plan is adopted by the council work will commence on a Development Management Policies document which will contain policies on the development management process.

Sustainability Appraisal

The new Local Plan has been subject to a Sustainability Appraisal (SA) meeting the EU requirements for Strategic Environmental Assessment (SEA). The SA appraises the effects of the Local Plan, allocated sites and policies. The policies have been assessed against a number of sustainability objectives through the SA process.

The SA objectives are set out below, some of which are potentially relevant to air quality. The SA of the new Local Plan presents the SA objectives as topic headings. Having assessed alternative strategies, sites and policies against these objectives or topics, the options that performed best were carried through into the Local Plan. Also, the negative effects of a development strategy can help be identified and mitigated.

Hart District Council SA objectives

- **SA1** Provide all residents with the opportunity to live in a decent home which meets their needs
- **SA2** Protect and enhance the health and well-being of the population
- **SA3** Encourage increased engagement in cultural activity, leisure, and recreation across all sections of the community
- **SA4** Reduce inequality, poverty and social exclusion
- **SA5** Improve community safety by reducing crime and the fear of crime
- **SA6** Create and sustain vibrant and locally distinctive settlements and communities
- **SA7** Protect and enhance the District's historic environment
- **SA8** Protect and enhance biodiversity

- **SA9** Protect and enhance the District's countryside and rural landscape
- **SA10** Maintain and improve the water quality of the District's rivers and groundwaters and other water bodies
- **SA11** Maintain and improve soil quality
- **SA12** Reduce the emissions of greenhouse gases and manage the impacts of climate change
- **SA13** Reduce the risk of flooding and the resulting detriment to the local community, environment and economy
- **SA14** Increase energy efficiency, security and diversity of supply and the proportion of energy generated from renewable sources
- **SA15** Promote the efficient use of land through the appropriate re-use of previously developed land
- **SA16** Improve the efficiency of resource use and achieve sustainable resource management
- **SA17** Improve accessibility to all services and facilities
- **SA18** Improve efficiency of transport networks by enhancing the proportion of travel by sustainable modes and promoting policies which reduce the need to travel
- **SA19** Maintain and improve opportunities for everyone to acquire the education and skills they need to find and remain in work
- **SA20** Maintain high and stable levels of employment and promote sustainable economic growth and competitiveness
- **SA21** Stimulate regeneration where appropriate and encourage urban renaissance

Community Infrastructure Levy

Consideration is being given to the implementation of a Community Infrastructure Levy (CIL) following the adoption of the Hart Local Plan 2014 - 2032. CIL funds can potentially be used to improve sustainable transport in the area helping achieve air quality objectives.

Local Transport Plans and strategies

These are prepared by Hampshire County Council and aim to promote sustainable travel and reduce congestion:

- Hampshire Local Transport Plan 2011-2031
- Hampshire Local Transport Plan – Part B Three Year Implementation Strategy
- Hart District Transport Statement, 2013
- Hart Transport Statement Live Scheme List, December 2013

2.3. 1 Public Health Outcomes Framework

The Public Health Outcomes Framework (PHOF) is a Public Health England data tool that has been designed to aid in improving the nation's health and improve the health of the poorest communities faster. For more information please visit https://fingertips.phe.org.uk/profile/public-health-outcomes-framework.

The PHOF provides a $PM_{2.5}$ indicator that calculates the fraction of mortality attributable to particulate air pollution within a local authority. Appendix F provides a figure illustrating Hart DC's $PM_{2.5}$ indicator data for 2010 to 2017 with surrounding districts in South East England and England.

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

3.1 Summary of Monitoring Undertaken

During 2018 Hart District Council measured NO_2 concentrations within the district at 15 diffusion tube sites.

Local authorities in England are not required to report on Benzene, 1,3-Butadiene, Carbon Monoxide and Lead, unless there is a significant local source that needs to be assessed. Hart District Council confirm that no emission sources have been identified that indicate a requirement for any monitoring of these pollutants at this time.

Hart District Council do not currently conduct monitoring of sulphur dioxide (SO_2) or particulate matter (PM_{10}) as assessment of local sources has not identified any risk of exceeding the air quality objectives for these pollutants.

3.1.1 Automatic Monitoring Sites

Hart District Council do not currently conduct continuous automatic monitoring within the district. Continuous monitoring was previously conducted in Blackwater; monitoring at this site was discontinued in March 2014.

3.1.2 Non-Automatic Monitoring Sites

Hart District Council undertook non-automatic (passive) monitoring of NO_2 at 15 sites during 2018.

Following a review of the NO_2 diffusion tubes, a new location in Yateley (YA2) was identified in the historic urban centre. The location comprises mixed residential, commercial and communal land uses, where receptors are located close to major traffic routes passing through central Yateley.

Two sites were decommissioned in 2018 (YA1 and BH1) as measured NO_2 annual mean concentrations were consistently below the air quality objective annual mean of 40 $\mu g.m^{-3}$.

Table A.1 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, annualisation and distance correction are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO_2)

Table A. 2 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40 µg.m^{-3}.

No exceedances of the 40 µg.m^{-3} NO_2 annual mean objective have been reported during the last 5 years. A chart showing the trends at each measurement site over the last 5 years is presented in Figure A.1.

Generally, the concentrations of NO_2 have reduced at all sites over the last 5 years.

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

4. Planning Applications 2018

A review of current planning applications identified no new or proposed developments where air quality was considered likely to be a concern by Hart District Council. Details of the 2018 planning applications are provided in Table 4. 1 .

Table 4. 1 - 2018 Planning Applications

REFVAL	DCAPPTYP	ADDRESS	PROPOSAL	DATEDECISS	DTYPNUMBCO	DECSN
17/00370/FUL	FUL	Fleetwood Lodge Reading Road North Fleet GU51 4AN	Demolition of Existing Care Home to Provide a New 60 Bed Care Home	15-Jun-17	1006	PER
17/00372/FUL	FUL	"Edenbrook Hitches Lane Fleet Hampshire"	(Phase 3-7) Full application for the provision of 141 dwellings (9x 1-bed, 30x 2-bed, 61x 3-bed, 33x 4-bed, 8x 5-bed), including 24 affordable, with associated access, parking and landscaping works (including works to Hitches Lane Country Park).	11-Jan-18	1001	PER
17/00771/FUL	FUL	"Guillemont Park Minley Road Blackwater Camberley Surrey GU17 9QG"	Demolition of the existing office buildings. Comprehensive redevelopment of the site for the construction of 313 residential dwellings along with internal roads, open space, landscaping and associated infrastructure with existing access from the Minley Ro	15-Jan-18	1001	PER
17/01506/FUL	FUL	"Land At Kennels Lane Kennels Lane Farnborough Hampshire"	Full planning application including change of use to a Suitable Alternative Natural Greenspace (SANG) on 27.9ha of land at Kennels Lane including: access; car parking; fencing; pathways; landscaping; earthworks; and all other ancillary and enabling works.	29-Jan-18	1006	PER
16/03332/FUL	FUL	"3 Fleet House Fleetwood Park Barley Way Fleet GU51 2QJ"	Create a second floor providing for 14 new flats	09-Feb-18	1001	PER
17/01978/FUL	FUL	"Infineon House Fleet Mill Minley Road Fleet Hampshire GU51 2RD"	Create a second floor (new roof) providing for 10 new flats	09-Feb-18	1001	PER

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17/02771/AMCON	AMCON	"M3 Services Southbound Fleet Services Pale Lane Elvetham Hook GU51 1AA"	Variation of Condition 2 (Plan) to amend the design of the building and ancillary works in connection with 17/00845/FUL: Erection of replacement Motorway Service Area amenity building incorporating ancillary works	20-Feb-18	1004	PER
17/02793/REM	REM	"Land Between Moulsham Lane And Broome Close Yateley Hampshire"	Reserved Matters application following outline permission 14/02281/MAJOR for the appearance, landscaping, layout and scale (Outline planning permission for a residential development of 150 dwellings together with associated landscaping, open space and det	05-Apr-18	1001	PER
17/01861/REM	REM	"Land To The North Of London Road Hook Hampshire"	Application for reserved matters (appearance, landscaping, layout and scale) in relation to the SANG and sports pitch land following outline approval (14/00733/MAJOR) for Outline Application for the development of up to 550 residential dwellings on 38.58	18-Apr-18	1001	PER
17/01743/REM	REM	"Land To The North Of London Road Hook Hampshire"	Application for reserved matters (appearance, landscaping, layout and scale) in relation to 56 dwellings (Croudace Homes Phase 1), associated infrastructure including drainage service route, landscaping and open space and associated works following outlin	18-Apr-18	1001	PER
16/00564/OUT	OUT	"Land On The East Side Of Beacon Hill Road Ewshot Farnham Surrey"	Outline application for commercial B1, B2, B8 development comprising 10 industrial units (Amended plans, Flood Risk	16-May-18	1003	PER

			Assessment and Design and Access Statement received 23 October 2017)			
17/02919/FUL	FUL	"Morrisons Elvetham Heath Way Fleet GU51 1GY"	Proposed extension to existing supermarket including alterations to the existing car park.	29-May-18	1004	PER
17/00264/REM	REM	"Land At Watery Lane Church Crookham Fleet Hampshire "	Reserved matters application for appearance, landscaping, layout and scale pursuant to 14/00504/MAJOR: Outline planning application for up to 300 residential units, land for up to 1,050m2 D1 floorspace for a GP surgery including pharmacy and up to 370m2 A	08-Jun-18	1001	PER
18/00574/FUL	FUL	"329 Fleet Road Fleet Hampshire GU51 3BU "	Demolition of Nos. 329-331 Fleet Road and erection of four storey hotel containing 71 bedrooms with parking for 39 cars	20-Jun-18	1006	PER
18/00509/REM	REM	"Land To The North Of London Road Hook Hampshire "	"Erection of 194 dwellings (Croudace Homes Phase 2), associated infrastructure, landscaping and open space and associated works. "	25-Jun-18	1001	PER
17/02492/FUL	FUL	"The Oakmede And The Millmede Minley Road Fleet Hampshire GU51 2RB "	Demolition of The Oakmede and outbuildings and the construction of two blocks of 7 flats each (2 x 3 bed and 12 x 2 bed) with access alterations, parking, car ports, landscaping and ancillary works at The Oakmede and The Millmede (part).	27-Jun-18	1001	PER
17/00471/OUT	OUT	"Hartland Park Bramshot Lane Fleet Hampshire "	"Hybrid Planning Application (part full, part outline) for a residential-led mixed use redevelopment comprising: 1. Outline Planning Application with means of access	13-Jul-18	1001	PER

			(in part) to be determined (all other matters reserved for subsequent approval), for the e"			
18/01002/FUL	FUL	"Highfield Park Church Lane Heckfield Hook Hampshire RG27 0LG "	Erection of 28 bedroomed annex (replacement for approved 33 bedroom annex: (ref 13/02452/MAJOR)	07-Aug-18	1001	PER
17/02081/REM	REM	"Edenbrook Hitches Lane Fleet Hampshire "	1Reserved Matters application for the provision of 50 Extra Care Apartments pursuant to planning permission 13/02513/MAJOR for: 'Outline application for the erection of 193 dwellings, including 50 extra care flats, leisure centre and sports pitches, exten	09-Aug-18	1001	PER
18/00918/FUL	FUL	"The Rose Estate, Unit 6 Osborn Way Hook RG27 9UT"	Change of use of the building/land from general industrial (Land Use Class B2) to storage and distribution (Land Use Class B8) or storage and distribution (Land Use Class B8) with ancillary trade counter.	07-Sep-18	1003	PER
18/01208/AMCON	AMCON	"Waitrose Ltd Tresham Crescent Yateley Hampshire GU46 6FR "	Application to vary conditions 1 and 2 to extend the stores permitted delivery hours and hours which gates are open. (Application Reference Number 15/02190/AMCON dated 04/12/2015)	05-Oct-18	1004	PER
18/00242/REM	REM	"Land At Odiham Road Riseley Reading RG7 1SH"	Details of appearance, landscaping, layout and scale (Reserved Matters) pursuant to outline planning permission ref: 16/02989/OUT for the development of up to 83 residential dwellings, vehicular access from	02-Nov-18	1001	PER

			Odiham Road, public open space, ancillary works			
18/01637/FUL	FUL	"Poundworld Plus 187 - 191 Fleet Road Fleet Hampshire GU51 3BL "	Change of use of first floor storage and office space ancillary to A1 use to 10 flats (C3) 5 x studio flats and 5 x two bed flats	09-Nov-18	1001	PER
18/01384/AMCON	AMCON	"Bartley House Station Road Hook RG27 9JF"	Section 73 application to amend conditions 2 (Approved Plans) and 12 (Access Provision) of planning permission 16/03378/FUL to authorise minor material amendments to the design and layout of the proposed development providing 102 residential units in 4 x	28-Nov-18	1001	PER
18/02329/FUL	FUL	"Cody Technology Park Ively Road Farnborough Hampshire"	Erection of an extension the Datum FRNI facility to accommodate a data centre (use class Sui Generis)	30-Jan-19	1006	PER
18/01795/REM	REM	"Land North Of Netherhouse Copse Hitches Lane Fleet Hampshire "	Reserved matters application seeking the approval of appearance, landscaping, layout and scale of 172 residential dwellings pursuant to 16/01651/OUT Outline application for up to 423 residential dwellings and a community facility. Associated vehicular, pe	20-Feb-19	1001	PER
18/00110/FUL	FUL	"Rawlings Building Station Road Hook RG27 9HU"	Demolition of existing buildings and erection of four buildings to provide 68 Extra Care apartments for older persons (C2 use), 37 Retirement Living apartments for older persons (C3 use) and 19 residential units (also C3 use) with associated communal faci	29-Mar-19	1001	PER

18/02740/PRIOR	PRIOR	"Priors Corner Dunleys Hill North Warnborough Hook Hampshire RG29 1EA "	Notification for Prior Approval for the change of use of offices (Class B1a) to Dwellinghouse (Class C3) to form 16 residential units.	21-Feb-19	4002	WDN
18/02864/PRIOR	PRIOR	"Unit 1 And 2 Marsh Farm Industrial Estate Bowling Alley Crondall Farnham Surrey GU10 5RJ "	Notification for Prior Approval for a Change of Use from premises in Light Industrial Use (Class B1 c)) and any land within its curtilage to dwellinghouses (Class C3) - Units 1 and 2	13-Feb-19	4002	PAG
18/02863/PRIOR	PRIOR	"Unit 4, 5 And 6 Marsh Farm Industrial Estate Bowling Alley Crondall Farnham Surrey GU10 5RJ "	Notification for Prior Approval for a Change of Use from premises in Light Industrial Use (Class B1 (c)) and any land within its curtilage to dwellinghouses (Class C3) - Units 4, 5 and 6	13-Feb-19	4002	PAG
18/00624/PRIOR	PRIOR	"Building 260 And 270 Bartley Wood Business Park Bartley Way Hook Hampshire "	Request as to whether Prior Approval is required under Part 3, Class O of the Town and Country Planning (General Permitted Development) Order 2015 (as amended) for the conversion of ground to second floors from offices (Use Class A1(a)) to residential (Us	16-May-18	4002	PAG
18/01754/PRIOR	PRIOR	"Lees Buildings Alton Road South Warnborough Hook Hampshire RG29 1RZ "	Notification of Prior Approval for a Change of Use from Premises in Light Industrial Use (Class B1(c)) and any land within its curtilage to 4 x 2 bedroom Dwellinghouses (Class C3)	20-Dec-18	4002	PAG
18/01755/PRIOR	PRIOR	"Lees Buildings Alton Road South Warnborough Hook Hampshire RG29 1RZ "	Notification of Prior Approval for a Change of Use from Premises in Light Industrial Use (Class B1(c)) and any land within its curtilage to 6 x 2 bedroom Dwellinghouses (Class C3)	20-Dec-18	4002	PAG

17/02895/PRIOR	PRIOR	"Zenith House 3 Rye Close Fleet Hampshire GU51 2UY "	Prior Notification requirement under Part O of the GDPO for the change of use of offices (Class B1a) to Dwellinghouse (Class C3) for 36 flats.	07-Mar-18	4002	REFPA
18/02258/PRIOR	PRIOR	"EDS Ltd Hartley House Bartley Wood Business Park 15 Bartley Way Hook Hampshire RG27 9XA "	Notification for Prior Approval for the change of use of offices (Class B1a) to Dwellinghouse (Class C3), to form 42 flats (27 x 1 bedroom and 15 x 2 bedroom)	28-Nov-18	4002	PAG
18/02261/PRIOR	PRIOR	"EDS Ltd Hartley House Bartley Wood Business Park 15 Bartley Way Hook Hampshire RG27 9XA "	Notification for Prior Approval for the change of use of offices (Class B1a) to Dwellinghouse (Class C3), to form 40 flats (26 x 1 bedroom and 14 x 2 bedroom)	28-Nov-18	4002	PAG
18/02262/PRIOR	PRIOR	"EDS Ltd Hartley House Bartley Wood Business Park 15 Bartley Way Hook Hampshire RG27 9XA "	Notification for Prior Approval for the change of use of offices (Class B1a) to Dwellinghouse (Class C3), to form 39 flats (22 x 1 bedroom and 17 x 2 bedroom)	28-Nov-18	4002	PAG
18/02263/PRIOR	PRIOR	"EDS Ltd Hartley House Bartley Wood Business Park 15 Bartley Way Hook Hampshire RG27 9XA "	Notification for Prior Approval for the change of use of offices (Class B1a) to Dwellinghouse (Class C3), to form 37 flats (21 x 1 bedroom and 16 x 2 bedroom)	28-Nov-18	4002	PAG
19/00279/PRIOR	PRIOR	"One Fleet Ancells Road Fleet Hampshire GU51 2UN "	Prior Notification for a Proposed Change of use of offices (class B1(a)) to dwellinghouse (class C3) to create 28 dwellings.	26-Mar-19	4002	PAG
18/02551/PRIOR	PRIOR	"Hook A Bartley Wood Business Park Bartley Way Hook Hampshire "	Notification for Prior Approval for a Proposed Change of Use of building and land within curtilage from Use Class (B1(a) to Use Class C3 to provide 41 units	03-Jan-19	4002	PAG
18/02552/PRIOR	PRIOR	"1 - 3 Bartley Wood Business Park Bartley Way Hook Hampshire RG27 9XA "	Notification for Prior Approval for a Proposed Change of Use of building and land within curtilage	03-Jan-19	4002	PAG

			from Use Class (B1(a) to Use Class C3 to provide 37 units			
18/02553/PRIOR	PRIOR	"EDS Ltd Unit D 7 Bartley Wood Business Park Bartley Way Hook Hampshire RG27 9XA "	Notification for Prior Approval for a Proposed Change of Use of building and land within curtilage from Use Class (B1(a) to Use Class C3 to provide 55 units	03-Jan-19	4002	PAG

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) (1)	Distance to Kerb of Nearest Road (m) (2)	Tube Collocated with A Continuous Analyser?	Height (m)
OD1	Clover Leaf, Odiham	Roadside	473651	151085	NO_2	No	50 m	4 m	NO	1.5 – 2.0
HW2	The Phoenix, Hartley, Wintney	Kerbside	475884	155818	NO_2	No	30 m	2 m	NO	1.5 – 2.0
HO2	Dorchester Arms, Hook	Kerbside	471382	153407	NO_2	No	16 m	2 m	NO	1.5 – 2.0
M3EH	Elvetham Heath, Fleet	Kerbside	480290	155899	NO_2	No	10 m	15 m (M3)	NO	1.5 – 2.0
YA1	Yateley Comprehensive	Background	481033	160500	NO_2	No	5 m	6 m	NO	1.5 – 2.0
BH1	Bramshill Police College	Background	474857	159047	NO_2	No	15 m	1 m	NO	1.5 – 2.0
M31	M3 Northbound	Roadside	479920	156030	NO_2	No	100 m	2 m	NO	1.5 – 2.0
BL1	Vicarage Road, Blackwater	Kerbside	485114	159809	NO_2	No	3 m	3 m	NO	1.5 – 2.0
BL (AQ 1)	Blackwater (AQM 1)	Roadside	485251	159813	NO_2	No	22 m	4 m	NO	1.5 – 2.0
BL (AQ 2)	Blackwater (AQM 2)	Roadside	485251	159813	NO_2	No	22 m	4 m	NO	1.5 – 2.0
HS1	High Street, Fleet	Roadside	480592	153870	NO_2	No	22 m	2 m	NO	1.5 – 2.0
HO3	Hook	Kerbside	472469	154254	NO_2	No	6 m	1.5 m	NO	2
HW3	Hartley Wintney	Roadside	476684	156850	NO_2	No	16 m	1 m	NO	2
FL3	Fleet	Roadside	481161	154632	NO_2	No	22 m	1 m	NO	2
YA2	Yateley	Kerbside	481723	161015	NO_2	No	5 m	1.5 m	NO	2

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_2 Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2018 (%) [2]	NO_2 Annual Mean Concentration ($\mu g/m^3$) [3]				
					2014	2015	2016	2017	2018
OD1	Roadside	Diffusion Tube	92	92	17.9	15.6	16.9	15.8	16.9
HW2	Kerbside	Diffusion Tube	92	92	33.6	31	31	31.9	31.1
HO2	Kerbside	Diffusion Tube	92	92	34	33.5	32.1	31.9	32.1
M3EH	Kerbside	Diffusion Tube	92	92	22.9	22.1	21.4	21.3	23.2
YA1	Background	Diffusion Tube	25	25	14.2	14	15	14.7	14.8
BH1	Background	Diffusion Tube	8	8	10.4	9.2	8.5	7.8	-
M31	Roadside	Diffusion Tube	92	92	29.5	25.2	24.9	26	28
BL1	Kerbside	Diffusion Tube	83	83	33.1	29.4	31	30.9	30
BL (AQ1)	Roadside	Diffusion Tube	92	92	30.8	29.9	27	27.7	27.9
BL (AQ2)	Roadside	Diffusion Tube	92	92	31	30	27	26.9	27.1
HS1	Roadside	Diffusion Tube	100	100	27.7	24.4	25.3	25.6	27.3
HO3	Kerbside	Diffusion Tube	100	100	N/A	N/A	N/A	N/A	30.1
HW3	Roadside	Diffusion Tube	100	100	N/A	N/A	N/A	N/A	26
FL3	Roadside	Diffusion Tube	100	100	N/A	N/A	N/A	N/A	30.3
YA2	Kerbside	Diffusion Tube	75	75	N/A	N/A	N/A	N/A	27.9

☒ **Diffusion tube data has been bias corrected**

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

Notes:

Exceedances of the NO_2 annual mean objective of $40\mu g/m^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu g/m^3$, indicating a potential exceedance of the NO_2 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.

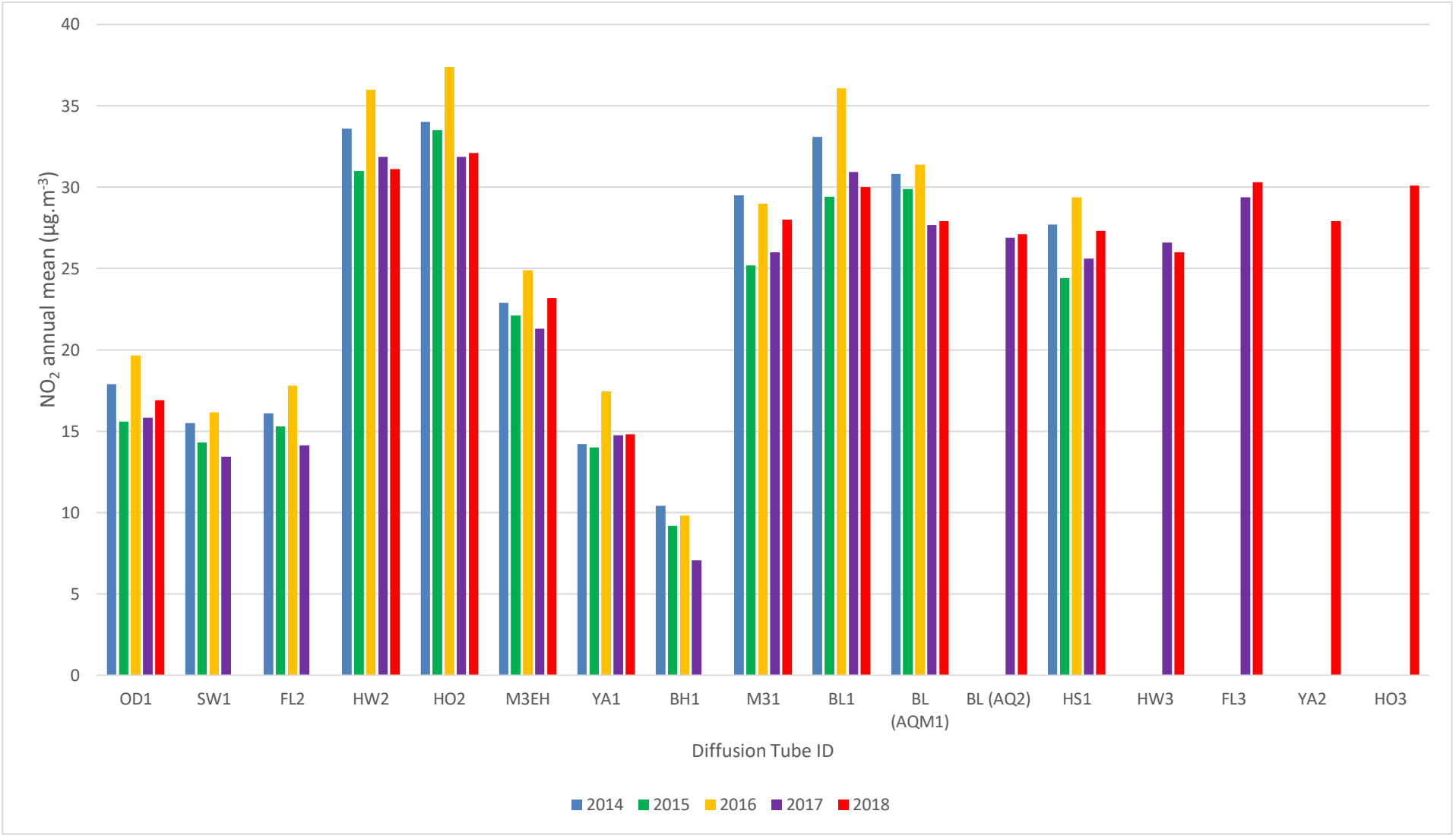
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(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.

(-) Less than one months monitoring data available, therefore unable to average. Site discontinued in January 2018.

(N/A) New site as of 2018, no previous data recorded.

Figure A.1 – Trends in Annual Mean NO_2 Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2018

Table B.1 – NO_2 Monthly Diffusion Tube Results - 2018

Site ID	NO_2 Mean Concentrations ($\mu g/m^3$)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.93) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
OD1	17.6	20.2	19.2	21.0	-	18.3	12.0	11.9	15.1	21.0	26.0	17.5	18.1	16.9	-^
HW2	37.6	38.2	33.7	35.0	-	31.1	29.4	25.6	35.1	33.3	34.0	34.6	33.4	31.1	19.3
HO2	41.1	41.2	30.8	38.8	37.1	29.9	30.9	29.6	-	31.7	33.8	34.3	34.5	32.1	22.6
M3EH	29.8	25.5	34.2	25.1	24.8	29.0	22.9	19.2	13.9	25.7	-	24.9	25.0	23.2	21.5
YA1	18.4	20.0	18.9	-	-	-	-	-	-	-	-	-	19.1	14.8	14.3
BH1	-	31.1	-	-	-	-	-	-	-	-	-	-	31.1	28.9*	-
M31	29.9	30.8	27.1	37.2	34.1	28.8	29.3	27.7	-	27.2	32.9	26.3	30.1	28.0	-^
BL1	38.0	-	30.4	40.1	33.6	29.3	29.7	25.4	30.7	33.4	-	32.1	32.3	30.0	27.4
BL (AQ1)	32.8	31.5	34.8	34.6	30.2	30.2	-	22.1	25.9	25.8	31.6	30.7	30.0	27.9	21.5
BL (AQ2)	34.9	30.4	38.0	32.6	27.5	29.2	-	23.6	24.4	21.8	28.5	29.8	29.1	27.1	21.1
HS1	27.6	31.4	34.7	33.8	31.6	33.2	23.2	20.8	28.2	28.0	30.5	29.8	29.4	27.3	18.7
HO3	30.5	34.7	34.7	36.1	39.4	36.7	28.8	26.2	30.3	29.6	32.2	29.2	32.4	30.1	24.1
HW3	26.7	27.6	33.1	31.9	29.9	24.2	27.5	24.3	25.9	27.5	30.3	26.1	27.9	26.0	18.6
FL3	28.1	34.5	42.1	38.8	26.2	40.4	30.2	28.7	26.5	27.9	36.9	30.4	32.6	30.3	19.5
YA2	-	-	-	36.0	32.8	28.6	30.2	24.0	28.3	26.8	33.4	30.2	30.0	27.9	22.7

☐ **Local bias adjustment factor used**

☒ **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_2 annual mean objective of 40µg/m^3 are shown in **bold**.

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

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest relevant public exposure.

(*) unable to annualise as less than three months data available, BIAS adjusted only.

(-^) unable to distance correct due to >50 m

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

Bias adjustment factory and laboratory QA/QC

The diffusion tubes deployed by Hart District Council are supplied and analysed by Gradko using a preparation mixture of 20% triethanolamine (TEA) in water. The bias adjustment factor of 0.93 reported in the national database of co-location studies[6], conducted using diffusion tubes prepared and analysed by Gradko during 2018, has been used to adjust the diffusion tube results.

Figure C. 1 - The diffusion tube national adjustment factor spreadsheet (Version 03/19)

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/19

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadhseet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2019
LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List
If a laboratory is not shown, we have no data for this laboratory.

Step 2: Select a Preparation Method from the Drop-Down List
If a preparation method is not shown, we have no data for this method at this laboratory.

Step 3: Select a Year from the Drop-Down List
If a year is not shown, we have no data

Step 4: Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor shown in blue at the foot of the final column.
If you have your own co-location study then see footnote. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@uk.bureauveritas.com or 0800 0327953

Analysed By	Method (To undo your selection, choose (All) from the pop-up list)	Year (To undo your selection, choose (All))	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2018	R	Brighton & Hove City Council	9	48	50	-3.7%	G	1.04
Gradko	20% TEA in water	2018	R	Eastleigh Borough Council	11	28	32	-12.0%	G	1.14
Gradko	20% TEA in water	2018	R	Eastleigh Borough Council	12	42	38	10.2%	G	0.91
Gradko	20% TEA in water	2018	UB	Eastleigh Borough Council	12	27	28	-4.4%	G	1.05
Gradko	20% TEA in water	2018	R	Gateshead Council	12	29	25	13.9%	G	0.88
Gradko	20% TEA in water	2018	R	Gateshead Council	12	32	29	10.8%	G	0.90
Gradko	20% TEA in water	2018	R	Gateshead Council	9	40	41	-1.8%	G	1.02
Gradko	20% TEA in water	2018	R	Wokingham Borough Council	12	38	33	13.2%	G	0.88
Gradko	20% TEA in water	2018	R	Bath & North East Somerset	12	40	39	4.0%	G	0.96
Gradko	20% TEA in water	2018	R	Bedford Borough Council	10	30	27	8.8%	G	0.92
Gradko	20% TEA in water	2018	KS	Marylebone Road Intercomparison	11	93	85	9.3%	G	0.91
Gradko	20% TEA in water	2018	R	South Gloucestershire Council	12	21	20	6.3%	G	0.94
Gradko	20% TEA in water	2018	R	Thurrock Borough Council	12	53	52	2.3%	S	0.98
Gradko	20% TEA in water	2018	R	Thurrock Borough Council	12	34	30	15.1%	G	0.87
Gradko	20% TEA in water	2018	R	Thurrock Borough Council	12	31	24	28.8%	G	0.78
Gradko	20% TEA in water	2018	UB	Thurrock Borough Council	12	27	25	9.2%	S	0.92
Gradko	20% TEA in water	2018		Overall Factor (30 studies)				Use		0.93

Gradko have participated in HSL and LGC AIR-PT scheme, which is a UKAS accredited, independent proficiency testing scheme comparing laboratories undertaking the analysis of air quality monitoring (https://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html).

[6] National Diffusion Tube Bias Adjustment Factor Spreadsheet Version 03/19 (available from https://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html)

Figure C. 2- The NO_2 fall off with distance from roads calculator (Version 4.2)

Site ID	Distance (m)		NO_2 Annual Mean Concentration (µg/m^3)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor	
OD1	4.0		11.1	16.9	-	More than 50 km
HW2	2.0	32.0	12.9	31.1	19.3	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
HO2	2.0	18.0	13.7	32.1	22.6	
M3EH	15.0	25.0	15.9	23.2	21.5	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution. Warning: your monitor is more than 10m

						further from the kerb than your receptor - treat result with caution.
YA1	6.0	11.0	12.4	14.8	14.3	
BH1	1.0	16.0	10.9	28.9	18.8	
M31	2.0		12.5	28.0	-	More than 50 km
BL1	3.0	6.0	15.6	30.0	27.4	
BL (AQ1)	4.0	26.0	15.6	27.9	21.5	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
BL (AQ2)	4.0	26.0	15.6	27.1	21.1	Warning: your receptor is more than 20m further from the kerb than your monitor - treat

						result with caution.
HS1	2.0	24.0	12.5	27.3	18.7	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
HO3	1.5	7.5	13.1	30.1	24.1	
HW3	1.0	17.0	13.0	26.0	18.6	
FL3	1.0	23.0	13.2	30.3	19.5	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
YA2	1.5	6.5	11.8	27.9	22.7	

Diffusion tube precision was assessed during 2018 at the Blackwater site where duplicate tubes were sited. The calculated tube precision is presented in Figure C. 3. All months, except July, in 2018 were classified as having good precision.

Figure C. 3 Precision of duplicate diffusion tubes

Adjustment of DUPLICATE or TRIPLICATE Tubes — AEA Energy & Environment, From the AEA group

Diffusion Tubes Measurements

Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Average	Standard Deviation	CV	95% CI mean	Data Quality Check: Diffusion Tubes Precision Check
1		Jan	32.80	34.90		33.9	1.48	4.39	13.34	Good
2		Feb	31.50	30.40		31.0	0.78	2.51	6.99	Good
3		Mar	34.80	38.00		36.4	2.26	6.22	20.33	Good
4		Apr	34.60	32.60		33.6	1.41	4.21	12.71	Good
5		May	30.20	27.50		28.9	1.91	6.62	17.15	Good
6		Jun	30.20	29.20		29.7	0.71	2.38	6.35	Good
7		Jul								
8		Aug	22.10	23.60		22.9	1.06	4.64	9.53	Good
9		Sept	25.90	24.40		25.2	1.06	4.22	9.53	Good
10		Oct	25.80	21.80		23.8	2.83	11.88	25.41	Good
11		Nov	31.60	28.50		30.1	2.19	7.29	19.69	Good
12		Dec	30.70	29.80		30.3	0.64	2.10	5.72	Good
13										

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

Jaume Targa, for AEA

Version 04 - February 2011

Site Name/ ID:

Adjusted measurement (95% confidence level)
Without periods with CV larger than 20%
Bias calculated using 0 periods of data
Tube Precision:
Bias factor A:
Bias B:

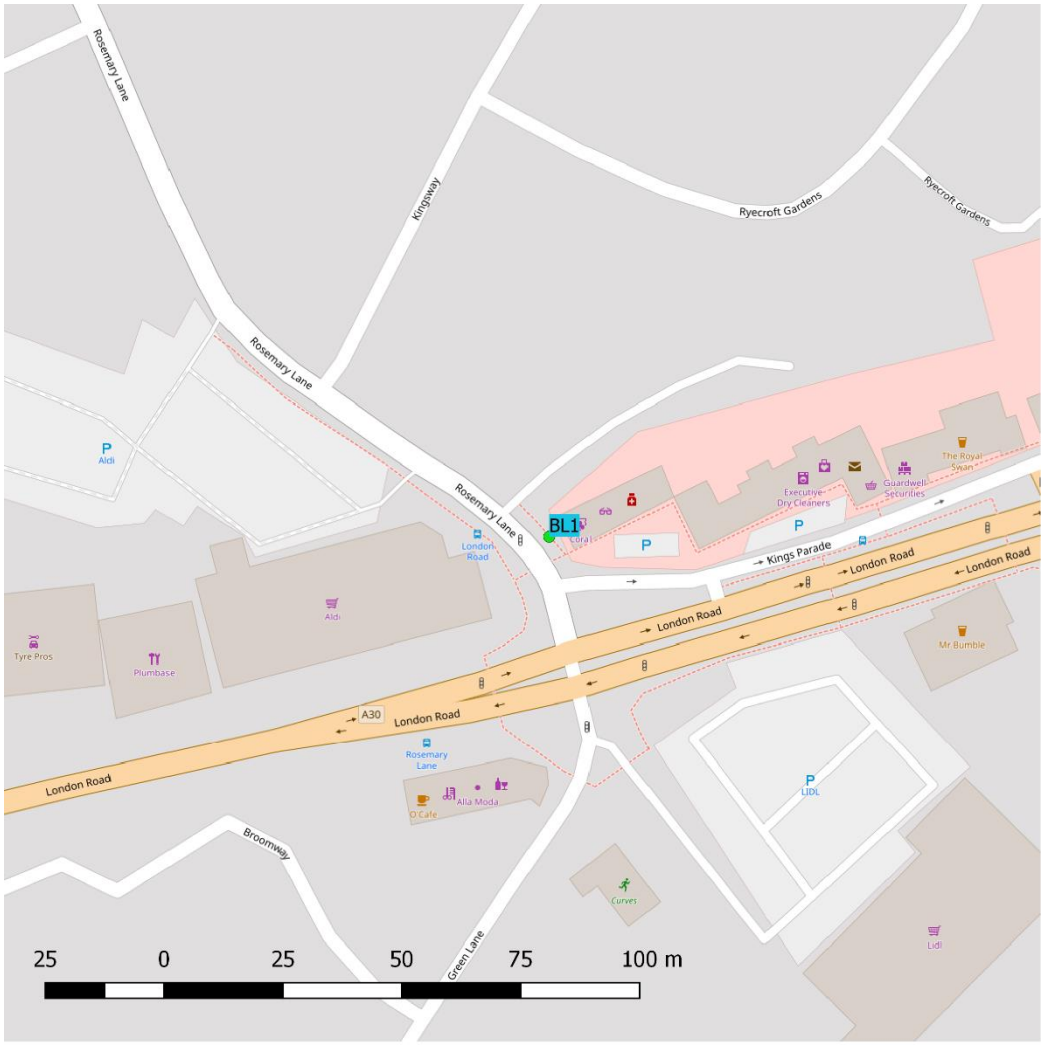
Information about tubes to be adjusted
Diffusion Tube average: 30 μgm^{-3}
Average Precision (CV): 5
Adjusted Tube average: μgm^{-3}

Adjusted measurement (95% confidence level)
with all data
Bias calculated using 0 periods of data
Tube Precision:
Bias factor A:
Bias B:

Information about tubes to be adjusted
Diffusion Tube average: 30 μgm^{-3}
Average Precision (CV): 5
Adjusted Tube average: μgm^{-3}

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

Figure D. 1 - Diffusion tube locations – Blackwater (BL1)



N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 2 - Diffusion tube locations – M3 Northbound (M31)

N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 3 - Diffusion tube locations – Hook (HO2)

N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 4 - Diffusion tube locations – Odiham (OD1)

N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 5 - Diffusion tube locations – Phoenix (HW2)

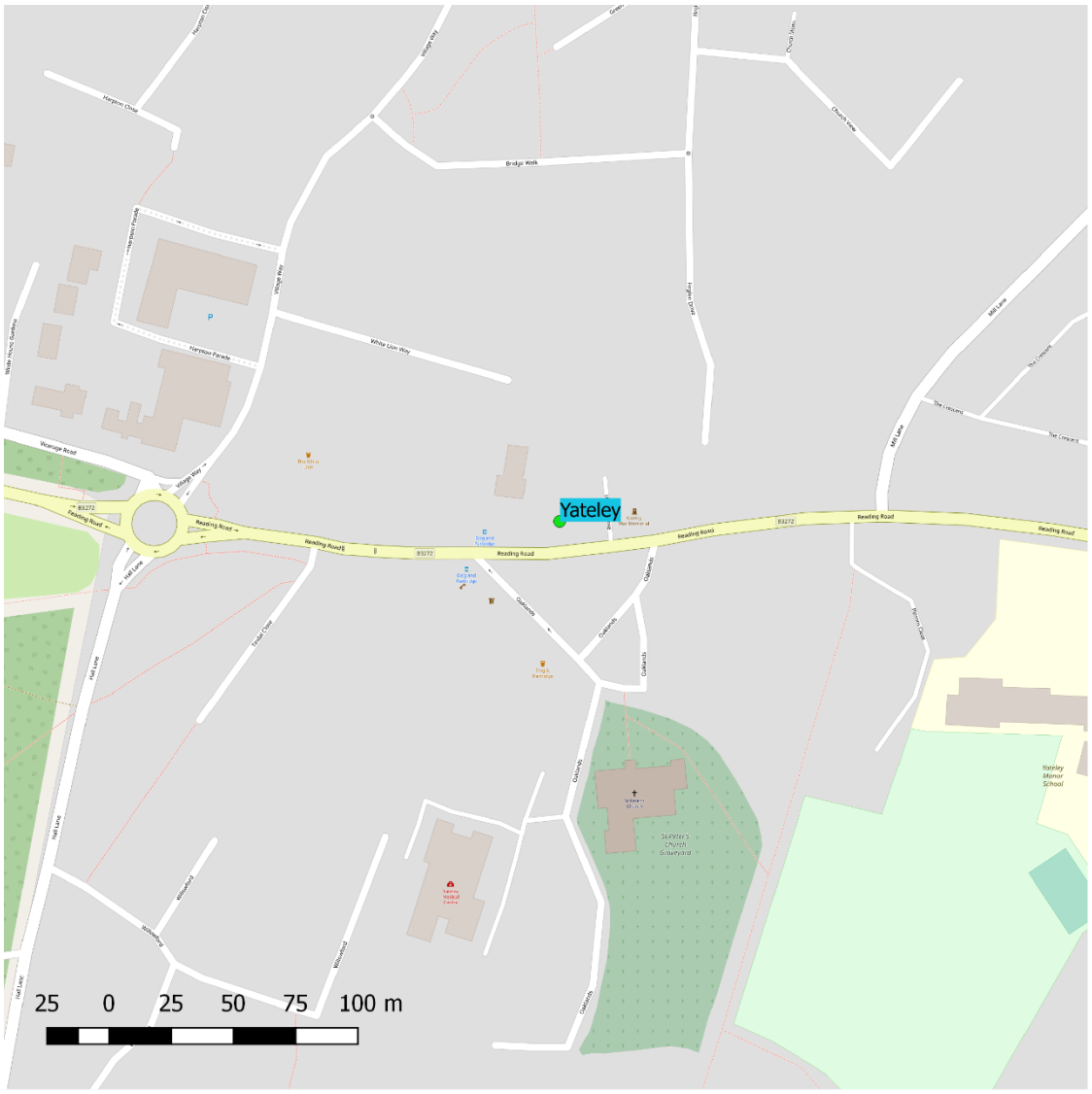
N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 6 - Diffusion tube locations – Yateley (YA2)



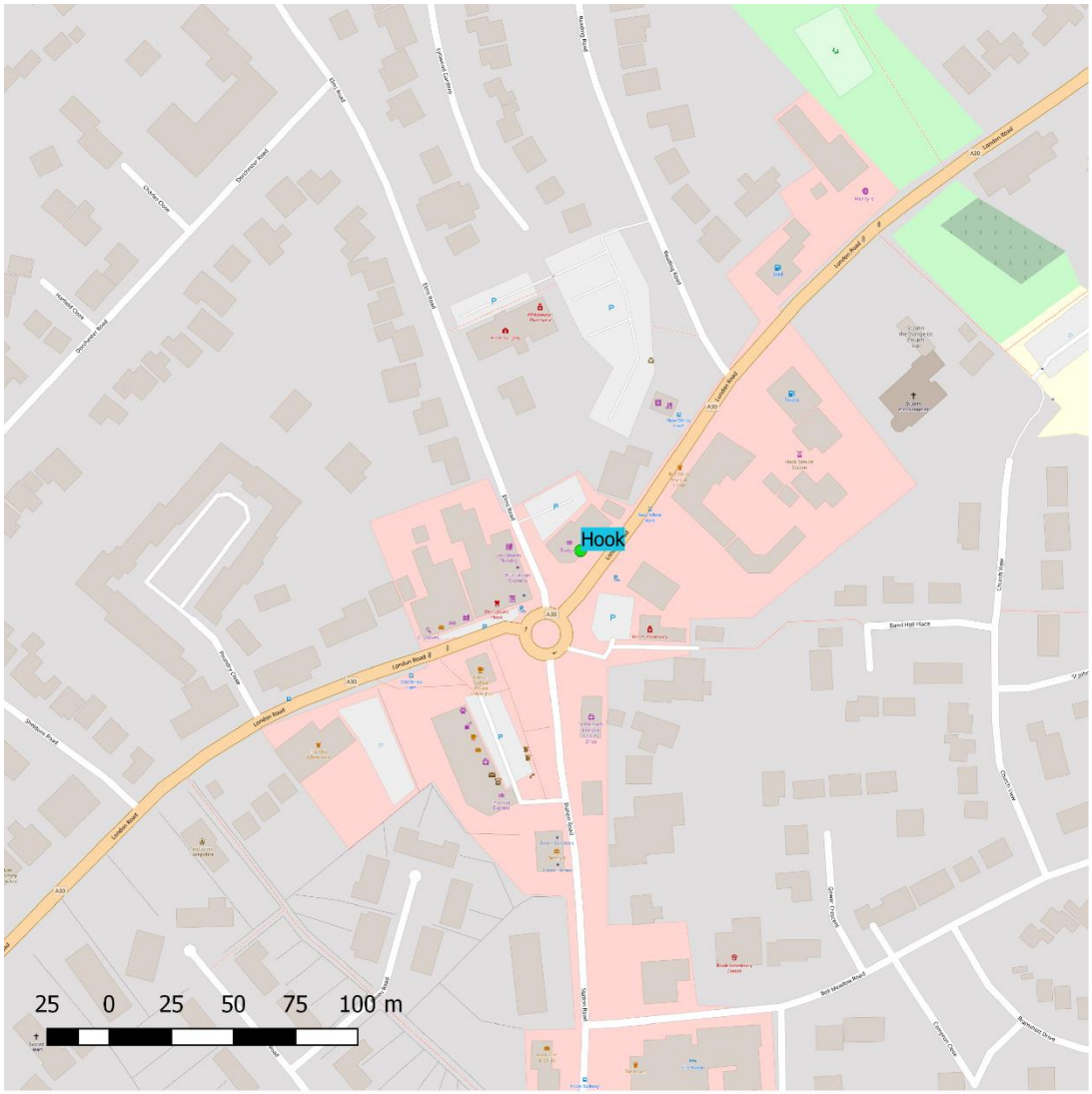
N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 7 - Diffusion tube locations – Hook (HO3)



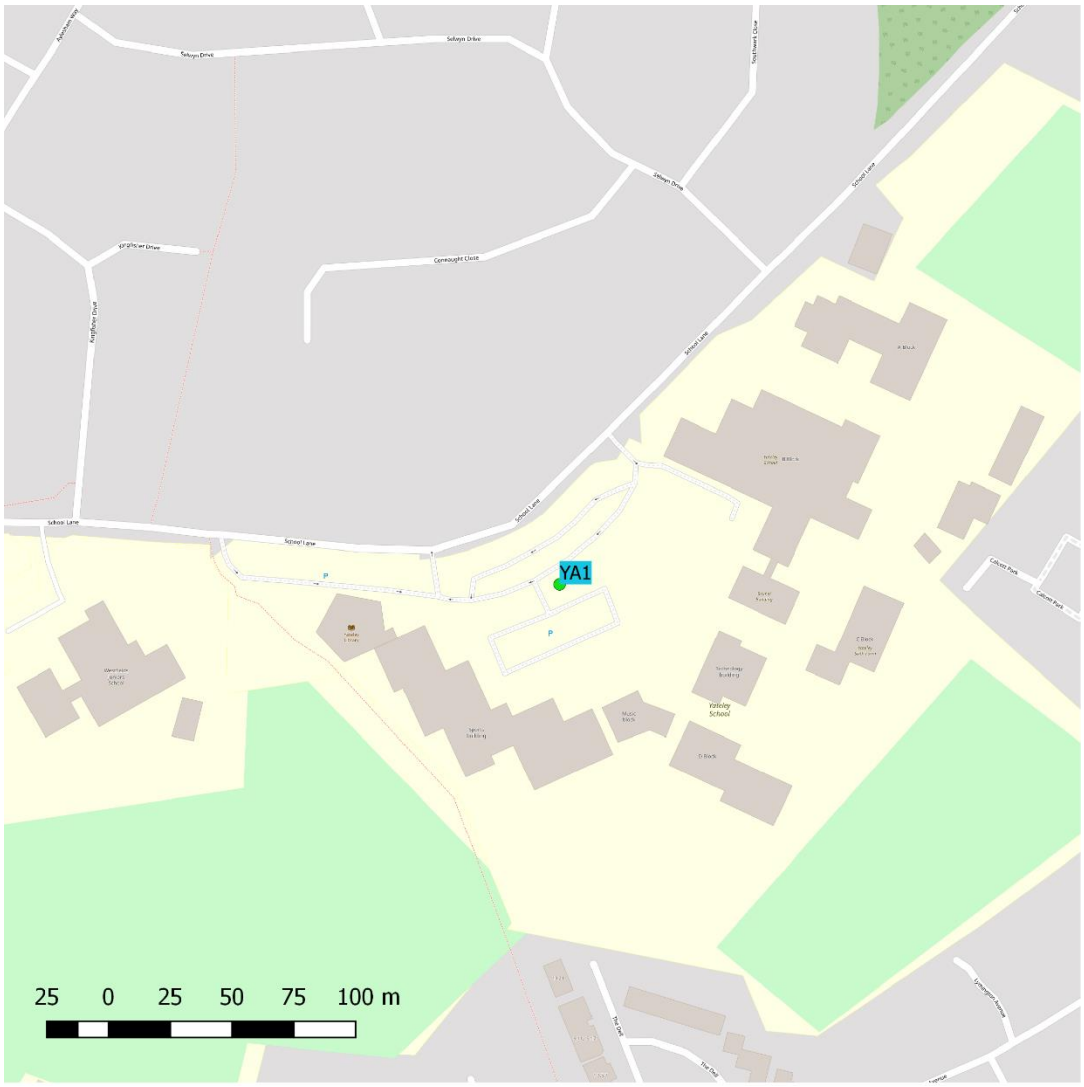
N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 8 - Diffusion tube locations – Yateley (YA1)



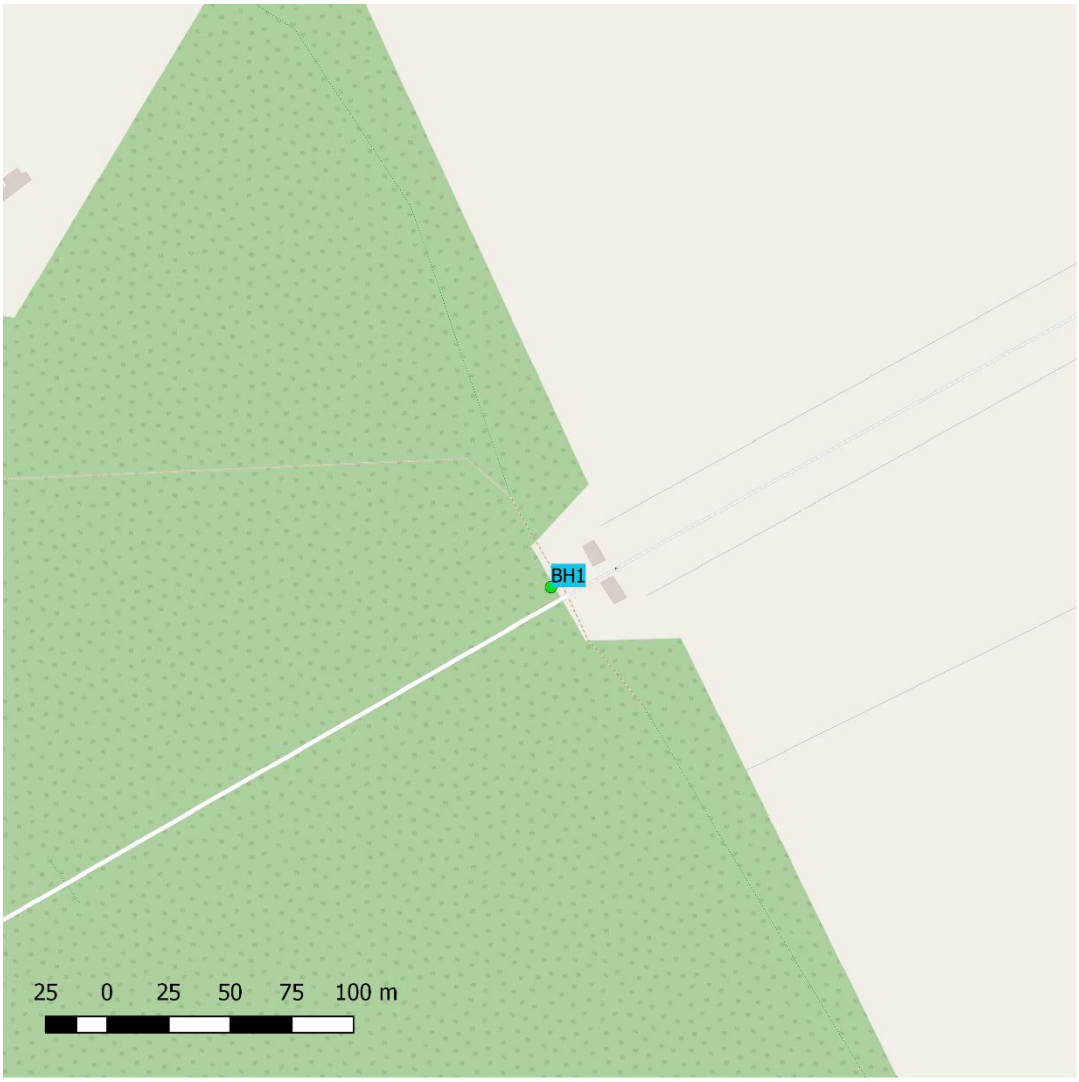
N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 9 - Diffusion tube locations – Hazeley (BH1)



Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 10 - Diffusion tube locations – Hartley Wintney (HW3)

N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 11 - Diffusion tube locations – Fleet (FL3)

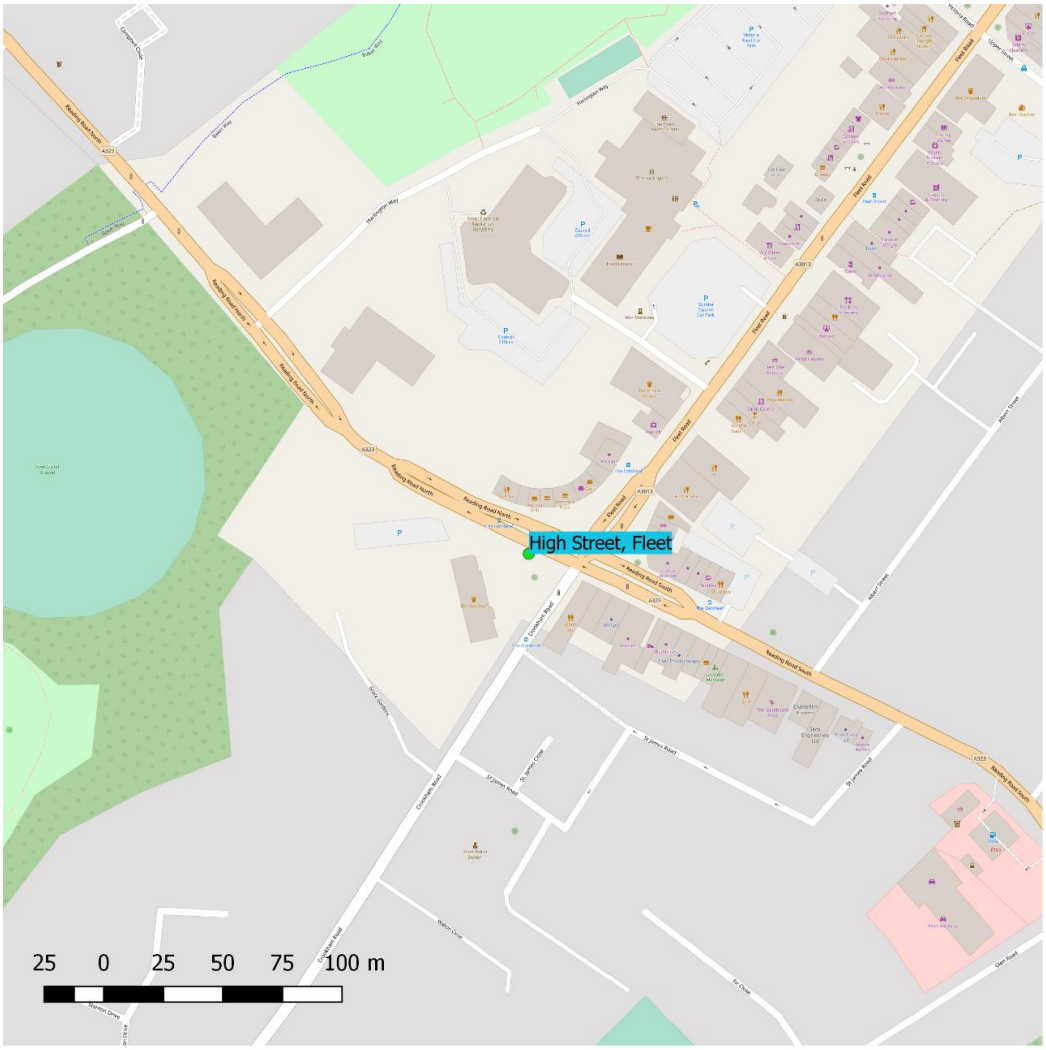
N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 12 - Diffusion tube locations – High Street, Fleet (HS1)



N

Legend

- Diffusion tube site

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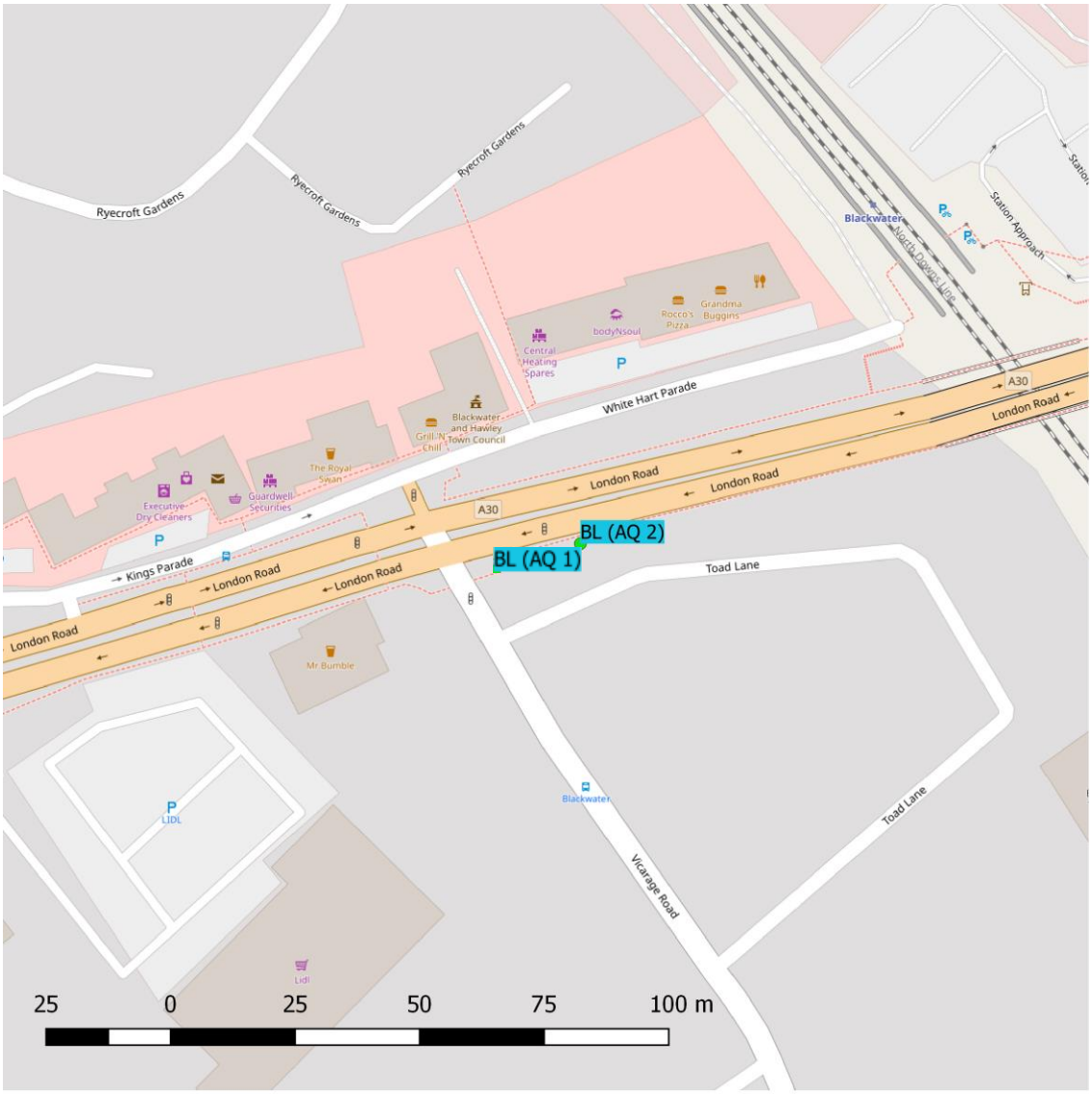
Figure D. 13 – Diffusion tube locations – Blackwater (AQ1 & AQ2)



N

Legend

- Diffusion tube site

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Figure D. 14 Diffusion tube locations – Elvetham Heath, Fleet (M3EH)

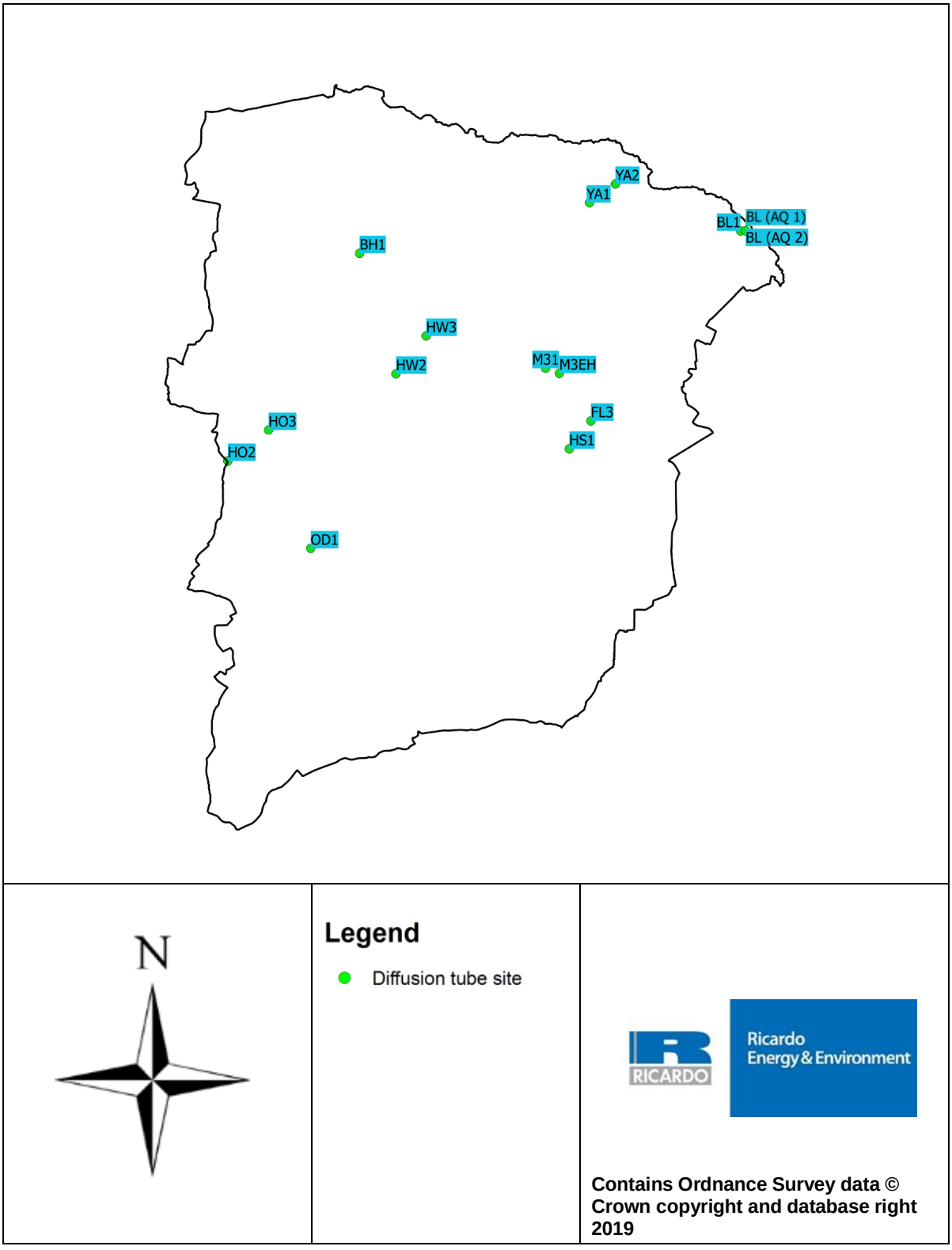
N

Legend

- Diffusion tube site

Ricardo Energy & Environment

Figure D. 15 - Diffusion tube locations



Appendix E: Summary of Air Quality Objectives in England

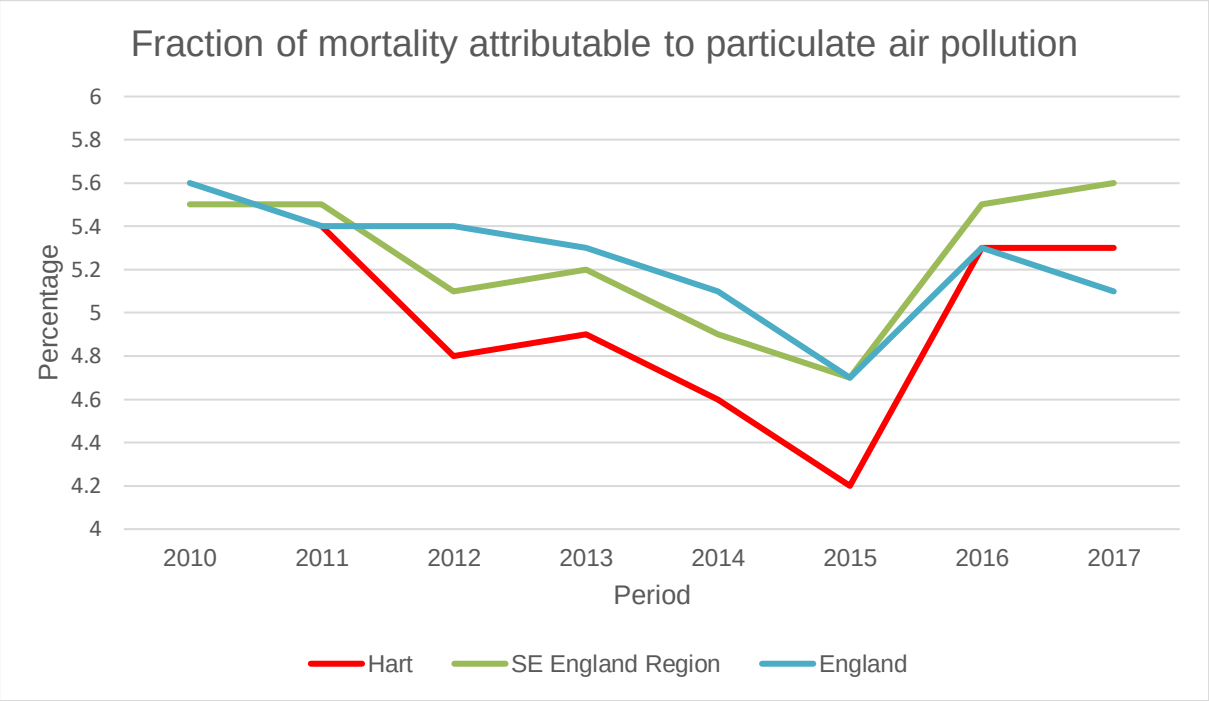
Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective[7]	
	Concentration	Measured as
Nitrogen Dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m^3	Annual mean
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
	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

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

Appendix F: Public Health Outcomes Framework

Figure F. 1 Hart DC's $PM_{2.5}$ indicator data for period 2010 to 2017[8]



[8] Available at https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/4/gid/1000043/pat/6/par/E12000008/ati/101/are/E07000089/iid/30101/age/230/sex/4

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
NO_x	Nitrogen Oxides
PHOF	Public Health Outcomes Framework
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

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