



2017 Air Quality Annual Status Report

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

June 2017

Prepared by

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Executive Summary: Air Quality in Our Area

Air Quality in Epsom and Ewell

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 billion³.

In common with much of the region, the principle pollutant of concern is nitrogen dioxide arising from road transport. In response to a local hotspot in Ewell High Street, the Council declared an Air Quality Management Area (AQMA) in 2007 and modified the boundary in 2011. An action plan to begin to take measures to improve air quality and reduce exposure was subsequently developed and consulted on. It is recognised that work to improve air quality depends on close cooperation with other agencies. In particular the two tier working arrangements in this area require the local highways authority, Surrey County Council to be involved with air quality matters. Results for 2016 in the AQMA show a reduction from 5 monitoring sites in 2015 being over the objective level to just one site in 2016.

Within the Borough, generally speaking a slow and gradual reduction in nitrogen dioxide levels has been noted over the past decade or more and there have been no new major sources of emissions either transport related or industrial in nature. No new AQMAs have been declared in the past year.

Monitoring is taking place in High Street Epsom where there had been past indications of an exceedance of the nitrogen dioxide annual mean objective. However the most recent analysis using bias adjusted results adjusted for distance indicates any such exceedance is unlikely at the relevant receptor. It is therefore not

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

proposed to declare an AQMA for this locality. In addition significant alterations to the road network of Epsom Town Centre are underway and have been designed to remove a proportion of pass through traffic before it encounters the center portion of the town. It is envisaged that this will improve traffic flow and improve air quality at this locality.

The Council coordinates across the County, has local links with transport planners and contributes to the Air Alert system to advise vulnerable persons of a period of imminent poor air quality.

Actions to Improve Air Quality

No recent actions have been brought forward to directly improve air quality. Actions which have previously been undertaken, specifically within the Ewell High Street area are being monitored to judge effectiveness.

Epsom and Ewell are undertaking detailed modelling of NO₂, PM₁₀ and PM_{2.5} across major roads in the Borough as part of a larger project with the other 10 local authorities within Surrey. It is proposed that modelling will be carried out to produce high resolution maps across the county, showing where objectives are predicted to be exceeded, source apportionment and local mortality burdens. This will allow Epsom and Ewell to better refine and target any future actions to tackle air quality within the Borough.

Local Priorities and Challenges

The imminent adjustments to Epsom town centre traffic flows as a result of the “Plan E” changes will have an effect on air quality. These changes (currently underway), will involve the return of two way running in the southern end of the town with an expected net reduction in traffic levels in the remainder of the locality as a result. It is expected that an overall improvement in air quality will result and the Council will continue to monitor at key locations to assess changes.

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1 Local Air Quality Management

This report provides an overview of air quality in the Epsom and Ewell district during 2016. 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 Epsom & Ewell Borough 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 Table E.1 in Appendix E.

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 the objectives.

A summary of the AQMA declared by Epsom & Ewell Borough Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at: https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=100

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Pollutants and Air Quality Objectives	City / Town	One Line Description	Action Plan
Ewell High Street AQMA	NO ₂ annual mean	Ewell	An area encompassing the section of High Street, Ewell from the junction with Spring Street to the mini roundabout at the junction with Cheam Road and continues a further 30 metres south on High Street Ewell.	Ewell High Street Action Plan

2.2 Progress and Impact of Measures to address Air Quality in Epsom and Ewell

Epsom & Ewell Borough Council has largely worked through the achievable measures outlined in the Ewell High Street AQMA Action Plan. The remaining measures are judged to be unaffordable or non-viable at the present time. Table 2.2 contains an update on the original action plan, highlighting where actions have not progressed and indicating which measures have been delivered.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
1	Remove the formally marked parking bays from 53 to 67 High Street	Transport Planning and Infrastructure	Other	Surrey County Council	Complete	Complete	None	High	Complete	-	An evolution of this proposal was brought forward and delivered
2	Widen the road at 76 – 62 High Street	Transport Planning and Infrastructure	Other	Surrey County Council	Complete	Complete	None	High	Complete	-	Carried out in conjunction with above measure
3	Remove on-street car parking on Church Street junction.	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	None	Medium	Not started	-	Opinion sought that proposal would be difficult to achieve and not offer exceptional air quality gains.
4	Alter the junction of Cheam Road/High Street*	Transport Planning and Infrastructure	Other	Surrey County Council	Complete	Complete	None	High	Complete	-	A conventional give way junction has replaced the mini roundabout. Queuing traffic now occurs away from AQMA.
5	Re-apply for traffic regulation order in relation to 7.5 tonne weight restriction	Traffic Management	Emission based parking or permit charges	Surrey County Council	-	-	-	Low	Not started	-	Not a priority for local transport service

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Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
6	Place restrictions on delivery times and stopping on High Street between Cheam Road and Spring Street junctions	Traffic Management	Parking Enforcement on highway	Epsom & Ewell Borough Council	Complete	Complete	None	Medium	Complete	Complete	Stopping/Delivery restrictions in place in the most pollution sensitive area
7	Paint 'keep clear' lines at entrance to junctions of High Street with Church Street and West Street.	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	-	Medium	Not started	-	No longer favoured by local transport service
8	Pedestrianise Ewell High Street in conjunction with Kiln Lane Link	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	None	High	Not started – non viable	-	Kiln Lane link presently unfunded
9	Pedestrianise Ewell High Street without Kiln Lane Link	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	None	High	Not started – non viable	-	Feedback indicates not a priority
10	Implement a one-way system	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	None	High	Not started – non viable	-	Dependent on Kiln Lane Link
11	Remove the traffic lights at the junction between Spring Street and High Street	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	None	High	Not started – non viable	-	Judgement that the worsening of pedestrian safety was unacceptable

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Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
12	Replace the pelican crossing outside market parade with zebra crossing	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	None	Medium	Not started - unnecessary	-	Clarification was received that these lights were linked with traffic control signals and had no effect on traffic flow
13	Implement a one-way system on Church Street/West Street	Transport Planning and Infrastructure	Other	Surrey County Council	-	-	None	Medium	Not started	-	Non viable at present

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. Epsom & Ewell Borough Council does not intend to proactively monitor for PM_{2.5} but will make use of national and local modelling. In general, measures to reduce emissions of NO₂ will have a complementary effect on PM_{2.5} and it is not foreseen that any actions will flow to address PM_{2.5} in isolation.

Given the low concentration and difficulty in modelling PM_{2.5} all local authorities in Surrey are in preliminary proposals to undertake detailed modelling for this and other pollutants, source apportionment and, optionally, the calculation of local mortality burdens related to air quality, to be carried out across the eleven Surrey local authorities for the year 2015. All major roads within Surrey will be modelled explicitly. It is proposed that modelling will be carried out to produce high resolution maps across the county, showing where objectives are predicted to be exceeded. It is also envisaged that calculations of local mortality burdens will be carried out, based on the modelled annual average concentrations of NO₂, PM₁₀ and PM_{2.5}, combined with population data by ward area. This will include attributable deaths and associated life-years lost, by pollutant. Where possible, the combined impact of both pollutants will be calculated. The Council is in preliminary stages of procurement process for this and if successful, it is proposed to go ahead in late 2017.

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

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

Epsom & Ewell Borough Council undertook automatic (continuous) monitoring at one site during from 2007-2016. This site was closed in January 2017. Table A.1 in Appendix A shows the details of the site. A map showing the former location of the monitoring site is provided in Appendix D. Further details on how the monitors were calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Epsom & Ewell Borough Council undertook non- automatic (passive) monitoring of NO₂ at 26 sites during 2016 having added a site at the south side of Ewell High Street. Table A.2 in Appendix A shows the details of the site. Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

3.2 Individual Pollutants

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

3.2.1 Nitrogen Dioxide (NO₂)

Table A.3 in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past 5 years with the air quality objective of 40µg/m³.

For diffusion tubes, the full 2016 bias adjusted dataset of monthly mean values is provided in Appendix B. Five tubes displayed annual mean concentrations above the

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objective. Three are in the existing Ewell High Street AQMA including two which were collocated with the automatic analyser and consequently they are not a particular additional cause for concern. The other sites located in the AQMA have now fallen below the objectives except for one – EE10 which has consistently recorded concentrations above the objective since 2003 but which has seen its exposure reduce in recent years from a peak in 2009.

The other two sites showing an exceedance is are EE7 and EE22 both of which are located away from relevant receptors. Table 3.1 details these tubes and includes corresponding calculated concentrations at the nearest receptor.

Table 3.1 - Tube Exceedances

Site ID	Site Name	Distance to Relevant Exposure (m)	Distance to kerb of nearest road (m)	Height (m)	2016 bias adjusted annual mean	Calculated annual mean at receptor*
EE22	High Street Epsom	3	0.1	2	48.1	35
EE7	Junction Ruxley Lane/Kingston Road	4	7.8	2	41.8	39.2

*based on methodology contained in LAQM TG16 and the tool at laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html

Table A.4 in Appendix A displays the ratified continuous monitored NO₂ hourly mean concentrations for 2016 with the air quality objective of 200µg/m³, not to be exceeded more than 18 times per year. Although data relating to certain earlier years is not readily available, the fact that the recorded annual mean concentrations do not approach 60µg/m³ strongly indicates the hourly objective has not been offended in any year.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites (Closed Jan 2017)

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)
EWE2	Ewell High Street	Roadside	521982	162657	NO ₂	Y	Chemiluminescent	5	3	1.5

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

(2) N/A if not applicable.

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

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
EE1	The Clock Tower	Roadside	520732	160762	NO ₂	N	18	6.1	N	2
EE3	26 The Crescent-Background	Urban Background	519293	160026	NO ₂	N	9	2	N	2
EE6	Jct Kingston Rd/ Worcester Park Rd	Roadside	520525	165040	NO ₂	N	7.5	8	N	2
EE7	Jct Ruxley Lane/Kingston Rd	Roadside	520916	164636	NO ₂	N	0	8.5	N	2
EE9	Chessington Road, Ewell	Kerbside	519830	163740	NO ₂	N	9.2	4	N	2
EE10	High Street, Ewell	Kerbside	521998	162633	NO ₂	Y	1	n/a	N	2
EE14	Hook Road Epsom-	Kerbside	520885	161308	NO ₂	N	5	n/a	N	2
EE16	Church Street/High Street Ewell	Kerbside	522026	162624	NO ₂	N	0	n/a	N	2
EE17	High Street Ewell	Kerbside	522025	162563	NO ₂	Y	0	2.2	N	2

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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)
EE22	High Street, Epsom	Kerbside	520965	160871	NO ₂	N	3	n/a	N	2
EE24	Ewell High Street-Triplicate	Roadside	521069	160817	NO ₂	Y	0	2.5	Y	1.8
EE25	Ewell High Street-Triplicate	Roadside	521069	160817	NO ₂	Y	0	2.5	Y	1.8
EE26	Ewell High Street-Triplicate	Roadside	521069	160817	NO ₂	Y	0	2.5	Y	1.8
EE36	Capitol Square, Church Street	Roadside	521069	160817	NO ₂	N	0	10	N	2
EE37	British Heart Foundation, High Street	Roadside	520726	160857	NO ₂	N	0	5	N	2
EE38	Station Approach	Roadside	520726	160857	NO ₂	N	0	4	N	1.5
EE39	The Parade	Roadside	520844	160729	NO ₂	N	0	3.6	N	2
EE40	Derby Square	Roadside	521982	162661	NO ₂	N	0	21	N	2.5
EE41	Derby Square/High Street	Roadside	521982	162660	NO ₂	N	0	33.5	N	2

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)
EE42	High Street/East Street	Roadside	521004	160901	NO ₂	N	0	10	N	2
EE43	Kiln Lane	Roadside	521478	161447	NO ₂	N	0	7	N	1.5
EE45	Castle Parade	Roadside	522211	163103	NO ₂	N	0	8	N	2
EE46	Waterloo Road	Roadside	520724	161027	NO ₂	N	0	10	N	2
EE47	Chessington Road	Roadside	520713	162968	NO ₂	N	0	4.5	N	2
EE48	Ewell High Street South	Roadside	522022	162502	NO ₂	N	0	2.5	N	2

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

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture 2016 (%) ⁽²⁾	NO ₂ Annual Mean Concentration (µg/m ³)				
				2012	2013	2014	2015	2016
EWE2	Roadside	Automatic	96	47	49	-*	44	45

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

* - Data unreliable/missing

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

Site ID	Site Type	Monitoring Type	Valid Data Capture 2016 (%) ⁽²⁾	NO ₂ 1-Hour Means > 200µg/m ³ ⁽³⁾
				2016
EWE2	Roadside	Automatic	96	2

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

Appendix B: Full Monthly Diffusion Tube Results for 2016

Table B.1 – NO₂ Monthly Diffusion Tube Results - 2016

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted(1)
EE1 The Clock tower-Roadside	41	31	49	42	29	29	30	29	36		43	51	37.27	39.14
EE3 26 The Crescent-Background	25	24	26	17	16	15	11	11	15	19	21	31	19.25	20.21
EE6 Jct Kingston Rd/Worcester Park Rd-Kerbside	43	38	29	39	28	25	25	25	30	42	53	52	35.75	37.54
EE7 Jct Ruxley Lane/Kingston Rd-Kerbside	43	38	41	47	37	30		31		40	40	51	39.80	41.79
EE9 Chessington Road, Ewell	38	35	32	31	19	23	22	24	26	20	31	40	28.42	29.84
EE10 High Street, Ewell - kerbside	68	47	53	49	33	46	44	43		50	51	67	50.09	52.60
EE14 Hook Road Epsom-roadside	36	31	38	27	21	15	21	18	24	24	34	42	27.58	28.96
EE16 Church Street/High Street Ewell	39	30	36	33	20	28	26	26	29	35	39	43	32.00	33.60
EE17 40A High Street Ewell	42	34	41	31	32	29	26	33	29	32	39	43	34.25	35.96
EE22 High Street, Epsom - roadside	49	40	57	35	41	48	47	42		47	49	49	45.82	48.11
EE24 Ewell High Street-Triplicate	48	30	41	49	34	40	38	37	50		43	41	41.00	43.05
EE25 Ewell High Street-Triplicate	48	32	44	48	33	38	39	27	44	28	45	53	39.92	41.91

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EE26 Ewell High Street-Triplicate	41	33	44	32	35	30	35	18	41	32	42	47	35.83	37.63
EE36 Capitol Square, Church Street	30	20	38	25	19	24	24	25	23	36	33	35	27.67	29.05
EE37 British Heart Foundation, High Street	44	27	48	37	30	33		32	38		42		36.78	38.62
EE38 Hudson House	33	27	34	31	22	21		18	27	32	31		27.60	28.98
EE39 The Parade	39	39	39	33	32	26	30	29	32	37	31	40	33.92	35.61
EE40 Derby Square	31	22	39	35	19	21	20	25	22	23		37	26.73	28.06
EE41 Derby Square/High Street	32	25	36	39	30	33	32	29	17	39	45	39	33.00	34.65
EE42 High Street/East Street	30	32	34	29	22	31	32	27	32	37	33	37	31.33	32.90
EE43 Kiln Lane	39	32	41	32	28	28	30	27	27	33	33	43	32.75	34.39
EE44 Ewell High Street/Spring Street												36	36.00	37.80
EE45 Castle Parade	26	26	35	25	25	25	23	21	24	32	30	31	26.92	28.26
EE46 Waterloo Road		27	26	19	16	19	21	9				38	21.88	22.97
EE47 Chessington Road	28		37	32	31	27	28		23	30	33	45	31.40	32.97
EE48 Ewell High Street South	38	30	34	24	22	29	30	27	34	39			30.70	32.24

(1) See Appendix C for details on bias adjustment

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

No significant sources or alteration to road layout and traffic flows have been introduced. Monitoring is taking place in High Street Epsom where there had been an indication of an exceedance of the nitrogen dioxide annual mean objective. However the most recent analysis using bias adjusted annualised results adjusted for distance indicates any such exceedance is unlikely at the relevant receptor. It is not proposed to declare an Air Quality Management Area on the basis of these marginal results alone. In addition significant alterations to the road network of Epsom Town Centre has been designed to remove a proportion of pass through traffic before it encounters the centre portion of the town and it is envisaged that this will improve traffic flow and improve air quality at this locality to the degree that this marginal site will become acceptable to all.

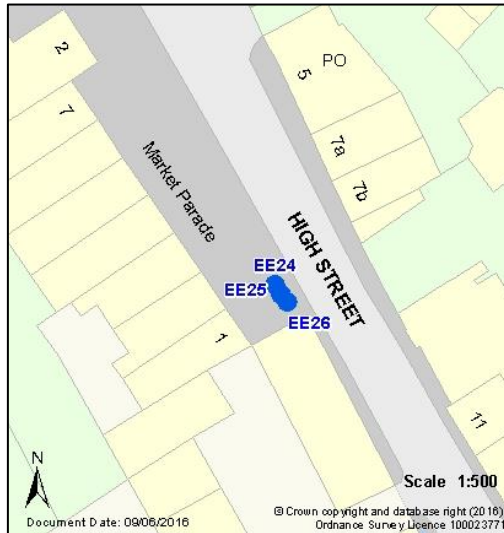
The diffusion tubes are supplied and analysed by Lambeth Scientific Services. The method of preparation is 50% TEA in acetone. The lab follows the procedures set out in the Practical Guidance Documents.

The analysing laboratory participates in the AIR NO₂ Proficiency Testing Scheme for diffusion tubes which provides a Quality Assurance / Quality Control (QA/QC). It achieved a 100 percent score for the last four rounds of this scheme.

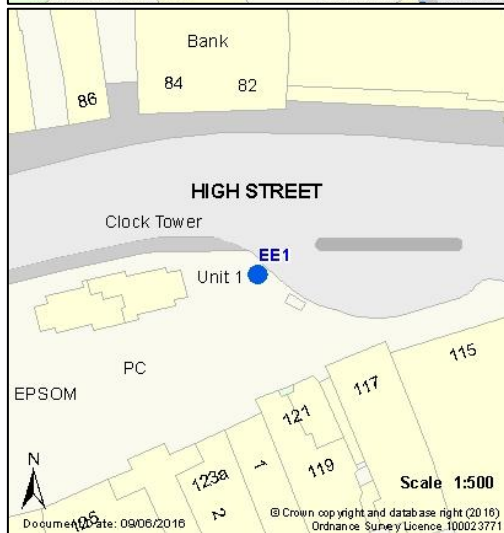
During the final drafting of this report a revised Diffusion Tube Bias Adjustment Factor spreadsheet became available containing additional studies of relevance. Local data has been incorporated into this national set in accordance with the advice contained within the spreadsheet to produce a bias adjustment factor of 1.05 and all calculations revised.

The automatic analyser LSO visits were carried out by Officers from the Environmental Health Team every two weeks in line with manufacturer recommendations. This included a calibration check and basic functional checks. A maintenance contract ensured the device received a full service every six months and the data acquisition, scaling and ratification was carried out by consultants on behalf of the Council. This is monitoring station has now closed and the Council is looking to undertake modelling in partnership with a number of Surrey Local Authorities.

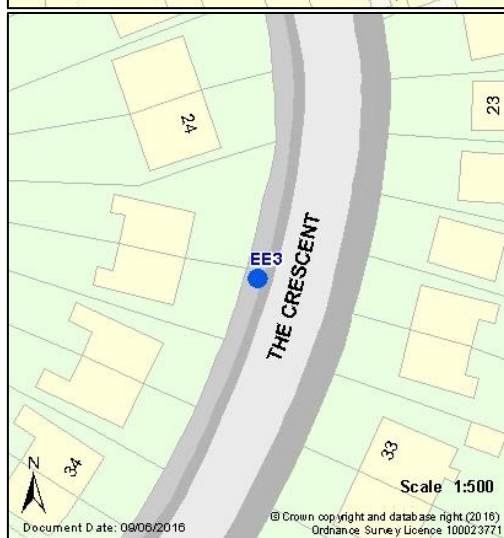
Appendix D: Map(s) of Monitoring Locations



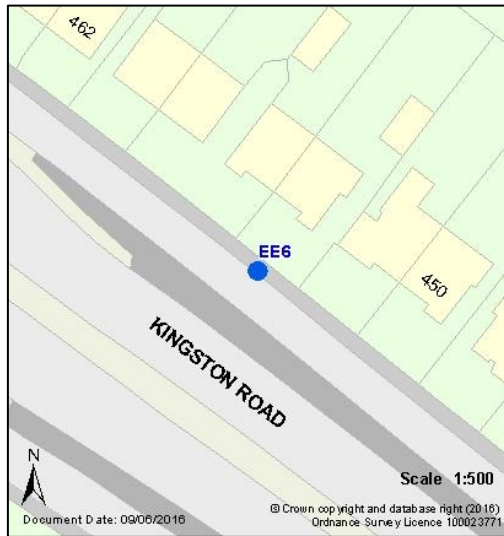
Continuous Analyser Ewell High Street



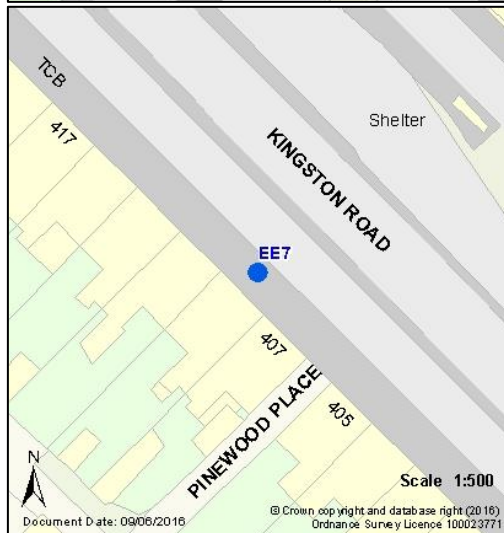
EE1 Clock Tower Epsom



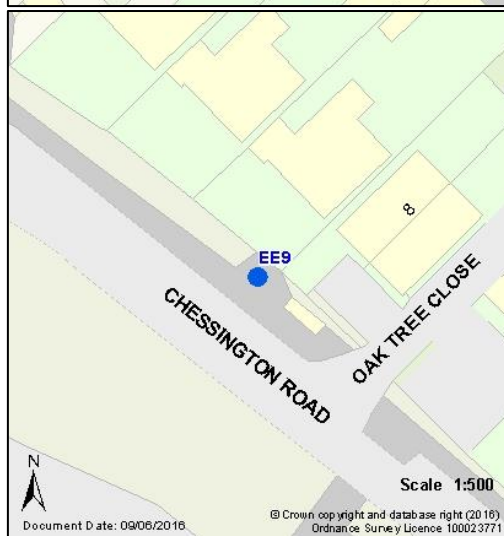
EE3 The Crescent Epsom



EE6 Kingston Road, Ewell



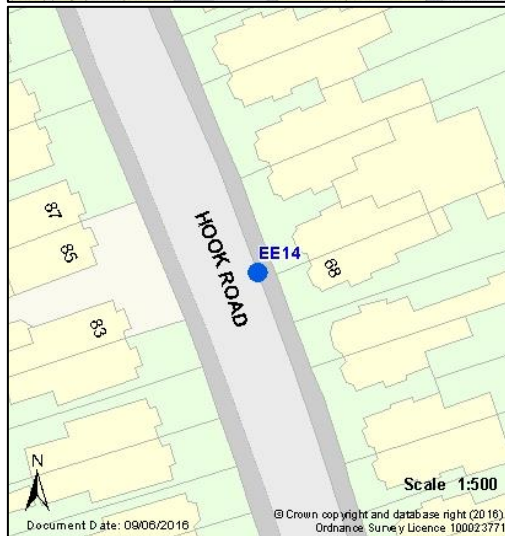
EE7 Kingston Road Ewell



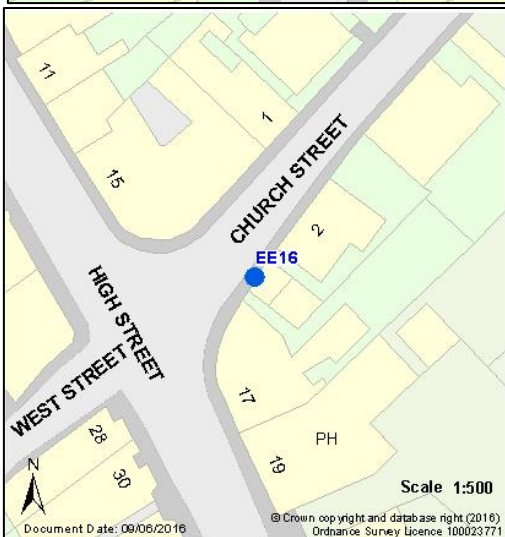
EE9 Chessington Road Ewell



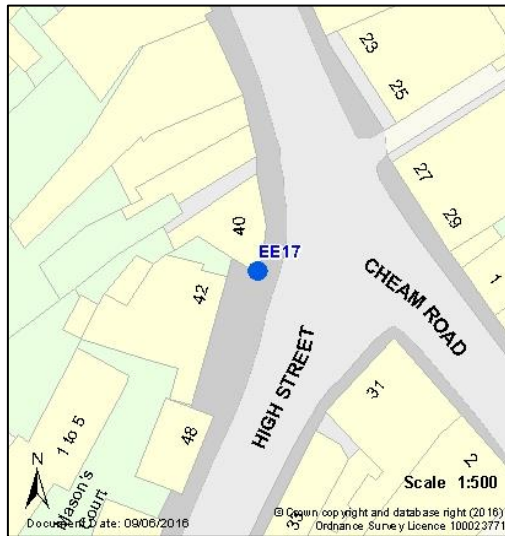
EE10 High Street Ewell



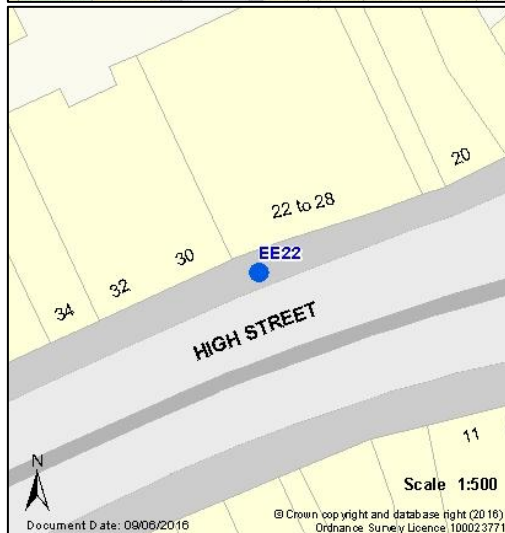
EE14 Hook Road Epsom



EE 16 Church Street Ewell



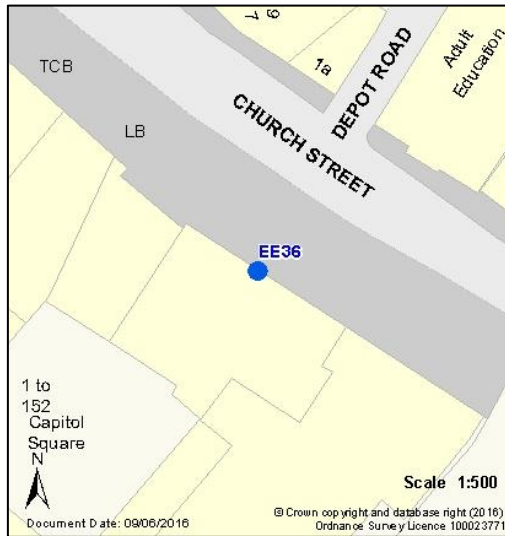
EE17 High Street Ewell



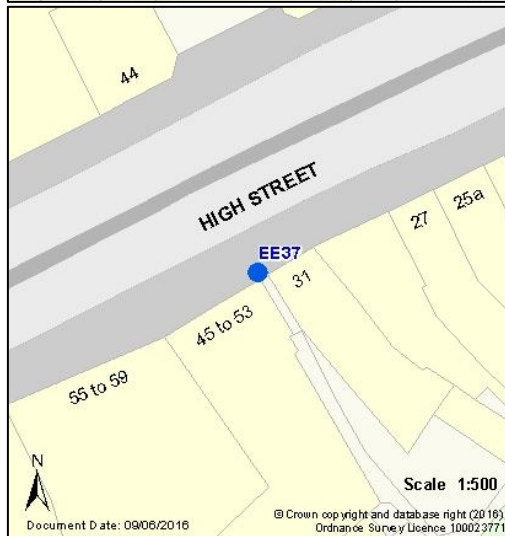
EE22 High Street Epsom



EE24
EE25
EE26
High Street Ewell (co located with
automatic analyser)



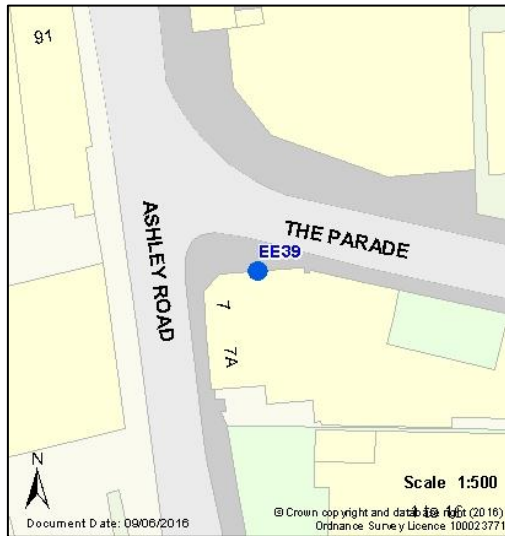
EE36 Church Street Epsom



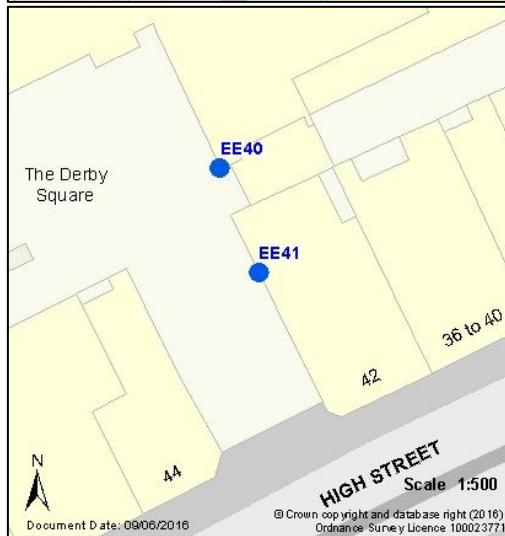
EE37 High Street Epsom



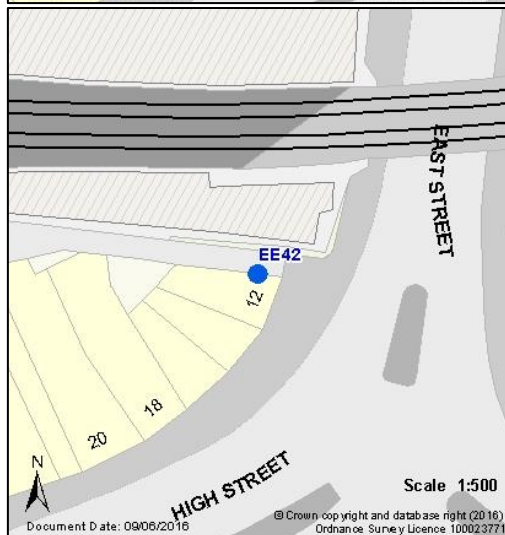
EE38 Station Approach Epsom



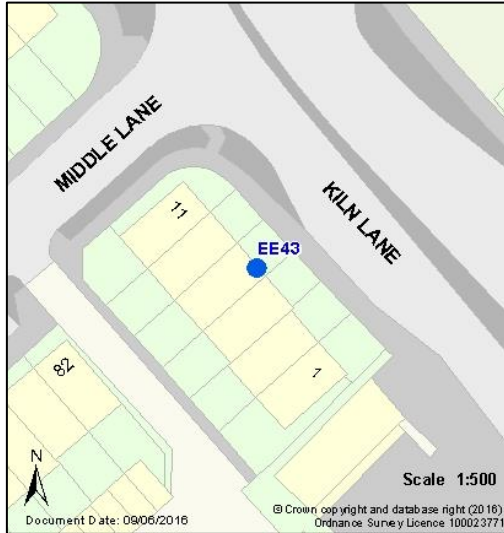
EE39 The Parade Epsom



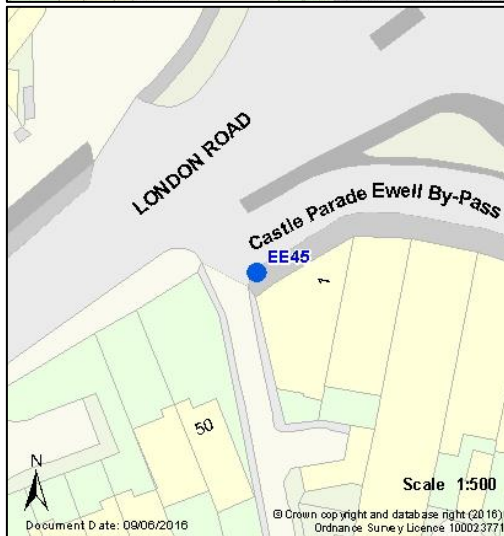
EE40
EE41
Derby Square Epsom



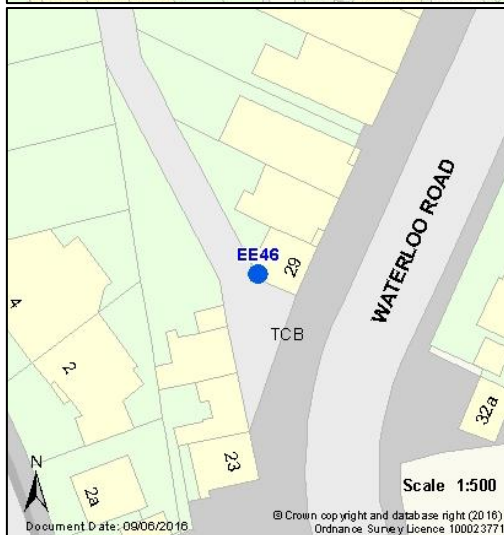
EE42 East Street Epsom



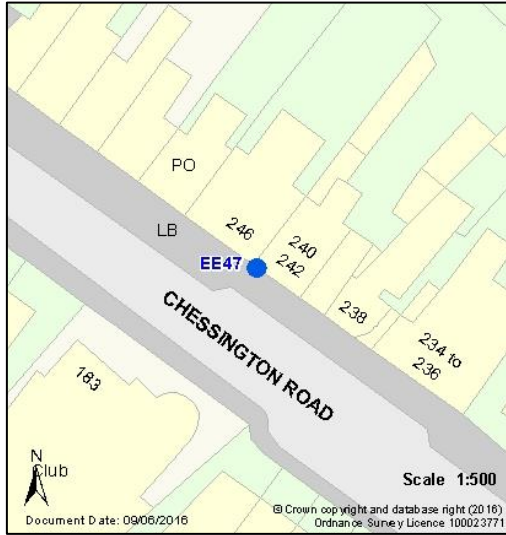
EE43 Kiln Lane Epsom



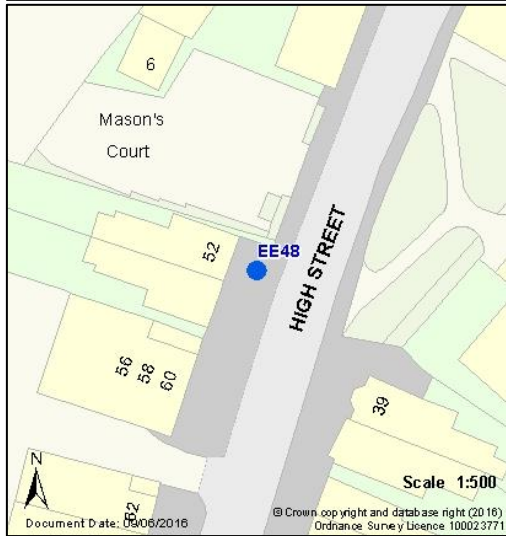
EE45 Castle Parade Ewell



EE46 Waterloo Road Epsom



EE47 Chessington Road Ewell



EE48 High Street Ewell

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective ⁴	
	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

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
LSO	Local Site Operator
NO _x	Nitrogen Oxides
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