Runnymede
BOROUGH COUNCIL

Air Quality Progress Report 2014

for

Runnymede Borough Council

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

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Report Reference number	Progress Report 2013
Date	June 2014

Executive Summary

A system of Local Air Quality Management (LAQM) was introduced in the UK in 1997 under the requirements of the Environment Act 1995. There are seven pollutants to be considered and local authorities are required to periodically review and assess air quality across their areas to determine whether or not the air quality objectives for the specified pollutants are likely to be achieved.

This Progress Report provides monitoring data and reviews potential sources of air pollution for the year 2013.

The Council uses diffusion tubes to undertake monitoring for nitrogen dioxide and benzene.

Monitoring results for that period confirmed that exceedances of the annual mean nitrogen dioxide objective continue to occur in the AQMAs.

Outside the AQMAs, monitoring data collected during 2013 and preceding years confirmed the need to proceed to a Detailed Assessment for nitrogen dioxide, for the area in vicinity of the railway crossing in Vicarage Road, Egham.

Although it was previously suggested that the area of the Bridge Road / Weir Road junction in Chertsey should also be considered for a Detailed Assessment the results for 2013 indicate that the levels of NO_2 have reduced and hence they may not be a need to proceed to a Detailed Assessment at this stage but a watching brief will be kept to further monitor the situation.

The results from site RY13 showed that Addlestone AQMA may have to reconsider the prescribed AQMA boundaries. Additional monitoring started in June 2013 at sites RY43 and RY44 to inform the process

Current diffusion tube monitoring network for nitrogen dioxide provides good spatial coverage. Full justification for maintaining the current monitoring provision has been given in **Section 2.2**.

Benzene monitoring results from a background site in Ottershaw have been much below the annual mean objective for a number of years, therefore it was decided to move the monitoring tube to a site considered to be a 'worst-case' location in terms of benzene exposure at a petrol station in Bridge Road in Chertsey. The results from a the site adjacent to the petrol station confirm that benzene is considered to not be a problem within the Borough and hence further benzene monitor has been suspended.

The assessment of emission sources (transport, industrial, commercial and domestic, fugitive or uncontrolled) confirmed that there were no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Currently, the Council does not have policies specifically addressing air pollution or greenhouse gas emissions. However, the Council's Air Quality Action Plan includes Development Control measures aimed at ensuring adequate assessment of new development impacts and appropriate mitigation where adverse impacts are identified.

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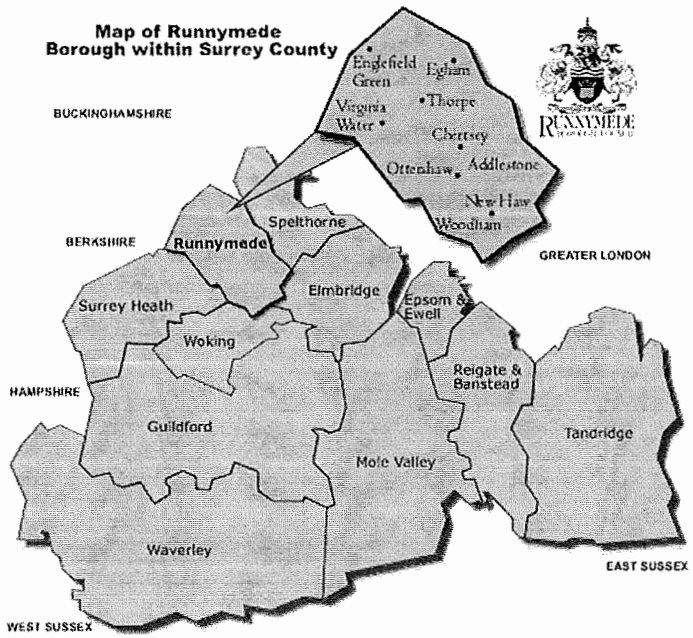
1 Introduction

1.1 Description of Local Authority Area

Main Characteristics

Runnymede Borough Council is located approximately 30km southwest from central London and it lies in northwest sector of Surrey. Its northern and eastern edges are formed by the rivers Thames and Wey respectively, its western boundary crosses Windsor Great Park and reaches the edge of Chobham Common , while to the south, the area extends close to Woking. Runnymede's main towns and villages are Addlestone, Chertsey, Egham, Egham Hythe, Englefield Green, Lyne, New Haw, Ottershaw, Row Town, Thorpe, Woodham and Virginia Water (as shown in **Figure 1-1** below).

Figure 1-1 Location of Runnymede in Surrey



Total area of Runnymede Borough Council amounts to 7,804 hectares[1], of which 6,140 hectares (79%) is designated as the Metropolitan (London) Green Belt.

The population within Runnymede Borough Council is 80,510[2]. Population density is 10.3 people per hectare, which is over twice the regional and national average. The largest towns are listed below[3]:

Town	Population
▪ Addlestone	17,888
▪ Chertsey	11,766
▪ Egham	11,179
▪ Englefield Green	11,180

[1] 2011 Census: Quick Statistics - Population Density, 2011 (QS102EW).
[2] As above.
[3] Estimated from Census 2001 and Census 2011 ward population data.

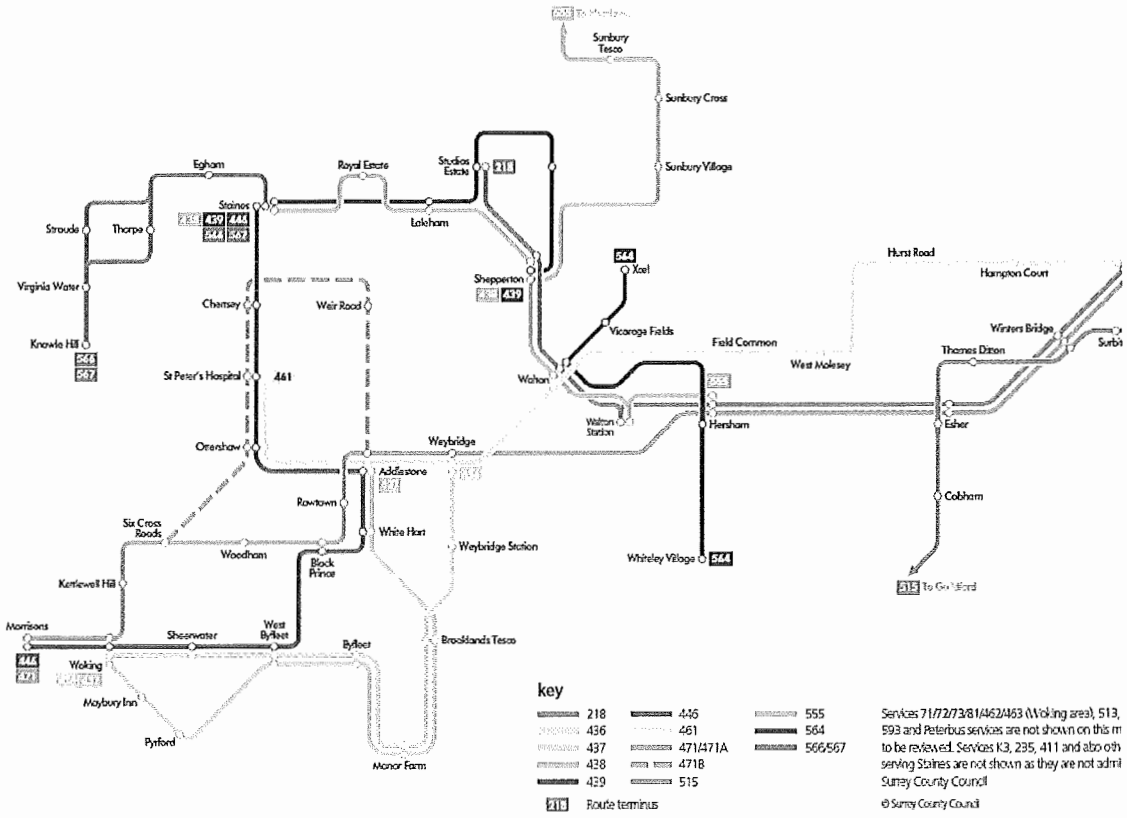
Road Traffic

Runnymede Borough Council area is intersected by two motorways: the M25 (London orbital), running north / south, and the M3 crossing east west, which links South West London to Southampton. Other major roads are the A30, A318, A317, and A320.The three largest towns of Addlestone, Chertsey and Egham are connected by A and B category roads. A-roads connect the west part of the Borough with Windsor and Bracknell, and the south side of the Borough connects with Woking and Guildford. There is good access by road to the airports of Heathrow and Gatwick.

Road traffic is the main cause of air pollution in Runnymede Borough Council. The average number of cars per household in Runnymede amounts to 1.5[4]. Car ownership within the Borough is higher than the average for England, with 85% of households having one or more cars available and 45% having two or more cars[5].

There are a number of well-connected bus routes using the road network, as shown on map in **Figure 1-2**. The bus services are provided by various operating companies.

Figure 1-2 North Surrey bus routes map



[4] 2011 Census: Key Statistics - Car or Van Availability, 2011 (KS404EW).
[5] As above.

Railway

Runnymede has main line rail connections to London (Waterloo) and Reading. Southwest destinations can be reached through links with Weybridge, Woking and Guildford.

Airports

The distance from the Borough's boundary to Heathrow Airport (Terminal 5) via M25 is about 6 km.

Industry and infrastructure (see figure 1-3)

Most of the built environment in Runnymede Borough Council is residential in nature. Most of the industrial land use is mainly located on designated industrial/trade estates. There are commercial centres where the main sources of employment are in the service sector.

Approximately 9% of the Borough's area has been affected by heavy exploitation of its natural gravel and sand deposits, which have occurred for many decades, with another 2% targeted for future extractions. The extraction pits which have been worked have mainly been utilised for landfilling with domestic and inert commercial waste.

The list of industrial installations within the Borough regulated under the Environmental Permitting regime is included in **Appendix B**. Eleven industrial installations fall under A1 category and are regulated by the Environmental Agency. There are no type A2 installations. There currently are 29 Part B installations, comprising:

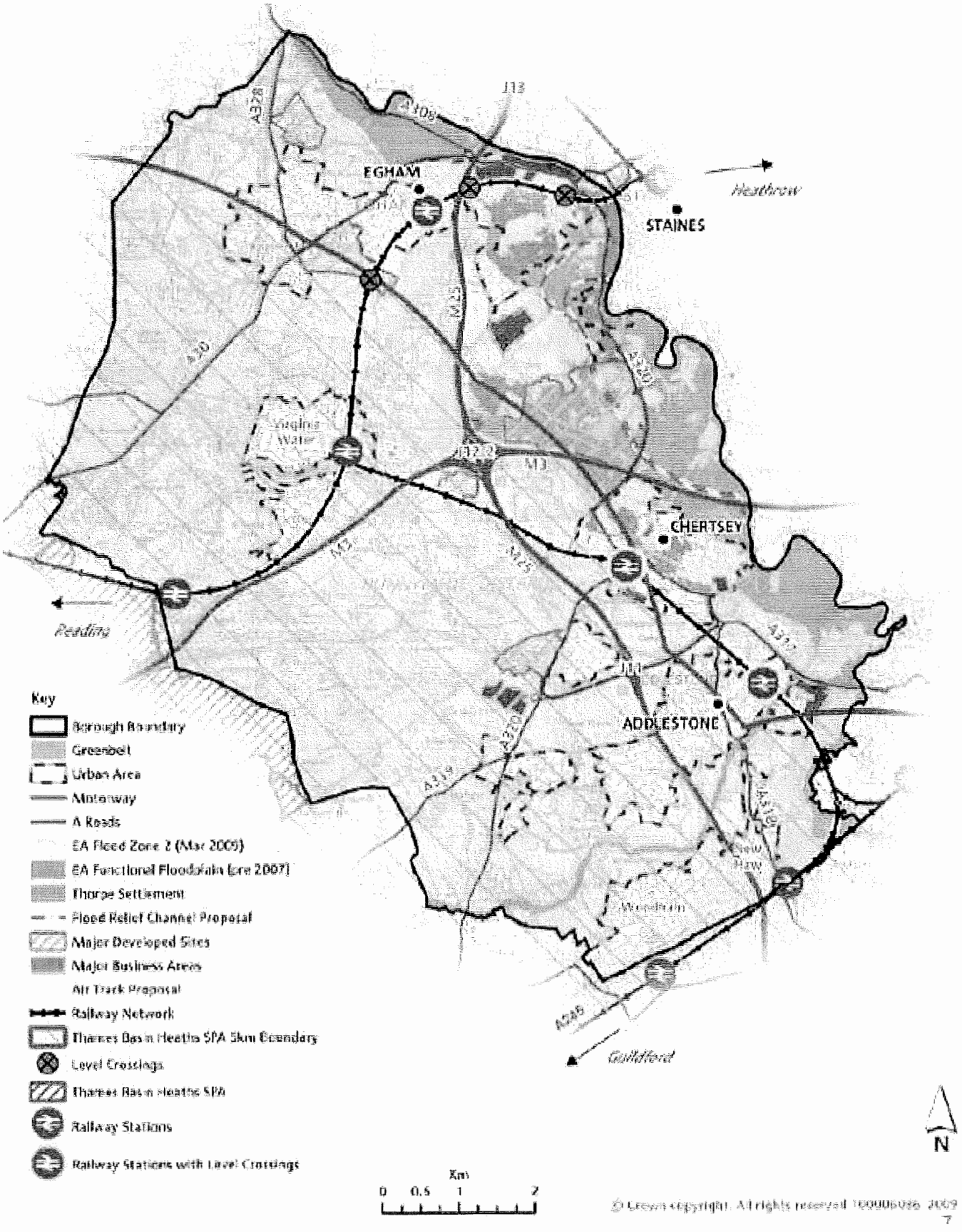
- 1 Cement Mortar Batching plant
- 4 Vehicle Respraying installations
- 2 Mobile Crushers
- 7 Dry Cleaners
- 13 Petrol stations
- 1 Mobile Roadstone Coating installation
- 1 Mobile Batching Plants

Runnymede Borough Council Infrastructure Delivery Plan[6] provides an overview of existing infrastructure provision and identify the future infrastructure and service needs for the Borough (for the emerging Local Plan period up to 2026).

It must be noted that 79% of the Runnymede area is comprised of Green Belt where there is a general presumption against major development. The restrictions over development extend to housing, where control goes as far as residential extensions and replacement dwellings.

[6] RBC (2013) *Infrastructure Delivery Plan*. Available from: http://www.runnymede.gov.uk/portal/binary/com.epicentric.contentmanagement.servlet.ContentDeliveryServlet/RBC%2520Portal/LGCL%2520Categories/Environment/Land_premises/Planning/Planning_policy/LDF/IDP/IDP_2013.pdf

Figure 1-3 Industry and Infrastructure in Runnymede.



1.2 Purpose of Progress Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 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 exceedances are considered likely, the local authority must then 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.

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process. They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedance of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	5.00 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	Annual mean	31.12.2004
	0.25 $\mu g/m^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g/m^3$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004

Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

The air quality critical level for the protection of vegetation for nitrogen oxides, as set out in the Air Quality Standards Regulations 2010, is shown in **Table 1.2**. Although local authorities are not required to work towards the achievement of this objective, it was considered reasonable to include it in the report due to the Borough's proximity to a European habitat conservation site. Runnymede lies within a short distance of Chobham Common, site designated both as a Natural Nature Reserve (NNR) and a Site of Special Scientific Interest (SSSI). Chobham Common is also a component of two International Sites (European or Natura 2000 sites), the Thames Basin Heaths Special Protection Area (SPA) and Thursley, Ash, Pirbright and Chobham Special Area of Conservation (SAC).

Table 1.2 Nitrogen oxides critical level for the protection of vegetation (Schedule 6 of the Air Quality Standards Regulations 2010)

	Critical Level	
Pollutant	**Concentration**	**Measured as**
Oxides of nitrogen	30 $\mu g/m^3$	Annual mean

1.4 Summary of Previous Review and Assessments

1.4.1 First round of review and assessment

Runnymede Borough Council undertook its first round of air quality review and assessment between the years 1999 and 2002. The assessment was carried out in four stages as prescribed by the then Statutory Guidance, and published as four consecutive air quality reports. In light of the more accurate and detailed Stage 3 Review and Assessment (completed in 2000) an AQMA was declared for NO_2 and PM_{10} in November 2001 for the following two areas (also see **Figures C1** and **C2** in **Appendix C**):

- (Area 1 - north of junction 11) extending 70m east and west of the centre line of the M25 between Junction 11 and the Borough's boundary north of Junction 13;
- (Area 2 - south of junction 11) extending 55m east and west of the centre line of the M25 between Junction 11 and the southern boundary of the Borough at New Haw/Byfleet.

1.4.2 Second round of review and assessment

Nitrogen dioxide monitoring data collated for the 2003 Updating and Screening Assessment confirmed that annual mean concentrations of nitrogen dioxide at all the diffusion tube monitoring sites complied with the objective.

However, the assessment of Runnymede road traffic identified roads at risk of NO_2 objectives being exceeded:

- One road with increased traffic flow: Woburn Hill;
- Three junctions: Eastworth Rd/Guildford Street; High Street/Church Rd; Woodham Lane/New Haw Rd.

A Detailed Assessment was undertaken for the above locations in 2004, however, dispersion modelling indicated that the only areas predicted to exceed the 2005 objective for NO_2 were those close to the M25 motorway (already part of the AQMA).

1.4.3 Third round of review and assessment

The 2006 Updating and Screening Assessment recorded elevated levels of NO_2 at roadside monitoring sites - RY1 in Addlestone and RY6 at the Leisure Centre in Egham (already within the M25 AQMA, the area north of junction 11). Therefore, a Detailed Assessment (2007) was based on the monitoring results and focused on Addlestone town centre. As a result, an AQMA for NO_2 was declared in July 2008 for the junction of High Street, Brighton Road and Church Road in Addlestone. The extent of this AQMA can be seen in **Figures C3** and **C4, Appendix C**.

1.4.4 Fourth round of review and assessment

The 2009 Updating and Screening Assessment concluded that although there were no identified exceedances of the annual mean objective for nitrogen dioxide outside AQMAs in 2008 or for the two preceding years, and no roads were considered to be requiring a Detailed Assessment, it was still necessary to undertake further diffusion tube monitoring, mainly in Addlestone, Egham and Chertsey, to monitor the levels of nitrogen dioxide on 'busy' roads.

Monitoring results for nitrogen dioxide as examined in the 2010 Progress Report showed potential exceedances of the annual mean objective at a few residential properties in the area nearest Vicarage Road level crossing in Egham (monitoring site RY26). It was, therefore, recommended to proceed to a Detailed Assessment in this location. The 2010 Report identified one planning application – to redevelop the former DERA site in Longcross - as likely to have a significant adverse impact on air quality in the areas where large increases in traffic flow would be incurred as a result of the proposed development. It was considered that the affected roads would include: C10 Trumpsgreen Road; B389 Sandhills Lane; B388 Mill House Lane; C10 Chobham Lane; C10 Stroude Road; B375 London Street and B388 Vicarage Road.

The Further Assessment for Addlestone AQMA was completed in 2010 and it confirmed that the highest concentrations of NO_2 occurred at the junction of High Street and Station Road. High NO_2 concentrations were also modelled close to the High Street (between Simplemarsh Road and Chapel Avenue, where "street canyon" effects can be expected to occur) and Station Road (in the proximity of the railway station where higher emissions come from stationary traffic backing up behind the railway barriers). Heavy Goods Vehicles were found to contribute significantly to emissions.

1.4.5 Fifth round of review and assessment

The results from the diffusion tube sites as reported in the 2012 Air Quality Updating and Screening Assessment demonstrated that exceedances of the annual mean NO_2 objective continued to occur in the AQMAs. Outside the AQMAs the annual mean objective for nitrogen dioxide was exceeded at the following diffusion tube monitoring sites in 2010 and/or 2011: RY13, RY18, RY21, RY23, RY25, RY26, RY31. It was estimated that nitrogen dioxide concentrations at receptors nearest to those sites, calculated using Defra's nitrogen dioxide fall-off with distance spreadsheet, exceeded the annual mean objective at sites RY13, RY23, RY25 and RY26. Due to exceedances at site RY13, then consideration needed to be given to potentially extending the Addlestone AQMA particularly at the northern boundary. Hence additional further monitoring to be undertaken north of the existing AQMA boundary along Chertsey Road, and up to the Chertsey Road A318/St Peter's Way A317 roundabout.

Results from short-term automatic monitoring of nitrogen dioxide at Vicarage Road, Egham, in 2011 showed that the annual mean recorded at this particular monitoring site exceeded the objective. This has been further confirmed by the results from diffusion monitoring which recorded concentrations

high enough to raise concern of annual mean objective having been exceeded in 2010 and 2011 at the residential properties nearest to the diffusion tube sites, in Vicarage Road, Vicarage Crescent and Pooley Green Road. Therefore, the 2012 report recommended that a Detailed Assessment was necessary for NO_2 in the area.

Finally with regards to, nitrogen dioxide concentrations at the receptors in the vicinity of the Bridge Road/Weir Road junction (site RY23) may have exceeded the annual mean objective in 2010/2011 and future monitoring in that area was recommended.

Turning to PM_{10} ,on the basis of the results from the Highway's Agency continuous monitoring site in Staines (years 2007-2010) and the results from the short-term automatic monitoring in Vicarage Road, Egham (2011), it was proposed to proceed to a Detailed Assessment for the areas of the existing AQMA along the M25 to review the validity of the original AQMA designation with respect to particulates (PM_{10}).

As monitoring results for benzene at site RY3 had been much below the objective of 5.00 $\mu g/m^3$ for a number of years, it was decided to move the monitoring tube to a worst-case location where benzene concentrations were expected to be the highest.

Surrey County Council's Transport Assessment Report (2012), produced to assess transport impacts of the development scenarios proposed by the emerging Local Plan (2013) for the period 2009-2026, identified several roads considered to experience significant (over 25%) increase in traffic flow between the years 2009 (base year) and 2026. Those roads included:

- Addlestone: B3121 Church Road and A319 Chertsey Road;
- Chertsey: A317 Eastworth Road, B386 Holloway Hill, A320 Guildford Road, A317 St Peter's Way, Chilsey Green Road, St Anns Road;
- Ottershaw: A319 Chobham Road, Almners Road, Longcross Road, Stonehill Road, Foxhills Road, Hardwick Lane, Kitsmead Lane;
- Egham: A30 Egham Hill, A320 Staines Road;
- Virginia Water: A30 London Road, Trumps Green Road, Wellington Avenue.

The 2012 report recommended diffusion tube monitoring in some of those areas currently not included in the monitoring programme to be aware of any potential future changes in nitrogen dioxide concentrations.

1.4.6 Air Quality Action Plan (AQAP)

In 2008, a draft action plan was prepared for Runnymede's Air Quality Management Areas, which set out measures aimed at improving air quality in the pursuit of achieving the air quality objectives within the Borough.

The draft Air Quality Action Plan was submitted to Defra at the end of May 2013. The AQAP includes six categories of projects (Development Control, Monitoring, Infrastructure Projects, Traffic Emissions Control, Sustainable Transport and Promotion), ranked according to their perceived feasibility as 'green' (most feasible, some already being implemented), 'amber' (given lower priority due to either high cost of implementation or/and low effectiveness) and 'red' (suspended from further consideration due to low feasibility). The AQAP was approved by the Council in June 2013 and was thereafter sent out for further consultation to Surrey County Council, Highways Agency, neighbouring local authorities and other statutory and non-statutory consultees. The responses were collated and considered and on 19th June 2014 the report was submitted to Council and the AQAP has received final ratification. The measures contained within the AQAP will be reviewed and revised annually to ensure that the work remains focused on the best suited projects.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Runnymede Council does not operate any long-term automatic monitoring stations for any of the specified pollutants.

2.1.2 Non-Automatic Monitoring Sites

The Council carries out diffusion tube monitoring for nitrogen dioxide and benzene for the purposes of this progress report.

Nitrogen dioxide (NO_2) Monitoring Programme

In 2013 Runnymede effectively deployed diffusion tubes at 30 locations within the Borough (**Table 2.1**), mostly at roadside locations. It should be noted that a few of these sites (RY1, RY6, RY8 and RY9) have been in operation since the launch of Defra's UK Nitrogen Dioxide Network programme in 1993.

Circa 2004, three diffusion tubes - RY10, RY11 and RY12 - were added to the programme for the purposes of a co-location study. They were located at a Highways Agency's M25 J13 site near Staines and deployed by the Centre for Sustainability, alongside the Highways Agency's continuous analyser. All monitoring at this location was stopped in March 2011 when the site was decommissioned (due to lack of funding).

Local knowledge and monitoring and modelling data from previous years provided basis for the identification of new monitoring sites. The new monitoring programme started in October 2009 and its focus is on town centres with roads of the following characteristics:

Busy streets\ junctions with residential properties where people may spend 1 or more hours;

Narrow congested streets with residential properties.

Benzene Monitoring Programme

Benzene has been monitored for a number of years (since 1995) using BTEX diffusion tubes co-located with a nitrogen dioxide diffusion tube at the site RY3 (Background site -see details in **Table 2.2**).

In January 2013 the BTEX tube was moved to a location near a petrol station in Bridge Road. This site was considered to be worst-case locations for benzene exposure.**Table 2.1** below details the site locations for benzene monitoring.

Table 2.1

Site Type	Site Type	OS Ref	In AQMA	Relevant Exposure?	Distance to kerb of nearest road	worst-case exposure?	Monitoring Period
Brockhurst Residential Home, Brox Road, Ottershaw	Urban B/G	X 502663 Y 163693	N	Y (22.0 m)	7.0 m	N	1995-Dec 2012
Chertsey Service Station, 102 Bridge Road, Chertsey, Surrey, KT16 7LR	Roadside	X 505229 Y 166622	N	Y	12m	Y	Jan 2013 – Oct 2013

Figure 2-1 Location map of diffusion tubes within the Borough 2013

Key to map

--------- Borough Boundary

Location of NO_2 diffusion tubes

AQMA Locations -M25 & Addlestone

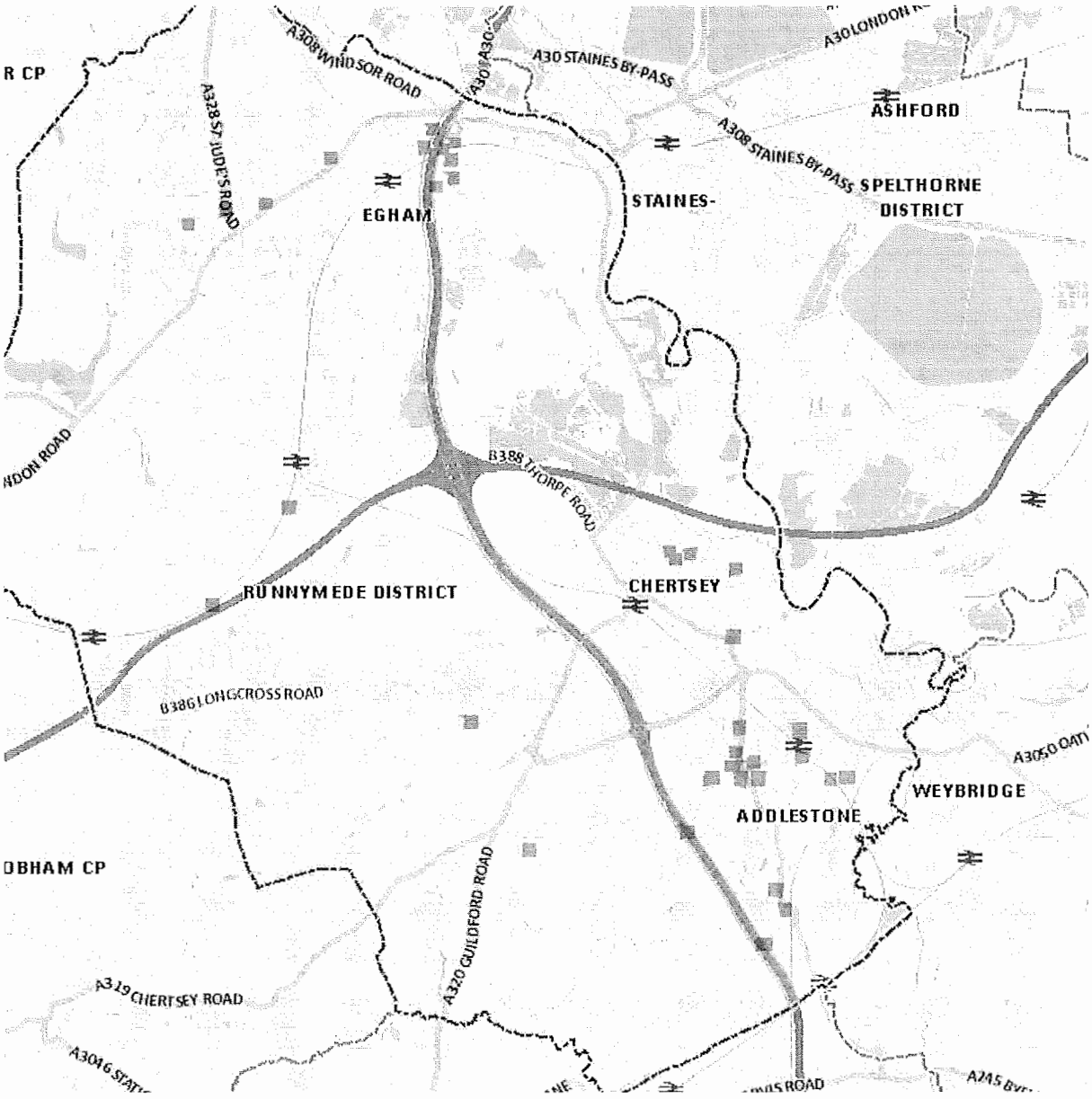


Table 2.2 Details of all Non-Automatic Monitoring Sites (diffusion tubes) 2013

Site ID	Site Type	Location	OS Ref	In AQMA	Relevant Exposure *(distance (m) to relevant exposure)*	to kerb of nearest road	worst-case	Monitoring Period
RY1	Civic Centre, Station Road, Addlestone	Roadside	X 505095 Y 164623	Y	Y (2.0 m)	2.0 m	N	1993-to date
RY3	Brockhurst Residential Home, Brox Road, Ottershaw	Urban B/G	X 502663 Y 163693	N	Y (22.0 m)	7.0 m	N	1993- 12/12
RY4	Riverside Sheltered Housing, Pitson Close, Addlestone	Urban B/G	X 505712 Y 164622	N	Y (5.0 m)	5.0 m	N	1993-07/12 resampling from 11/13
RY6	Egham Sports Centre, Vicarage Road, Egham	Roadside	X 501595 Y 171124	Y	Y (12.0 m)	11.0 m	N	1993-04/14
RY8	Ongar Place First School, Milton Road, Addlestone	Roadside	X 504325 Y 163940	Y	Y (26.0 m)	21.0 m	N	1993-to date
RY9	175 New Haw Road, New Haw	Roadside	X 505395 Y 163337	N	Y (13.0 m)	2.0 m	N	1993-04/14
RY13	1-22 Wyvern Place, High St, Addlestone	Roadside	X 504959 Y 164778	N	Y (0.5 m)	2.0 m	N	10/09-to date
RY14	1 Church Road, Addlestone	Roadside	X 504993 Y 164600	Y	Y (0.5 m)	2.0 m	Y	10/09-to date
RY15	23 Brighton Road, Addlestone	Roadside	X 505036 Y 164554	Y	Y (4.5 m)	5.5 m	N	10/09- to date
RY17	158 Station Road, Addlestone	Roadside	X 505589 Y 164844	N	Y (0.5 m)	3.5 m	Y	10/09 to date
RY18	New Haw Road/Woodham Lane roundabout, New Haw	Roadside	X 505443 Y 163107	N	Y (1.0 m)	4.5 m	Y	10/09-to date
RY19	78 Woodham Lane, New Haw	Roadside	X 505227 Y 162701	Y	Y (8.5 m)	2.5 m	Y	10/09-to date
RY20	26 Windsor Street, Chertsey	Roadside	X 504117 Y 167060	N	Y (0.5 m)	3.5 m	N	10/09-06/12
RY21	London Street/Heriot Road junction, Chertsey	Roadside	X 504261 Y 166945	N	Y (1.0 m)	1.0 m	Y	10/09-to date
RY22	Guildford Street, Chertsey	Roadside	X 504203 Y 166940	N	Y (0.5 m)	3.5 m	Y	10/09-to date
RY23	37 Bridge Road, Chertsey	Roadside	X 504888 Y 166786	N	Y (8.0 m)	1.0 m	Y	10/09-to date
RY24	Eastworth Road/Chertsey Road junction	Roadside	X 504852 Y 166046	N	Y (9.5 m)	3.0 m	Y	10/09-04/14
RY25	1 Pooley Green Road, Egham	Roadside	X 501748 Y 171316	N	Y (7.5 m)	1.5 m to edge of nearest lane (parked vehicles) 13.0 m to edge of	Y	10/09-to date

Site ID	Site Type	Location	OS Ref	In AQMA	Relevant Exposure *(distance (m) to relevant exposure)*	to kerb of nearest road	worst-case	Monitoring Period
						road		
RY26	Railway crossing, Vicarage Road, Egham	Roadside	X 501716 Y 171383	N	Y (6.0 m)	2.5 m	Y	10/09-to date
RY27	Egham Hill roundabout (193/195 High Street), Egham	Roadside	X 500634 Y 171287	N	Y (3.0 m)	1.0 m	Y	10/09-to date
RY32	Beechtree Avenue, Englefield Green	Urban B/G	X 498638 Y 170580	N	Y (8.0 m)	> 50.0 m	N	10/09-07/12
RY33	46 The Avenue, Egham	Roadside	X 501679 Y 171676	Y	Y (1.0 m)	15m from the Avenue & 43m from the M25	Y	01/11–to date
RY34	Jct. of St Jude's Road & Bagshot Rd	Roadside	X 499334 Y 170688	N	Y (1.0 m)	1.0 m	Y	01/11–to date
RY35	7 Fairview Cottages, Trumps Green Road, Virginia Water	Roadside	X 499815 Y 167362	N	Y (11.0 m)	2.0 m	N	07/11-04/14
RY36	5 Ham Moor Lane, Addlestone (Weybridge Business Park)	Industrial	X 506218 Y 164454	N	N	2.0 m	Y	05/12-12/12
RY37	3 Shakespeare Road, Addlestone (Weybridge Business Park)	Industrial	X 506093 Y 164481	N	Y (3.0 m)	1.5 m	N	05/12-12/12
RY38	The Beeches, Chestnut Drive, Egham	Roadside	X 499891 Y 170847	N	Y (30.0 m)	13.0 m	N	08/12-04/14
RY39	Chobham Lane, Longcross, near Kitsmead Lane roundabout	Roadside	X 498827 Y 166217	N	N	10m from Chobham Lane & 39m from the M3	Y	08/12-to date
RY40	Homewood Park, Stonehill Road	Urban B/G	X 502052 Y 165119	N	N	68.0 m	N	08/12-to date
RY41	1 Hampshire Court, Bush Close, Addlestone	Urban B/G	X 505214 Y 164352	N	Y (9.0 m)	63.0 m	N	08/12-to date
RY43	114 Chertsey Cl (opp Langton Cl) Addlestone	Roadside	X 504994 Y 165339	N	Y (1.0m)	4.0 m	N	6/13 to date
RY44	87 Church Rd Addlestone	Roadside	X 504621 Y 164434	N	Y (3.0m)	3.0 m	N	6/13 to date
RY45	27/29 Weir Rd Chertsey	Roadside	X 504842 Y 166648	N	Y (3.0m)	6.0 m	N	6/13 to date

2.2 Comparison of Monitoring Results with Air Quality Objectives

Nitrogen Dioxide (NO_2)

Diffusion Tube Monitoring Data

Results from the more recent diffusion tube monitoring survey, monitoring programme, are presented in **Table 2.6** with bias adjustment. Results from the long-time established diffusion tube monitoring survey are shown in **Table 2.4 – no** bias adjustment and **Table 2.5** -bias adjusted and since the dataset covers a long period of time, it has been possible to examine trends in concentrations at those sites, as shown in **figures 2-2** and **2-3**. The annual mean concentrations above 40μg/m^3 are highlighted in bold.

Diffusion tubes sites exceeding annual mean objective outside AQMAs

The diffusion tubes sites which exceeded the annual mean objective of 40 μg/m^3 in 2013 **outside** AQMAs are listed in **Table 2.3** along with the estimated concentrations at receptors nearest to those sites, calculated using Defra's nitrogen dioxide fall-off with distance spreadsheet.

RY13

As can be seen from the results in table 2.2 for the site RY13, a site some 100m north of the Addlestone AQMA, that the levels when calculated at the nearest receptor to the diffusion tube site indicate that the air quality objective was being achieved at the nearest receptor. However the levels are within 10% of the objective and therefore it is considered a possibility that the AQMA may have to be extended and hence additional diffusion tubes have been deployed further north along Chertsey Road and east along Church Road to determine if there is a requirement to extend the AQMA. The further monitoring started in June 2013 at sites RY43 & RY44 and the 9 months bias corrected levels (data from June 2013 to March 2014) for these two diffusion tube sites has been calculated as 37.6 μg/m^3 and 32.7 μg/m^3 respectively(nb no fall off with distance correction applied). This provided a preliminary indication that it likely that the objectives are being adhered to at these new locations.

RY23

Concentrations at the receptors in the vicinity of the Bridge Road/Weir Road junction (site RY23) may have exceeded the annual mean objective in previous years and a Detailed Assessment for that area was recommended in the 2012 Updating and Screening Assessment report. Results from 2013 showed lower concentrations than in previous years. However the levels are within 10% of the objective. Hence due to these indicative levels additional monitoring further along Weir Road at site RY45 commenced to determine if the level would produce an exceedance in standards. The 9 months bias corrected levels (data from June 2013 to March 2014) for this site has been calculated as 34.4 μg/m^3 . This appears to be indicative of the objectives being achieved at this location.

RY26

The 2012 Updating and Screening Assessment report recommended that a Detailed Assessment was required for NO_2 for the area in the vicinity of monitoring sites RY25 and RY26 including receptors along Vicarage Road, Vicarage Crescent and Pooley Green Road. Results from 2013 showed lower concentrations than in previous years. Hence only the diffusion tube site at RY26 produced an indicative level which exceeded the objective standards. Following the application of the fall off with distance correction factor then it has been established that the air quality objectives at relevant receptors sites adjacent to site RY26 were **not** being achieved at this location. Hence a Detailed Assessment is required

Table 2.3 Sites exceeding annual mean objective for nitrogen dioxide outside AQMAs, 2013

Site	Annual Mean Concentr. 2013 [µg/m^3]	Estimated total annual mean background concentr.[1] 2013 [µg/m^3]	Distance from kerb to receptor	Distance from kerb to monitoring tube	Predicted annual mean concentr. at receptor[2] 2013 [µg/m^3]	Comment / Recommendation
RY13	44.3	26.5	7.5 m	2.0 m	38.8	Site adjacent to Addlestone AQMA. Suggests that there may be a case to extend AQMA at its northern boundary. Additional monitoring started in June 2013 further along Chertsey Road at site RY43 to provide additional information within the area .
RY23	48.3	23.4	9.0 m	1.0 m	37.2	It is interesting to note that levels as predicted at the receptor indicate levels below the objective. Additional monitoring started in June 2013 further along Chertsey Road at site RY45 to provide additional information within the general area
RY26	53.1	30.3	10.0 m	2.5 m	45.0	Detailed Assessment required on the basis of previous years' results. Continue monitoring at this site due to potential exceedances of the annual mean NO_2 objective at a few receptors in the vicinity of the railway crossing at Vicarage Road, Pooley Green Road and Vicarage Crescent.

[1] Source: Defra's 2010 based background pollution maps.

[2] Defra's fall-off with distance calculation spreadsheet (Issue 4: 25/01/2011).

Sites exceeding annual mean objective inside AQMAs

The site exceeding the annual mean objective for NO_2 in 2013 within the **Addlestone AQMA** was **RY14** (the worst case location in the AQMA (value of 54.7µg/m^3 following distance fall off correction).

Following bias correction there were no diffusion tubes sites within the **M25 AQMA** which exceeded the objective in 2013.

Trends in concentrations

The results from established diffusion tube sites (**Tables 2.4** and **2.5**) cover sufficient periods of time to examine trends in concentrations at those sites, as shown in **Figure 2-2 and Figure 2-3**.

The trend graph in **Figure 2-2** shows a fairly "flat" annual mean concentration at the sites RY1 (within Addlestone AQMA) and RY6 (within M25 AQMA). **Figure 2-2 shows** a decreasing trend in the level of NO_2 at the roadside location RY9.

Table 2.4 NO_2 results for 1998-2013, established sites, no bias adjustment.

		Annual Mean Concentrations [µg/m^3] / Data Capture [%]														
ID	89	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13
RY1	38.8	**48.5**	35.9	37.2	36.1	35.5	35.1	27.6	28.5	38.6	37.6	43.2	**43.6**	**39.8**	**46.5**	**47.5**
	100	92	100	100	100	92	100	**58**	83	100	92	83	92	100	92	92
RY3	23.5	25.9	25.1	20.4	22.9	22.6	19.5	16.7	15.9	20.5	21.8	20.4	20.5	18.9	21.7	-
	92	100	100	100	100	100	100	100	83	92	83	100	92	100	100	-
RY4	24.8	26.6	25.5	25.4	22.2	21.8	17.8	17.4	19.9	22.3	23.8	22.7	24.0	25.5	22.4	31.5
	100	100	100	100	92	100	83	100	92	100	75	92	100	100	58	17
RY6	46.0	46.9	47.1	34.2	32.7	39.5	33.6	34.2	28.3	**40.2**	**42.1**	**42.1**	39.2	**40.5**	**42.3**	**45.8**
	100	100	92	92	100	100	92	83	92	100	83	92	58	100	75	100
RY8	26.3	29.2	26.6	30.0	25.7	29.7	22.0	23.0	19.9	22.7	24.2	24.0	30.3	23.0	23.8	34.9
	100	100	92	92	100	100	100	92	83	100	92	92	100	75	100	67
RY9	-	-	-	33.3	34.4	36.8	34.0	28.5	29.2	33.2	32.5	30.9	31.5	31.3	32.9	36.8
	-	-	-	100	100	100	100	100	92	92	92	92	1000	100	100	100

Data capture of below 90%

Data not adjusted to estimate annual mean

Data adjusted to estimate annual mean

Table 2.5 NO_2 results for 1998-2013, established sites, bias adjusted (national database bias factor 0.83).

	Annual Mean Concentrations [µg/m^3] / Data Capture [%]															
ID	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13
RY1	*	*	34.8	**40.5**	**41.5**	37.2	**41.8**	34.2	36.5	**41.3**	36.9	**44.5**	**46.3**	**42.2**	**40.4**	**39.5**
	100	92	100	100	100	92	100	58	83	100	92	83	92	100	92	92
RY3	*	*	24.3	22.3	26.4	23.7	23.2	20.7	20.4	22.0	21.4	21.0	21.8	20.1	18.9	-
	92	100	100	100	100	100	100	100	83	91	83	100	92	100	100	-
RY4	*	*	24.7	27.7	25.5	22.9	21.2	21.6	25.5	23.8	23.3	23.4	25.4	27.0	19.5	26.1
	100	100	100	100	92	100	83	100	92	100	75	92	100	100	58	17
RY6	*	*	**45.7**	37.3	37.6	**41.5**	**40.0**	**42.4**	36.2	**43.0**	**41.3**	**43.4**	**41.6**	**42.9**	36.8	38
	100	100	92	92	100	100	92	83	92	100	83	92	58	100	75	100
RY8	*	*	25.8	32.7	29.5	31.2	26.2	28.5	25.5	24.3	23.7	24.7	32.2	24.4	20.7	28.9
	100	100	92	92	100	100	100	92	83	100	92	92	100	75	100	67.
RY9	-	-	-	36.2	39.6	38.7	**40.5**	35.3	37.4	33.2	31.9	31.8	33.4	33.1	28.6	30.5
	-	-	-	100	100	100	100	100	92	92	92	92	100	100	100	100

Site RY4 – recommenced sampling Nov 2103 - provide information re Addlestone redevlopment
Sites RY6 & RY 9 decommissioned April 2014

Data capture of below 90%
Data not adjusted to estimate annual mean
Data adjusted to estimate annual mean

Table 2.6 Results of Nitrogen Dioxide Diffusion Tubes in 2013

Site ID	Location	Site Type	in AQ MA	Data Capture 2013 (Number of Months or %)[b]	less than 9 months has been annualised (Y/N)	data been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.83) (2012 in bracket) 2013	Comments
RY13	1-22 Wyvern Place, High St, Addlestone	Roadside	N	100	N	N	(48.8) **44.4**	Site adjacent to Addlestone AQMA. Showed that the AQMA can be extended at its northern boundary. Additional monitoring started in June 2013 further along Chertsey Road at site RY43 to help inform and characterise the area .
RY14	1 Church Road, Addlestone	Roadside	Y	92	N	N	(53.0) **54.6**	Results confirm the validity of the AQMA. The site represents the worst-case location within the AQMA.
RY15	23 Brighton Rd, Addlestone	Roadside	Y	83	N	N	(36.2) 35.8	Results indicate the AQMA southern boundary.
RY17	158 Station Rd, Addlestone	Roadside	N	92	N	N	(32.8) 38.0	Site within 10% of objective and indicates an increase from last year. The site should be retained to provide evidence in relation to the potential impact of a new development at the railway station in Addlestone in December 2012 and with the new development at Aviator Park and as part of Addlestone redevelopment scheme.
RY18	New Haw Road/Woodham Lane roundabout, New Haw	Roadside	N	100	N	N	(36.4) 34.3	

Site ID	Location	Site Type	in AQ MA	Data Capture 2013 (Number of Months or %)[b]	less than 9 months has been annualised (Y/N)	data been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.83) (2012 in bracket) 2013	Comments
RY19	78 Woodham Lane, New Haw	Roadside	Y	100	N	N	(35.0) 38.1	The site is located within the M25 AQMA. Site within 10% of objective and indicates an increase from last year
RY21	London Street/Heriot Road junction, Chertsey	Roadside	N	92	N	N	(34.0) *36.7*	The site represents a worst-case location in Chertsey town centre and therefore is worth retaining. Site within 10% of objective and indicates an increase from last year
RY22	Guildford Street, Chertsey	Roadside	N	83	N	N	(32.8) 32.0	Suggestion that this site could be closed down since 2013 results show no exceedances.
RY23	37 Bridge Road, Chertsey	Roadside	N	83	N	N	**(49.0) 48.4**	Exceedance of air quality standard at diffusion tube site. Additional monitoring started in June 2013 further along Chertsey Road at site RY45 to further characterise the area
RY24	Eastworth Road/Chertsey Road junction	Roadside	N	92	N	N	(26.4) 26.5	Site decommissioned April 2014 busy road junction but levels not excessive – tube relocated to new area
RY25	Vicarage Rd/Pooley Green Rd junction, Egham	Roadside	N	100	N	N	(39.9) 33.3	Useful information to inform the Detailed Assessment process in relation to site RY26 due to potential exceedances of the annual mean NO_2 objective in the vicinity of the railway crossing at Vicarage Road.
RY26	Railway crossing, Vicarage Road, Egham	Roadside	N	100	N	N	**(55.9) 53.1**	Detailed Assessment required on the basis of results continuing to exceed the annual mean NO_2 objective at a few receptors in the vicinity of the railway crossing at Vicarage Road.
RY27	Egham Hill roundabout (193/195 High Street), Egham	Roadside	N	100	N	N	(31.8) 32.5	
RY33	46 The Avenue, Egham	Roadside	Y	100	N	Y	(35.5) *37.9*	Site within 10% of objective and indicates an increase from last year
RY34	Jcn. Of St Jude's Rd & Bagshot Rd	Roadside	N	75	N	N	(22.9) 29.8	
RY35	7 Fairview Cottages, Trumps Green Road, Virginia Water	Roadside	N	100	N	N	(23.8) 27.0	Site decommissioned April 2014 – Originally placed to monitor baseline levels prior to the DERA development, amount of traffic anticipated may not pass this route - tube relocated to new area

Site ID	Location	Site Type	in AQ MA	Data Capture 2013 (Number of Months or %)[b]	less than 9 months has been annualised (Y/N)	data been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.83) (2012 in bracket) 2013	Comments
RY38	The Beeches, Chestnut Drive, Egham	Roadside	N	100	N	N	(30.1) 26.6	Site decommissioned April 2014 — Originally placed to monitor baseline levels prior to A30 Royal Holloway, St Jude's Road junction changes. These changes may not be happening – information obtained if events happen so tube relocated to new area
RY39	Chobham Lane, Longcross, near Kitsmead Lane roundabout	Roadside	N	100	N	N	(28.6) 29.9	
RY40	Homewood Park, Stonehill Road	Urban b/g	N	83	N	N	(16.0) 17.7	
RY41	1 Hampshire Court, Bush Close, Addlestone	Urban b/g	N	25.0	N	N	(25.1) 25.7	
RY 43	114 Chertsey Cl (opp Langton Cl) Addlestone	Roadside	N	50	N	N	-	Dataset insufficient – once 12 months data obtained further consideration can be given to results from this location
RY44	87 Church Rd Addlestone	Roadside	N	50	N	N	-	Dataset insufficient – once 12 months data obtained further consideration can be given to results from this location
RY45	27/29 Weir Rd Chertsey	Roadside	N	50	N	N	-	Dataset insufficient – once 12 months data obtained further consideration can be given to results from this location

Figure 2-2 Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites RY1 & RY6

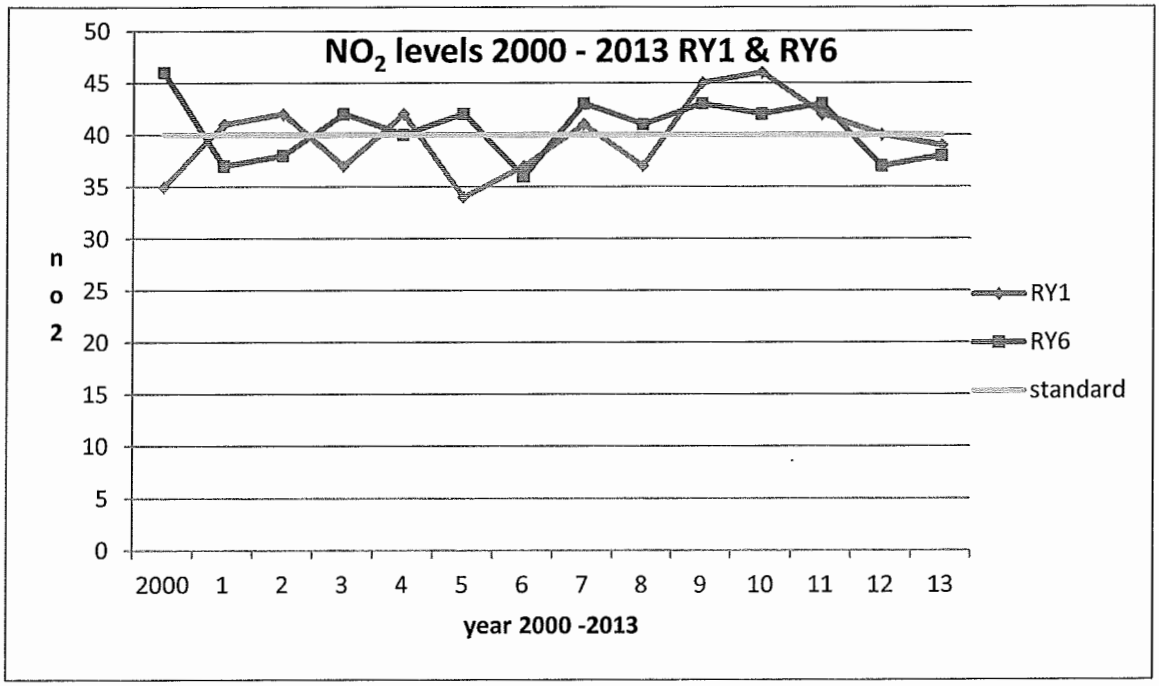
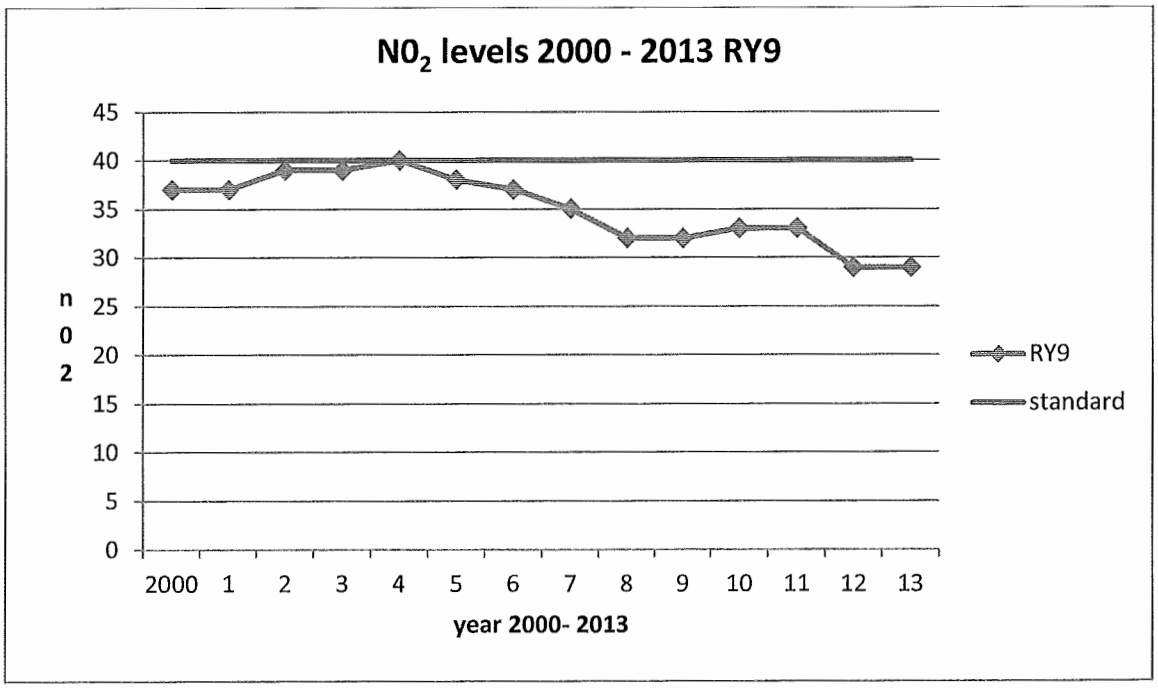


Figure 2-3 Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Site RY9



Benzene

There are no sites in the Borough where it would be necessary to proceed to a Detailed Assessment for benzene on the basis of the screening criteria for benzene sources (industrial installations, major petrol storage deport or relevant petrol stations) as detailed in the box 5.5 of the TG(09) guidance.

The results from the BTEX diffusion tube when it was located at Ottershaw some 20m away from the nearest road, during the period 2008-2012 produced results that were consistently below the objective of 5.00 µg/m^3 (**Table 2.7**). Since the results have been substantially below the objective of 5.00 µg/m^3 for all the time that it was located there, it was decided to relocate the monitoring tube from January 2013 to an area where benzene concentrations are expected to be the highest.

The BTEX tube was placed next to the petrol station in Bridge Road, Chertsey from January 2013 to determine the levels of benzene at that location. It is axiomatic that at the envisaged worse case location then the latest monitoring exercise has demonstrated that there is no exceedance of the objective level. Hence following this further exercise it has been conclude to suspend further benzene diffusion tube monitoring within the Borough.

Table 2.7 Results of Benzene BTEX tube 2007-2013

ID	Data Capture	Annual mean concentrations (µg/m^3)*					
		2008	2009	2010	2011	2012	2013
RY3	100%	2.4	2.1	1.6	1.3	0.9	1.4

* Converted from ppb (1ppb = 3.25 µg/m^3)

Table 2.8 Worst case location – adjacent to petrol station

Petrol Station	Annual petrol throughput	Distance to Road & Road AADT	Stage 2 Solvent recovery fitted	Distance from pumps to receptor
Chertsey Service Station, 102 Bridge Road, Chertsey, Surrey, KT16 7LR	40,000-70,000 l per week	AADT = 30,000	Fitted in January 2013	10 m

Summary of Compliance with AQS Objectives

Nitrogen Dioxide

Runnymede Borough Council has measured concentrations of nitrogen dioxide using diffusion tubes at many locations sites within the Borough and has recorded exceedances above the annual mean objective at a relevant location outside of the AQMA, and **will need to proceed to a Detailed Assessment**, for the area in vicinity of the railway crossing in Vicarage Road, Egham.

The area of the Bridge Road / Weir Road junction in Chertsey requires to be kept under close scrutiny and the necessary action taken should any exceedances be detected. Also the area around the Addlestone AQMA requires to be kept on a strong watching brief especially to the northern boundary and hence the recently created two new diffusion tube sites near to the AQMA should provide beneficial information to inform the process and actually provide an insight as to whether or not there is a requirement to change the current boundaries.

Benzene

Runnymede Borough Council has measured concentrations of benzene using diffusion tubes. However it has been shown that even at the worst suspected area then the level of benzene in the atmosphere has always been well below the objective. It has been conclude to suspend further benzene diffusion tube monitoring within the Borough.

3. New Local Developments

Runnymede Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Runnymede Borough Council confirms that all the following have been considered:

Road traffic sources
Other transport sources
Industrial sources
Commercial and domestic sources
New developments with fugitive or uncontrolled sources

4. Local / Regional Air Quality Strategy

The Air Quality Strategy for Surrey forms part of Surrey's third Local Transport Plan (LTP3), completed by the Surrey County Council in April 2011 and consisting of several thematic strategies. Further details of the Strategy have been provided in the 2012 Updating and Screening report.

5. Planning Applications

Table 5.1 below lists planning applications, for which air quality assessment was either provided or for which it was/will be considered.

A full air quality assessment was submitted regarding a proposed redevelopment of Addlestone town centre. The proposal will increase traffic in Addlestone and also the proposed Combined Heat and Power (CHP) unit will have an impact on the nearby existing AQMA. It should also be noted that the cumulative effect of other recent developments was incorporated within the modelling for this particular development

Table 0.1 Proposed significant developments (100+ residential units)

Location	Planning Application	Proposed Number of Residential Units and/or Proposed Area of Commercial Space	Proposed Number of Car Parking Spaces	Comments
Addlestone Bourneside, Former Civic Offices and Police Station, Station Road, Garfield Road (outline), Addlestone, KT15 2AH	RU.13/0810	Up to 175 res. units Hotel Retail store Cinema Gym Community uses	130 (0.85 per unit)	The proposed development is adjacent to the AQMA. Air quality assessment provided looked at cumulative effect with other nearby developments. CHP unit for heat and power for all development making contribution to NO_2 levels at AQMA- concerns raised through planning process – consideration of scrubber to CHP unit to reduce level of emission of nitric oxides.
Addlestone, Land at Aviator Park, Station Road, Addlestone, KT15 2PG	RU.13/0770	200	262	The site is near Addlestone AQMA. Screened by the planning Department as not likely to arise in significant air quality impacts due to the scale of the proposal. Not likely to give rise to a 'significant' impact as an individual application, however cumulative impact assessed in RU.13/0810.
Addlestone North, Former Safeway foodstore Addlestone North carpark, 179 Station Road, Addlestone	RU.09/0316 Grant Consent - subject to conditions 25-06-2009	112 res. units	82 (0.73 per unit)	Consent granted. Air quality assessment not required. Development in progress.
Royal Holloway University of London Egham Hill Englefield Green Surrey TW20 0EX	RU.13/0832	Up to 2,700 bed spaces Up to 55,000 m^2 floorspace	Unknown	Requested an EIA Scoping Opinion regarding the proposed development. The development is to enable growth to 12,000 students by 2031.
Crest Nicholson and CGNU life Assurance Ltd Land at DERA north Chobham Lane Longcross KT16 0EE	RU.13/0856	Retail centre ~1500 homes(in various phases)	unknown	The former DERA site was until its closure used by various Government military agencies. The Council's draft Local Plan Core Strategy proposed the sites future use for housing and business development(Policy LP08). Further work on the draft Local Plan Core Strategy is currently being undertaken and the application RU 13/0856 has been referred to the Secretaey of State.

6. Air Quality Planning Policies

Currently, the Council does not have specific policies addressing air pollution or greenhouse gas emissions. However, the current Air Quality Action Plan includes Development Control measures aimed at ensuring adequate assessment of new development impacts and appropriate mitigation where adverse impacts are identified.

7. Local Transport Plans and Strategies

Surrey's third Local Transport Plan (LTP3), produced in 2011 and covering the period 2011-2026, consists of several thematic strategies, which include the Air Quality and Climate Change Strategies. Further details of the Plan have been provided in the 2012 Updating and Screening report.

8. Climate Change Strategies

Two Climate Change Strategies have been produced for Surrey. One forms part of Surrey's third Local Transport Plan completed by the Surrey County Council in April 2011, and the other was produced by the Surrey Climate Change Partnership in 2009, looking to provide a framework to address climate change across Surrey over the period to 2020. Further details of the two Strategies have been provided in the 2012 Updating and Screening report.

9. Implementation of Action Plans

In 2008, a draft action plan was prepared in relation to Runnymede's Air Quality Management Areas, which set out measures aimed at improving air quality and achieving the air quality objectives in the Borough.

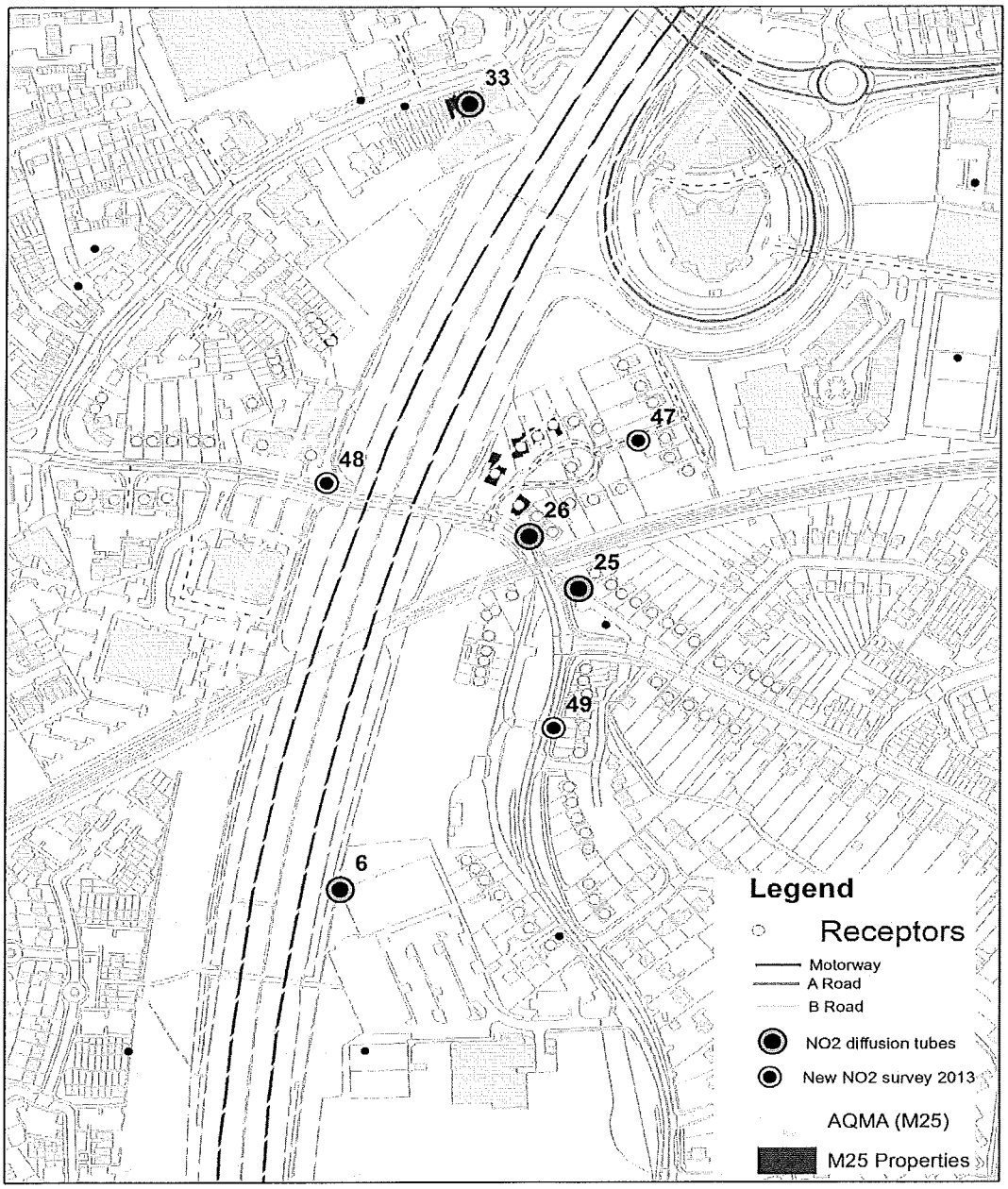
The draft Air Quality Action Plan was submitted to Defra at the end of May 2013. The AQAP included six categories of projects (Development Control, Monitoring, Infrastructure Projects, Traffic Emissions Control, Sustainable Transport and Promotion), ranked according to their perceived feasibility as 'green' (most feasible, some already being implemented), 'amber' (given lower priority due to either high cost of implementation or/and low effectiveness) and 'red' (suspended from further consideration due to low feasibility). The AQAP was approved by Runnymede Borough Council in June 2013 and was thereafter sent out for further consultation to Surrey County Council, Highways Agency, neighbouring local authorities and other statutory and non-statutory consultees. The responses were collated and considered and on 19th June 2014 a further report was submitted to Council and the AQAP has received final ratification. The measures contained within the AQAP will be reviewed and revised annually to ensure that the work remains focused on the best suited projects. Due to the fact that the AQAP has just been finally approved then no action plan progress report is incorporated within this document.

10. Conclusions and Proposed Actions

Conclusions from New Monitoring Data

Runnymede Borough Council has measured concentrations of nitrogen dioxide using diffusion tubes at many locations sites within the Borough and has recorded exceedances above the annual mean objective at a relevant location outside of the AQMA, and **will need to proceed to a Detailed Assessment in relation to NO_2**, for the area in vicinity of the railway crossing in Vicarage Road, Egham. A map of the area detailing the location of the diffusion tubes and the road network is provided in order to provide a flavour of the issues that will be addressed in the Detailed Assessment.

Road sources and receptors



0 25 50 100 Meters

The area near to the Bridge Road / Weir Road junction in Chertsey requires to be kept under close scrutiny and action taken should any exceedances be detected. Also the area around the Addlestone AQMA requires to be kept on a strong watching brief especially to the northern boundary and hence the recently created two new diffusion tube sites near to the AQMA should provide beneficial information to inform the process and actually provide an insight as to whether or not there is a requirement to change the current boundaries.

Conclusions relating to New Local Developments

Runnymede Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Other Conclusions

Implementation of AQAP – The AQAP has just received final ratification by the Council and as a result implementation has just commenced. The measures contained within the AQAP will be reviewed and revised annually to ensure that the work remains focused on the best suited projects. The annual review will form the basis of further reports on the implementation of the AQAP
Monitoring – Additional monitor has tentatively revealed that the boundaries of the existing AQMA currently appear to be suitable however once a full dataset is available then this will better inform the process and further reviews will consider the location of boundaries of the AQMA.
Further additional monitoring results will be used in relation to the requirement to deal with an area which has consistently shown levels in excess of the objective. A Detailed Assessment will be provided for the area adjacent to the railway crossing in Egham
Runnymede Borough Council has measured concentrations of benzene using diffusion tubes. However it has been shown that even at the worst suspected area then the level of benzene in the atmosphere has always been well below the objective. It has been conclude to suspend further benzene diffusion tube monitoring within the Borough

Planning Application – Currently there is a proposal for the redevelopment of Addlestone centre. The proposed redevelopment is adjacent to the existing AQMA and it has been shown that there will be an impact on the AQMA. As a result mitigation measures have been suggested and are currently being explored further with the applicant in order to ensure that if the development is approved then the impact on air quality is kept to a minimum.

The AQAP includes Development Control measures aimed at ensuring adequate assessment of new development impacts and appropriate mitigation where adverse impacts are identified.

Surrey's third Local Transport Plan (LTP3), produced in 2011 and covering the period 2011-2026, consists of several thematic strategies, which include the Air Quality and Climate Change Strategies.

Proposed Actions

1. **Monitoring** – Runnymede Borough Council has measured concentrations of nitrogen dioxide using diffusion tubes at many locations sites within the Borough and has recorded exceedances above the annual mean objective at a relevant location outside of the AQMAs, and **will need to proceed to a Detailed Assessment in relation to NO_2,** for the area in vicinity of the railway crossing in Vicarage Road, Egham. The further additional monitoring results from the new diffusion tube sites will be used to inform the Detailed Assessment process.

Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g/m^3$	Annual mean	31.12.2005

Tentative preliminary results from the new diffusion tubes located adjacent to the existing AQMA in Addlestone provide an indication that the existing boundaries of the Addlestone centre AQMA currently appear to be suitable. However once a full dataset is available for the additional monitors then this will better inform the process and assist further reviews with the location of boundaries of the AQMA.

2.Changes- Runnymede Borough Council has measured concentrations of benzene using diffusion tubes. However it has been shown that even at the worst suspected area then the level of benzene in the atmosphere has always been well below the objective. It has been conclude to suspend further benzene diffusion tube monitoring within the Borough

3. Course of Action

i) Submit Progress Report

ii) Undertake a Detailed Assessment for Vicarage Road Egham, in relation to NO_2 and submit by Autumn 2014

iii) Commence with the implementation of the AQAP

iv) Continue monitor for NO_2 at the current 30 diffusion tube sites

v) Suspend monitoring for benzene

vi) Keep the boundaries of the exiting AQMAs under strict review especially in light of developments within the Addlestone Centre area.

Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors

Runnymede's diffusion tubes are supplied by Lambeth Scientific Services Limited.

50% triethanolamine (TEA) solution is the absorbent used to prepare the tubes.

The bias adjustment factor applied is a combined bias adjustment factor derived from the national database of co-location studies, available from the LAQM Support Website.

Table A1 below provides the list of correction factors for the years 2000-2013.

Table A 1 Diffusion Tube Bias Adjustment Factors, 2000-2013

Year	Bias Adjustment Factor
2000	0.97
2001	1.09
2002	1.15
2003	1.05
2004	1.19
2005	1.24
2006	1.28
2007	1.07
2008	0.98
2009	1.03
2010	1.06
2011	1.06
2012	0.87
2013	0.83

QA/QC of diffusion tube monitoring

Nitrogen dioxide

Laboratory Performance and WASP scheme

Lambeth Scientific Services Limited follows the procedures set out in the Harmonisation Practical Guidance and participates in the WASP scheme operated by the Health and Safety Laboratory.

From January 2010 till December 2011 (Rounds 108 to 115 of the WASP NO_2 Proficiency Test, an average 70% of Lambeth Scientific Services' laboratory results for test samples were determined to be satisfactory.

Benzene

BTEX passive diffusion tubes for VOC monitoring are supplied by Lambeth Scientific Services. The absorbent used is Chromosorb 106 with an uptake ratio of 1.72. The tubes are subject to the WASP QA/QC programme in the same way as NO_2 tubes. Ratification of results was undertaken by comparing the ratio of concentration of BTEX compounds analysed. If significant variation of the ration (3.5:1:2:1) was observed, the data for that month was discarded.

Appendix B: PPC premises within Runnymede

Permitted Facilities in the Runnymede Borough Council Area Under the Pollution Prevention Control Act 1999

Part B Facilities

Permit Number	Type of Activity	Operators Name and Site Contact	Permitted Address	Registered Address, Other Contact address and fee invoice address where appropriate
PPC4(2)	Sec 3.1 Cement Mortar Batching	Hope Construction Materials Mr G Sturgess 07972 533643	Hope Construction Materials Longside, Thorpe Lea Road, Egham, Surrey, TW20 8RH	Hope Cement Ltd Hope Valley Derbyshire S33 6RP.
PPC7(2) EP	Sec 6.4 Respraying Road Vehicles	Medcalf & Company (Coachbuilders) Limited. Mr Angelo Scandone 01932 563026	Medcalf & Company (Coachbuilders) Limited, Fordwater Trading Estate, Fordwater Road, Chertsey, Surrey, KT16 8HG	Medcalf & Company (Coachbuilders) Limited, Fordwater Trading Estate, Fordwater Road, Chertsey, Surrey, KT16 8HG
PPC8(2) EP	Sec 6.4 Respraying Road Vehicles	LA Coachworks (Weybridge) Limited. Mr Paul Mullen 01932 858879	LA Coachworks (Weybridge) Limited, Byron Road, Addlestone, Surrey, KT15 2SY	LA Coachworks (Weybridge) Limited, Byron Road, Addlestone, Surrey, KT15 2SY
PPC10(1)	Sec 3.5 Mobile Crusher	Capital Demolition Limited. Mr Dennis Read 01932 346222	Capital Demolition Limited, Capital House, Woodham Park Road, Woodham, Addlestone, Surrey, KT15 3TG	Capital Demolition Limited, Capital House, Woodham Park Road, Woodham, Addlestone, Surrey, KT15 3TG
PPC18(4) EP10	Sec 1.2 Petrol Storage	Wheatsheaf Service Station. Service Station 01344 846130	Wheatsheaf Service Station, London Road, Virginia Water, Surrey, GU25 4QE	Shell UK Oil Products Ltd, Shell centre, London, SE1 7NA **Correspondence address:** Ms Melissa Zaffino, Lockett & Co, Lockett House, 13 Church Street, Kidderminster, Worcestershire, DY10 2AH
PPC19(3) EP10	Sec 1.2 Petrol Storage	Shell Thorpe Lea Road. Service Station 01784 455970	Shell Thorpe Lea Road, 171 Thorpe Lea Road, Egham, Surrey, TW20 8HP	Shell UK Oil Products Ltd, Shell centre, London, SE1 7NA **Correspondence address:** Ms Melissa Zaffino, Lockett & Co, Lockett House, 13 Church Street, Kidderminster, Worcestershire, DY10 2AH
PPC20(3) EP	Sec 1.2 Petrol Storage	Shell Ottershaw. Service Station 01932 879930	Shell Ottershaw, Guildford Road, Ottershaw, Chertsey Surrey, KT16 PG	Shell UK Oil Products Ltd, Shell centre, London, SE1 7NA **Correspondence address:** Ms Melissa Zaffino, Lockett & Co, Lockett House, 13 Church Street, Kidderminster, Worcestershire, DY10 2AH

Permit Number	Type of Activity	Operators Name and Site Contact	Permitted Address	Registered Address, Other Contact address and fee invoice address where appropriate
PPC21(3) EP	Sec 1.2 Petrol Storage	Trident Garages Limited. Service Station 01932 874411	Trident Garages Limited, Guildford Road, Ottershaw, Chertsey, KT16 0NZ	Trident Garages Limited, Guildford Road, Ottershaw, Chertsey, KT16 0NZ Mr R Roberts (Managing Director) 01932 874411
PPC22(2)	Sec 1.2 Petrol Storage	Staines Service Station. Service Station 01784 463572	Staines Service Station, Chertsey Lane, Staines, Middlesex, TW18 3LS	Rontec Watford Limited, 3rd Floor Meridien House, 69-71 Clarendon Road, Watford, Herts, WD17 1DS Sheila Disspain Engineering & Administration Assistant) - 01923 693698
PPC23(4) EP10	Sec 1.2 Petrol Storage	Shell Addlestone. Service Station 01932 839960	Shell Addlestone, Chertsey Road, Addlestone, Surrey, KT15 2ED	Shell UK Oil Products Ltd, Shell centre, London, SE1 7NA **Correspondence address:** Ms Melissa Zaffino, Lockett & Co, Lockett House, 13 Church Street, Kidderminster, Worcestershire, DY10 2AH
PPC24(3) EP	Sec 1.2 Petrol Storage	Shell Egham. Service Station 01784 430930	Shell Egham, 186/7 High Street, Egham, Surrey, TW20 9DX	Shell UK Limited, Shell Centre, York Road, London, SE1 7NA **Correspondence address:** Ms Melissa Zaffino, Lockett & Co, Lockett House, 13 Church Street, Kidderminster, Worcestershire, DY10 2AH
PPC25(2)	Sec 1.2 Petrol Storage	Chertsey Service Station. Service Station 01932 562702	Chertsey Service Station, 102 Bridge Road, Chertsey, Surrey, KT16 7LR	Seyon Limited, 11 Fairfield Road, Wraysbury, Staines, Middex, TW19 5DU Mr Somasundaram Satha 01932 562702
PPC26(3)	Sec 1.2 Petrol Storage	Runnymede Service Station. Service Station 01784 485982	Runnymede Service Station, 38-45 The Avenue, Egham, Surrey, TW20 9AD	**Registered office, correspondences and fee address:** Malthurst Petroleum Limited, Vinceny House, 4 Grove Lane, Epping, Essex, CM16 4LH Contact: Joanne Richards, 01992 563152 Joanne.richards@malthurst.co.uk
PPC28(3) EP	Sec 1.2 Petrol Storage	Egham Hill SF Connect. Service Station 01784 497589	Egham Hill SF Connect, 1 Egham Hill, Egham, Surrey, TW20 0ET	BP Oil U.K. Limited, Chertsey Road, Sunbury on Thames, Middlesex, TW16 7BP **Correspondence address:** BP Oil U.K. Limited, 3rd Floor Witan Gate House, 500-600 Witan Gate, Milton Keynes, Bucks, MK9 1ES Jan Martin-Read Licensing Coordinator 01908 853 380
PPC30(2) EP	Sec 1.2 Petrol Storage	Sainsbury Supermarkets Limited. Service Station 01784 456644	Sainsbury Supermarkets Ltd, The causeway, Staines, Middlesex, TW18 3AG	Sainsbury Supermarkets Limited, 33 Holborn, London, EC1N 2HT Ms Marjorie Manning-Dehaney (Petroleum Licensing Officer) 0207 6956720

Permit Number	Type of Activity	Operators Name and Site Contact	Permitted Address	Registered Address, Other Contact address and fee invoice address where appropriate
PPC33(2) EP	Sec 1.2 Petrol Storage	Sainsbury Supermarkets Limited. Service Station 01932 566503	1 The Sainsbury Centre Heriot Road Chertsey Surrey KT16 9AQ	Sainsbury Supermarkets Limited, 33 Holborn, London, EC1N 2HT Ms Marjorie Manning-Dehaney (Petroleum Licensing Officer) 0207 6956720
PPC36(2) EP	Sec 1.2 Petrol Storage	Tesco Filling Station. Service Station 01932 741407 if you have problems, contact Andy Berry at Tesco Andy.Berry@uk.tesco.com	Tesco Filling Station, 117 Station Road, Addlestone, Surrey, KT15 2AS	Tesco Stores Limited, Tesco House, Delamare Road, Cheshunt, Hertfordshire, EN8 9SL Mr Rory Hennessy (Fire & Petroleum Risk Manager) – 01707 634059
PPC37(1)	Sec 3.5 Mobile Crusher	Capital Demolition Limited. Mr Dennis Read 01932 346222	Capital Demolition Limited, Capital House, Woodham Park Road, Woodham, Addlestone, Surrey, KT15 3TG	Capital Demolition Limited, Capital House, Woodham Park Road, Woodham, Addlestone, Surrey, KT15 3TG
PPC40(1) **Closed 2013**	Sec 7 Dry Cleaners	Zekmur Bros Limited. Mr Kusdil 01932 847411	Zeki Dry Cleaner & Laundry, 83 Station Road, Addlestone, surrey, KT15 2AR	Zeki Dry Cleaner & Laundry, 83 Station Road, Addlestone, surrey, KT15 2AR **surrender permit.**
PPC41(3) EP	Sec 6.4 Respraying Road Vehicles	Chertsey Car Care Ltd. Mr Martin Morgan 01932 560690	Chertsey Car Care Ltd. Crystal Haven House, Hanworth Lane Trading Estate, Chertsey, Surrey, KT16 9JX	Chertsey Car Care Ltd. Crystal Haven House, Hanworth Lane Trading Estate, Chertsey, Surrey, KT16 9JX

Permit Number	Type of Activity	Operators Name and Site Contact	Permitted Address	Registered Address, Other Contact address and fee invoice address where appropriate
PPC44	Sec 7 Dry Cleaning	Lampton Cleaners Ltd T/A Harringtons. Michael Corby 01784 433439	9 Station Approach Virginia Water Surrey GU25 4DW	Lampton Cleaners Ltd Trading as Harringtons 9 Station Approach, Virginia Water Surrey, GU25 4DW
PPC46	Sec 7 Dry Cleaning	Saphire Dry Cleaners Mrs S Waters 01932 353735	15 The Broadway New Haw Addlestone Surrey KT15 3EU	Saphire Dry Cleaners 15 The Broadway New Haw, Addlestone Surrey, KT15 3EU
PPC47 **Closed 2013**	Sec 7 Dry Cleaning	Softly Clean Dry Cleaners T/A Softly Clean Mr A Cachra 01932 851900	1 High Street Addlestone Surrey KT15 1TL	Softly Clean Dry Cleaners T/A Softly Clean 1 High Street, Addlestone Surrey, KT15 1TL
PPC50	Sec 7 Dry Cleaning	Egham Dry Cleaners Mr B Tamraz 01784 477300	44 High Street Egham Surrey TW20 9DP	Egham Dry Cleaners Surrey & North Hampshire Area, Duke's Court, S Duke Street, Woking, Surrey, GU21 5XR
PPC51	Sec 7 Dry Cleaning	Johnson Dry Cleaners Mr Darryl Neville 02073521763 07949050662	Sainsbury's The Causeway, Staines, TW18 3AP	Johnson Cleaners UK Ltd Pittman Way, Fulwood Preston, Lancashire PR2 9ZD

PPC52 EP	Sec 7 Dry Cleaning	Direct Dry Cleaning Mr Paul MaGill 01737 361666 07947 780807	Direct Dry Cleaning, Unit 2 Fordwater, Trading Estate, Ford Road, Chertsey, Surrey, KT16 8HG	Direct Dry Cleaning, 54 High Street, Banstead, Surrey,SM7 2LX
PPC53(1) **Closed/Surrendered 2014** EP	Sec 3.5 Mobile Crusher	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC54(1) **Closed/Surrendered 2014** EP	Sec 3.5 Mobile Crusher	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC55 EP	Sec 3.5 Mobile Roadstone Coating	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC 56 EP	Sec 7 Dry Cleaning	Riva Dry Cleaners Mr Fiaz Ahmad (Manager) 01932 560555	3 Burwood Parade, Guildford Street, Chertsey, KT16 9AE	Riva Dry Cleaners 3 Burwood Parade, Guildford Street, Chertsey, KT16 9AE
PPC57(1) **Mothballed 2013** EP	Sec 3.5 Mobile Batching Plant	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC58(1) **Mothballed 2014** EP	Sec 3.5 Mobile Batching Plant	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC59(1) **Closed/Surrendered 2014** EP10	Sec 3.5 Mobile Crusher	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC60(1) EP10	Sec 3.5 Mobile Crusher	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC61 EP10	Sec 3.5 Mobile Batching Plant	Cemex UK Materials Limited	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
PPC62 EP10	Sec 6.4 Respraying Road Vehicles	Denmark Coachworks Limited	Denmark Coachworks Ltd Unit B9 Capons Yard Crabtree Road Thorpe Industrial Estate, Egham Surrey, TW20 8RN 01784 431097	Denmark Coachworks Ltd, 6th Floor Charles House, 108-110 Finchley Road, London, NW3 5JS

Part A2 Facilities - None

Part A1 Facilities– Permitted and Regulated by the Environment Agency

Permit Number	Type of Activity	Operators Name	Permitted Address	Registered Address
AP3039SD	Sec 5.1 A(1)(a) And 5.1 A(1)(d) Incineration	The Veterinary Laboratories Agency.	The Weybridge Incineration Plant, Veterinary Laboratories Agency, Woodham Lane, New Haw, Addlestone, KT15 3NB	The Veterinary Laboratories Agency, Woodham Lane, New Haw, Addlestone, KT15 3NB
WP3635SJ	Sec 5.2A(1)(b) Disposal of waste in landfil	Cemex UK Materials Limited.	Cemex UK Materials Limited, Addlestone Quarry, Byfleet Road, Addlestone, Weybridge, Surrey, KT15 3LA	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
CP3334LF	Sec 5.2A(1)(b) Disposal of waste in landfil	Cemex UK Materials Limited	Cemex UK Materials Limited, Norlands Lane, Thorpe, Egham, Surrey, TW20 8SS	Cemex UK Materials Limited, Cemex House, Coldharbour Lane, Thorpe, Egham, Surrey, TW20 8TD
EPR/DP3090 SF	Sec 5.3 Disposal of waste other than by incineration or landfill. (Sewage Sludge Treatment, less than 250,000tpa)	Thames Water Utilities Ltd, Chertsey Sewage Treatment Works	Thames Water Utilities Ltd, Chertsey Sewage Treatment Works, Lyne Lane, Lyne, Chertsey, KT16 0AR	Thames Water Utilities Ltd, Clearwater Court, Vastern Road, Reading, Berkshire, RG1 8DB
EA/EPR/DP3 691EF/A001 (EAWML 101006)	Permit application for the composting of green waste	Collier Environmental services Ltd, Trumps Farm, Kitsmead Lane, Longcross, Chertsey, Surrey, KT16 0EF	Collier Environmental services Ltd, Trumps Farm, Kitsmead Lane, Longcross, Chertsey, Surrey, KT16 0EF	Mr Antony Collier, 3 Kitsmead Lane, Longcross, Chertsey, Surrey, KT16 0EF
EA/EPR/HP3 132TV/A001	CHP Sec 1.1, Part A(1) (b) (iii)	Thames Water Utilities Ltd, Chertsey Sewage Treatment Works	Thames Water Utilities Ltd, Chertsey Sewage Treatment Works, Lyne Lane, Lyne, Chertsey, KT16 0AR	Thames Water Utilities Ltd, Clearwater Court, Vastern Road, Reading, Berkshire, RG1 8DB
EA/EPR/FP32 93ET/V004 (EAWML 83061)	Permit for the Civic Amenity Site	Sita Surrey Ltd,	Sita Surrey Ltd, Lyne Lane CAS, Lyne Lane, Thorpe, KT16 0AP	Sita Surrey Ltd, Sita House, Grenfell Road, Maidenhead, Berkshire, SL6 1ES
EPR/HB3733 RP/A001	Standard rules environmental Permit 2010 No.12 (waste activity soil/aggregate)	Dennis Read, Capital House	Capital Demolition Limited, Capital House, Woodham Park Road, Woodham, Addlestone, Surrey, KT15 3TG	Capital Demolition Limited, Capital House, Woodham Park Road, Woodham, Addlestone, Surrey, KT15 3TG
EPR/PP3599 EZ/S003 Received 28 Nov 2012	Application for an Environmental Permit	Thorpe Park Operations Ltd	Thorpe Park, Staines Road, Chertsey, Surrey, KT16 8PN	Thorpe Park Operations Limited, 3 Market Close, Poole, Dorset, BH15 1NQ
EPR/WP3337 ZL/A001 Received 10 May 2013	Application for an Anaerobic Digestion facility	Agrivert limited	Trumps Farm, Kitsmead Lane, Chertsey, Surrey, KT16 0EF	Agrivert Limited, The Stables, Radford, Chipping Norton, Oxfordshire, OX7 4EB
EPR/BB3000 CM/TOO1	Disposal of waste	Cappagh Public Works Ltd	Cappagh Public Works Ltd Addlestone Quarry Byfleet rd, Addlestone KT15 3LA	Cappagh Public Works Ltd Addlestone Quarry Byfleet rd, Addlestone KT15 3LA
FP3193EG/V OO3		Environment Agency	Pent Hook Marina Staines Rd Chertsey	Pent Hook Marina Staines Rd Chertsey

Updated April 2014

Part A2 Facilities - None

Appendix C: AQMAs within Runnymede

Figure C 1 Boundaries of the M25 AQMA (declared in November 2001)

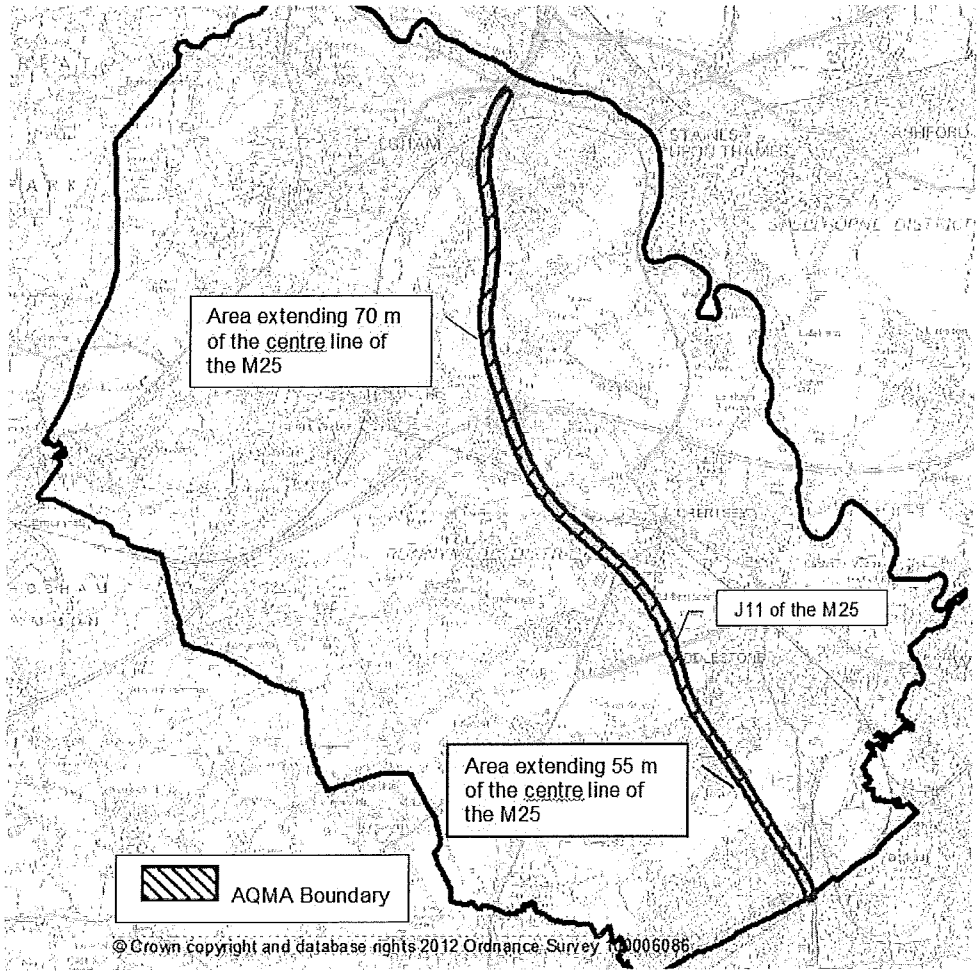


Figure C 2 Photos of M25 AQMA

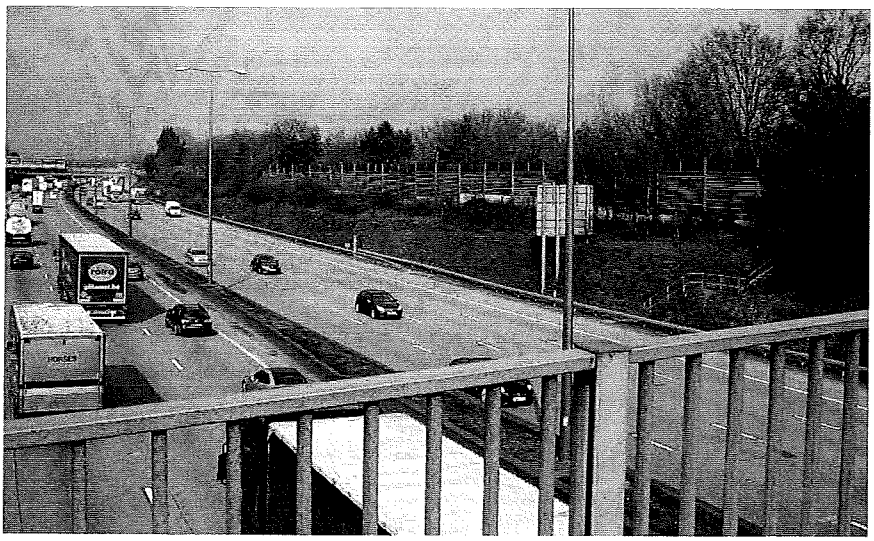
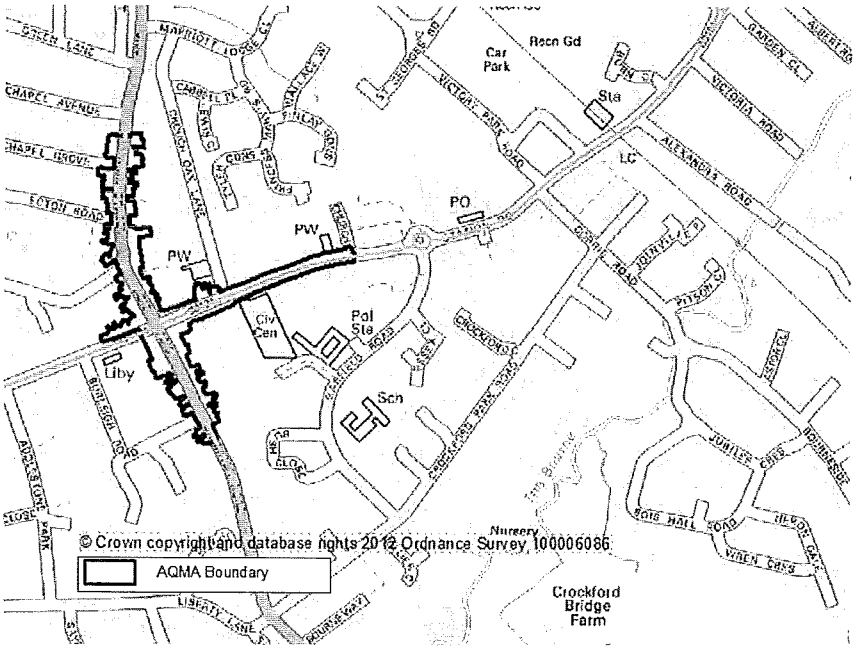


Figure C 3 Boundaries of Addlestone AQMA (declared in July 2008)



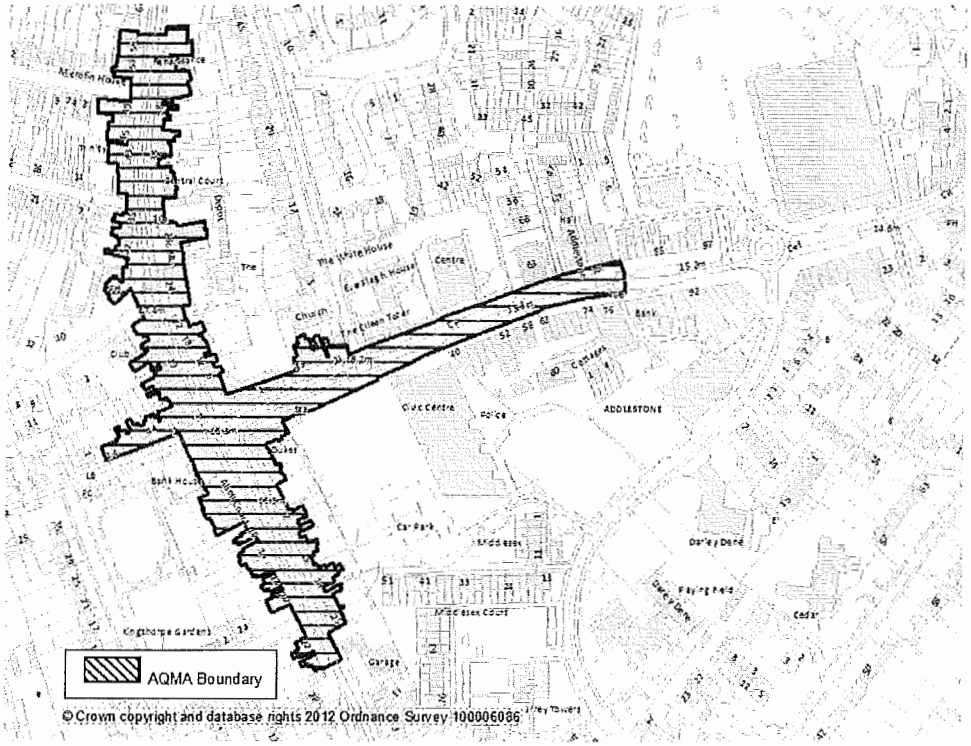


Figure C 4 Photos of Addlestone AQMA (Station Road)