2015 Updating and Screening Assessment for Babergh and Mid Suffolk District Councils

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

August 2015

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Executive Summary

The Environment Act 1995 requires local authorities to periodically review and assess air quality within their areas to determine whether the Air Quality Objectives will be met. As detailed in the National Air Quality Strategy, health-based Air Quality Objectives have been set for seven prescribed pollutants of greatest local concern: Carbon monoxide, Benzene, 1,3-Butadiene, Lead, Sulphur dioxide, Nitrogen dioxide and Particulate Matter (PM_{10}).

This Updating and Screening Assessment commences the sixth round of Review and Assessment. It is intended to update previous studies by screening the various potential sources of prescribed pollutants that could impact on the Babergh and Mid Suffolk District Council areas. Where the screening process identifies a significant risk that a potential emission source could lead to an exceedance of the Air Quality Objectives, the Council is required to proceed to a Detailed Assessment. The screening methods and monitoring data used in the assessment are as recommended in the Government's Technical Guidance LAQM.TG(09).

The Updating and Screening Assessment has concluded that Babergh District Council was correct in its designation of the Cross Street, Sudbury, Air Quality Management Area for exceedances of the annual mean objective for Nitrogen dioxide. The boundary of the Air Quality Management Area remains relevant and this Air Quality Management Order will not be amended. Within Mid Suffolk District Council, it is not necessary to designate an Air Quality Management Area as a result of the new Nitrogen dioxide monitoring data. With regard to other sources, there is no reason to proceed to a Detailed Assessment for any pollutant.

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1 Introduction

1.1 Description of Local Authority Areas

Babergh District Council and Mid Suffolk District Council are two constitutionally separate local authorities with a shared officer structure. As such, this report is the combined Updating and Screening Assessment (USA) for both districts. The Local Air Quality Management (LAQM) Helpdesk have confirmed that this approach is acceptable, see Appendix A.

The two local authority areas form the centre of Suffolk, with the River Stour running along the south of Babergh District Council, where it borders Essex, and the north of Mid Suffolk District Council bordering Norfolk. The majority of the eastern and western borders are with Suffolk Coastal District Council and St Edmundsbury Borough Council, respectively, which are also predominantly rural local authority areas. The residential areas that form the edge of urban Ipswich extend into both districts. The location of Babergh and Mid Suffolk District Councils within Suffolk is shown in Appendix B.

The districts are predominantly rural, with a number of small towns including Hadleigh, Needham Market, Stowmarket and Sudbury. Both districts have low population densities, with approximately 75% of the population living outside of these four towns, primarily in outlying villages[1]. The 2011 Census shows that the population of Babergh District Council is approximately 88,000 and the population of Mid Suffolk District Council is approximately 97,000[1]. The combined geographic area is almost 1,500km^2.

The main transport routes in the districts are the railway line between London and Norwich, and the A12, A14 and A140 roads. Previous studies have shown small sections of the A12 to adversely affect air quality, but more recent assessments have neither proved this to be a continuing problem, nor identified any other main transport route to be of significance to air quality. The majority of the non-residential area is used for agricultural activity. Industrial activity in the districts is predominantly light in

nature with very few large industrial processes and as such has relatively little impact on air quality.

The main source of air pollution within the districts is road transport. Babergh District Council currently has one Air Quality Management Area (AQMA) designated for the Cross Street area of Sudbury owing to exceedances of the annual mean objective for Nitrogen dioxide (NO_2). This is as a result of emissions from road transport, local highways design and local topography. Mid Suffolk District Council does not have any designated AQMAs.

1.2 Purpose of 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 exceedences are considered likely, the local authority must then declare an AQMA and prepare an Air Quality Action Plan setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this USA is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

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 microgrammes per cubic metre ($\mu g/m^3$), (milligrammes per cubic

metre, (mg/m^3) for Carbon monoxide), with the number of exceedences 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 µg/m^3	Running annual mean	31.12.2003
	5.00 µg/m^3	Running annual mean	31.12.2010
1,3-Butadiene	2.25 µg/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 µg/m^3	Annual mean	31.12.2004
	0.25 µg/m^3	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m^3	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 µg/m^3, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m^3	Annual mean	31.12.2004
Sulphur dioxide	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

Two separate summaries of previous rounds of Review and Assessment are shown below.

Table 1.2 Summary of previous Review and Assessment for Babergh District Council

Document	Date	Outcome
Stage 1 Review and Assessment	March 1999	Benzene, 1,3-Butadiene and Lead not a risk – keep under review. Potential risk of exceedance from Carbon monoxide, Nitrogen dioxide, Sulphur dioxide and Particulates – progress to Stage 2 Review and Assessment.
Stage 2 Review and Assessment	April 2000	Carbon monoxide, Sulphur dioxide and Particulates not likely to exceed objectives. Nitrogen dioxide may be exceeded along the A12/A14 and Cross Street/Ballingdon Street in Sudbury and therefore proceed to Stage 3 Review and Assessment.
Stage 3 Review and Assessment	May 2001	Recommended the designation of AQMAs for sections of the A12. Following this, 4 AQMAs were designated. No need for further action at Cross Street/Ballingdon Street.
Stage 4 Review and Assessment	November 2002	Four AQMAs along the A12 were monitored using diffusion tubes. Results demonstrated that these areas were not exceeding the Annual Mean Objective for Nitrogen dioxide – AQMAs were therefore revoked.
USA 2003	July 2003	No areas of concern – no need to progress to Detailed Assessment.
USA 2006	May 2007	No areas of concern – no need to progress to Detailed Assessment.
Detailed Assessment	May 2008	Detailed Assessment undertaken for the Cross Street/Ballingdon Street area of Sudbury owing to monitored exceedances of Annual Mean Objective for Nitrogen dioxide – following this, an AQMA was designated in November 2008*.
USA 2009	May 2009	Confirmed designation of Cross Street AQMA. Reported an exceedance of the Annual Mean Objective for Nitrogen dioxide in 2008 at Lattinford Hill on the southbound A12 – progressed to Detailed Assessment.
Progress Report 2010	April 2010	Confirmed the designation of Cross Street, AQMA. Reported that the annual mean Nitrogen dioxide concentration in 2009 on the southbound A12 at Lattinford Hill was below the national Objective.

Further Assessment for Cross Street, Sudbury	June 2010	Further Assessment produced June 2010.
Detailed Assessment	April 2011	Full assessment of potential exceedance of the Annual Mean Objective at Lattinford Hill not supported by additional year of diffusion tube data and hence no need to designate AQMA.
Progress Report 2011	April 2011	Confirmed the designation of the Cross Street AQMA with no requirements to amend Order to incorporate Hourly Objective, nor expand in geographical extent. Previous exceedances of the Annual Mean Objective for Nitrogen dioxide at Lattinford Hill were not found in this year and no AQMA was recommended (see Detailed Assessment, outlined above).
Action Plan for Cross Street, Sudbury AQMA	February 2012	Draft Action Plan approved by DEFRA, consulted on during Winter 2011/12, and in progress.
USA 2012	April 2012	Confirmed the designation of the Cross Street AQMA with no requirements to amend Order to incorporate Hourly Objective. It was highlighted that the AQMA boundary may need to be extended, following a further assessment. No other sources were identified as requiring further assessment.

* A copy of the AQMA order including a map of the AQMA is included at Appendix C.

Table 1.3 Summary of previous Review and Assessment for Mid Suffolk District Council

Document	Date	Outcome
Stage 1 Review and Assessment	March 1999	Benzene, 1,3-Butadiene and Lead not a risk – keep under review. Potential risk of exceedance from Carbon monoxide, Nitrogen dioxide, Sulphur dioxide and Particulates – progress to Stage 2 Review and Assessment.
Stage 2 Review and Assessment	March 2000	Data was presented from the mid-1990s through to 1999 for Nitrogen dioxide and Particulates (PM_{10}). Highlighted that there was a risk of exceedances of the Annual Mean Objective for PM_{10} along numerous sections of the A14. Stage 3 Review and Assessment needed for properties on The Crescent in Barham (adjacent to A14).

Stage 3 Review and Assessment	Dec 2001	Focused on potential impacts of the A14. For Nitrogen dioxide the Air Quality Objectives would be met at all locations by the deadline in 2005. Recommended increased monitoring of Nitrogen dioxide using chemiluminence analysers and diffusion tubes at locations of concern both along the A14 and elsewhere within the district. PM_{10} assessments concluded that the concentrations produced by traffic on the A14 were small compared to the background and that Air Quality Objectives would be met.
Monitoring and Assessment of Particulate Matter (PM_{10})	May 2005	This report concentrated entirely upon PM_{10} analysis. Concluded that the 24-hour Objective was met at a residential receptor close to the A14 in 2004. The projected results for 2010 concluded that the Annual Mean Objective would be met by a narrow margin and the 24-hour Objective would be easily attained.
USA 2003	May 2003	No areas of concern – no need to progress to Detailed Assessment.
Progress Report 2004	May 2004	Additional data presented from 2003 demonstrated that the Air Quality Objectives would be met in all areas of the district. No reason to progress to a Detailed Assessment.
Progress Report 2005	May 2005	No exceedances of the Air Quality Objective were identified by the additional data. No reason to progress to a Detailed Assessment.
USA 2006	May 2007	No areas of concern were highlighted in this report, which concluded that there was no reason to progress to a Detailed Assessment.
Progress Report 2011	April 2011	Data from 2008 to 2010 was assessed. Although one marginal exceedance of the Annual Mean Objective for Nitrogen dioxide was recorded in 2009, this was not found to be the case in 2010. Further monitoring is being conducted. No other areas of concern were highlighted in this report and there was no reason to progress to a Detailed Assessment.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

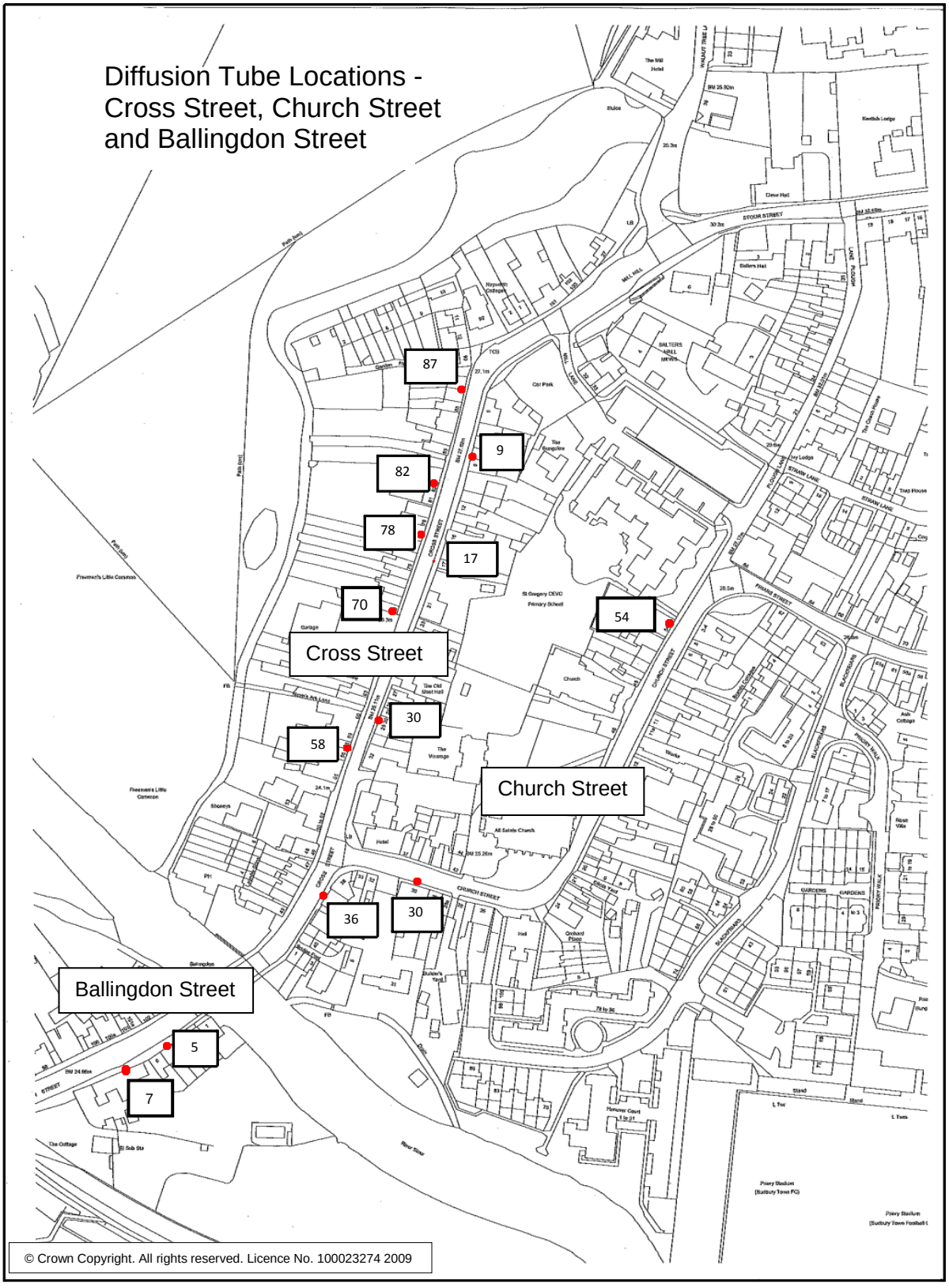
There are no automatic monitoring sites in the Babergh or Mid Suffolk districts. This is the same situation as in the previous Updating and Screening Assessment and Progress Report for each district.

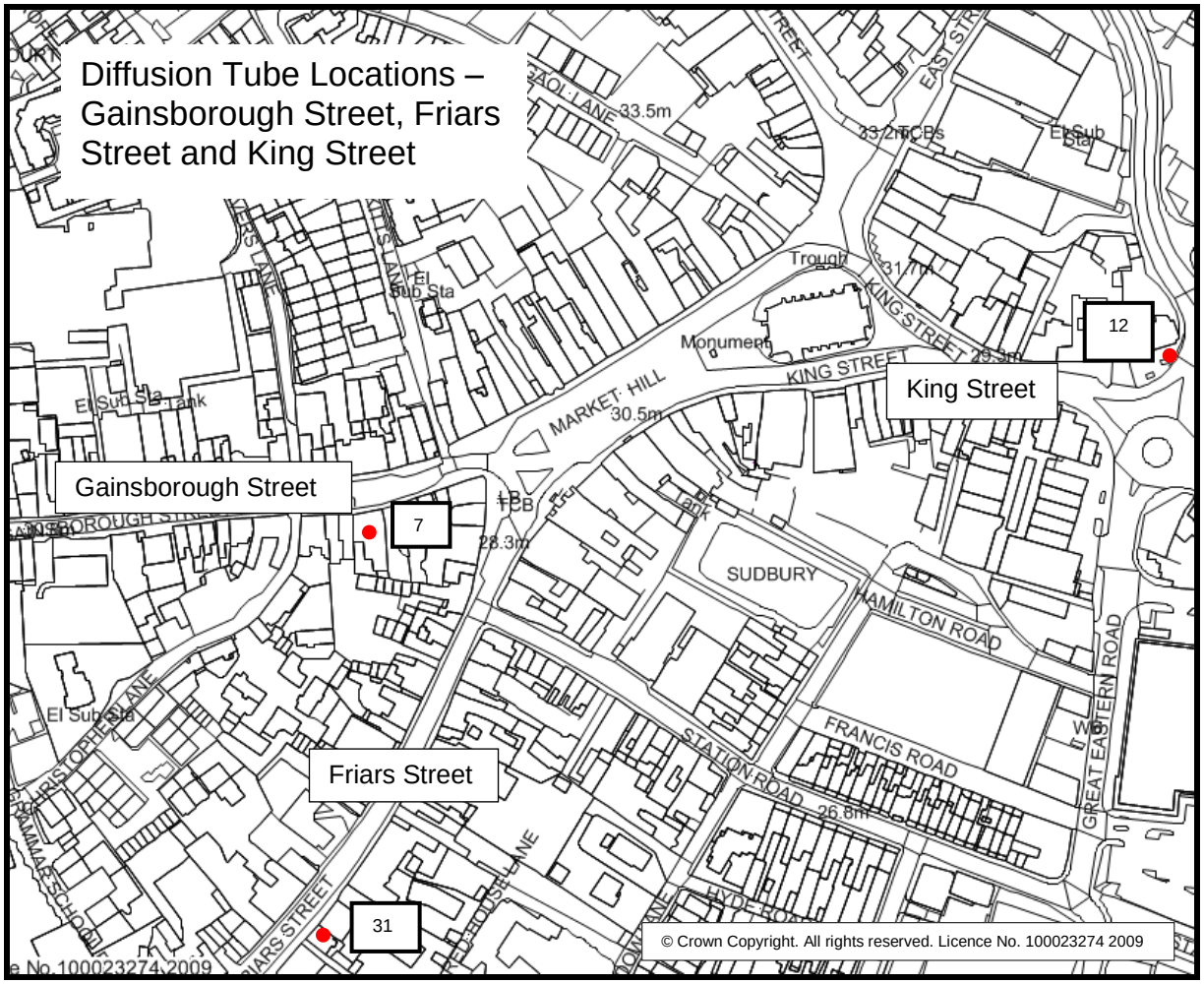
2.1.2 Non-Automatic Monitoring Sites

Babergh and Mid Suffolk District Councils monitor Nitrogen dioxide concentrations using diffusion tubes. These are supplied and analysed by Environmental Services Group Didcot, and changed by Council staff. Full details of QA/QC are in Appendix D.

The maps and tables below show details of diffusion tubes that were used during 2014. All diffusion tubes in the Babergh district are in Sudbury, and all diffusion tubes in the Mid Suffolk district, with the exception of High Street, Needham Market, are in Stowmarket. The diffusion tube locations are shown in the following maps.

Figure 2.1 Maps of Non-Automatic Monitoring Sites in the Babergh District Council area




Diffusion Tube Locations – Gainsborough Street, Friars Street and King Street
King Street
12
Gainsborough Street
7
Friars Street
31
MARKET HILL
KING STREET
SUDBURY
HAMILTON ROAD
FRANCIS ROAD
STATION ROAD
GREAT EASTERN ROAD
Monument
Trough
33.5m
30.5m
28.3m
26.8m
© Crown Copyright. All rights reserved. Licence No. 100023274 2009

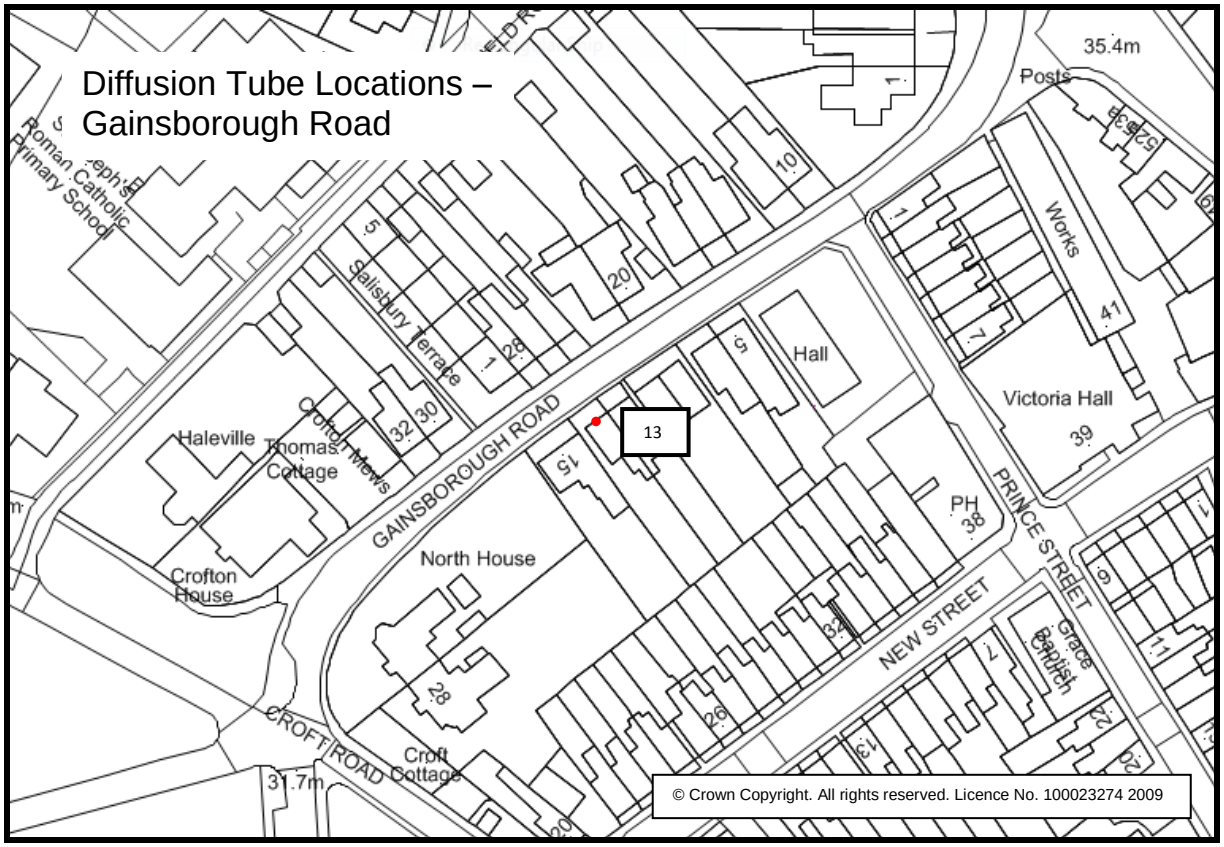
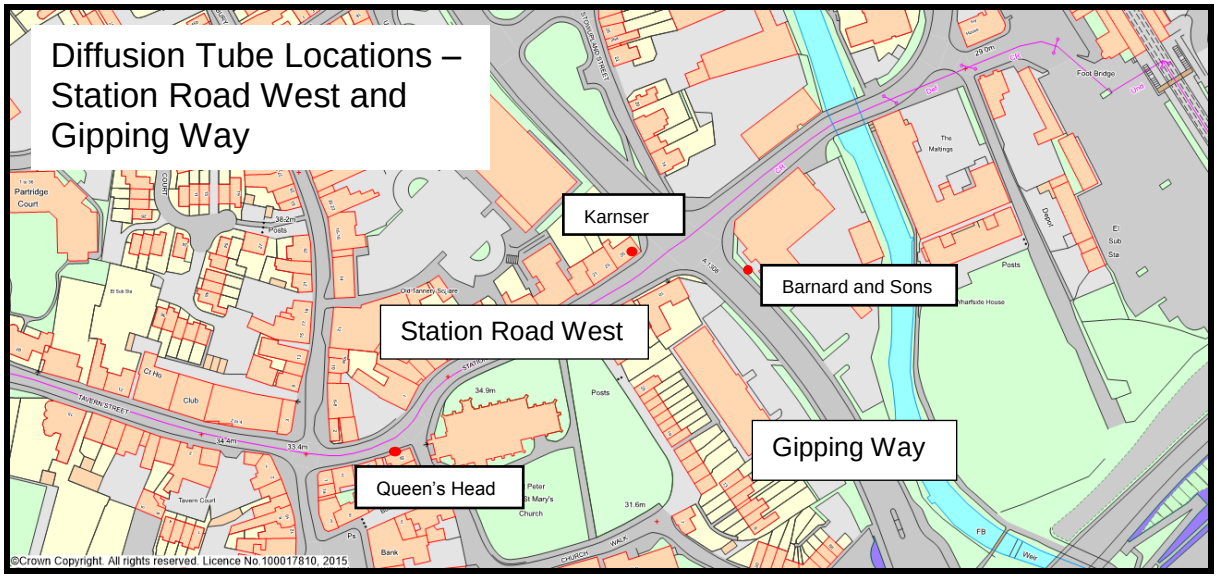
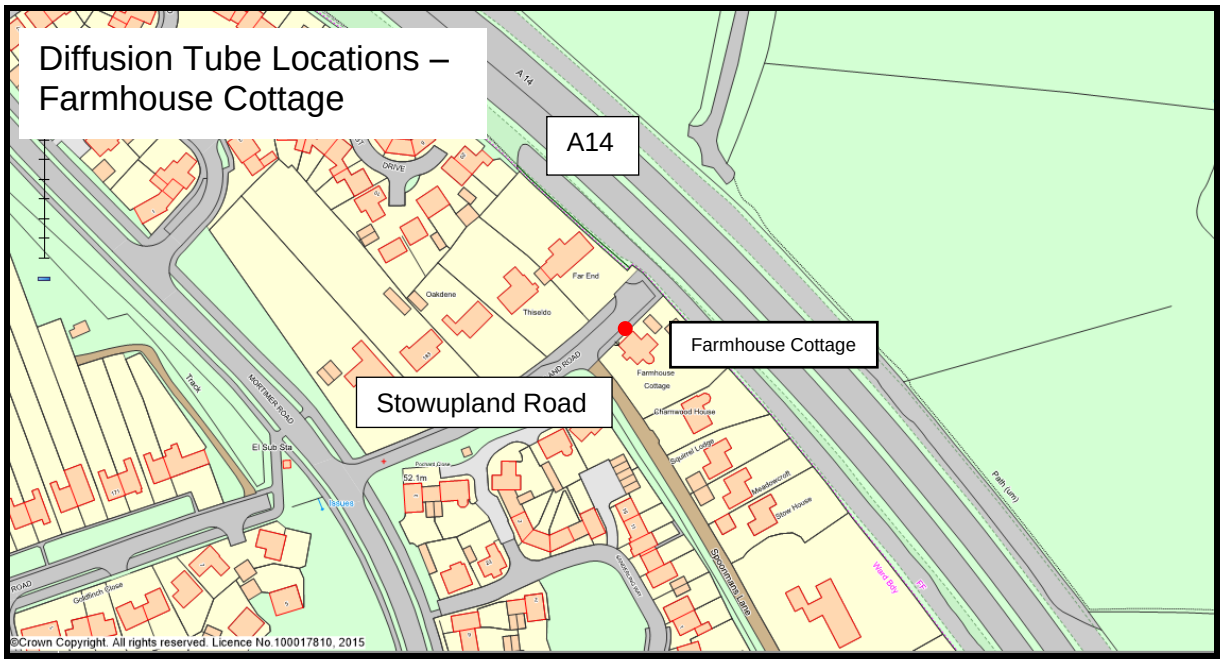

Diffusion Tube Locations – Gainsborough Road
13
GAINSBOROUGH ROAD
Salisbury Terrace
Haleville
Thomas Cottage
Crofton Mews
Crofton House
North House
Croft Cottage
CROFT ROAD
Hall
Victoria Hall
Works
PRINCE STREET
NEW STREET
PH
Posts
35.4m
31.7m
© Crown Copyright. All rights reserved. Licence No. 100023274 2009

Figure 2.2 Maps of Non-Automatic Monitoring Sites in the Mid Suffolk District Council area






Diffusion Tube Locations – High Street
High Street
131
Club
HAWKS MILL ST
PH
22.3m
Hurstlea Court
The Ancient House
KING WILLIAM STREET
CONSTITUTION HILL
Hall
TCB
Council Offices
Bank
HIGH STREET
KING WILLIAM STREET
Church
BRIDGE STREET
PC
El Sub Sta
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Table 2.1 Details of Non-Automatic Monitoring Sites

Local Authority	Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
Babergh DC	9 Cross Street, Sudbury	Roadside	X 586848 Y 241133	NO_2	Y	N	Y (0m)	2.0m	N
Babergh DC	17 Cross Street, Sudbury	Roadside	X 586836 Y 241089	NO_2	Y	N	Y (0m)	2.56m	N
Babergh DC	30 Cross Street, Sudbury	Roadside	X 586808 Y 241015	NO_2	Y	N	Y (0m)	2.5m	N
Babergh DC	36 Cross Street, Sudbury	Roadside	X 586790 Y 240944	NO_2	N	N	Y (0m)	2.61m	N
Babergh DC	58 Cross Street, Sudbury	Roadside	X 586798 Y 241010	NO_2	Y	N	Y (0m)	2.57m	N
Babergh DC	70 Cross Street, Sudbury	Roadside	X 586818 Y 241068	NO_2	Y	N	Y (0m)	2.45m	N
Babergh DC	78 Cross Street, Sudbury	Roadside	X 586829 Y 241104	NO_2	Y	N	Y (0m)	2.62m	N
Babergh DC	82 Cross Street, Sudbury	Roadside	X 586835 Y 241123	NO_2	Y	N	Y (0m)	2.19m	Y
Babergh DC	87 Cross Street, Sudbury	Roadside	X 586842 Y 241148	NO_2	Y	N	Y (0m)	2.71m	N
Babergh DC	5 Ballingdon Street, Sudbury	Roadside	X 586721 Y 240879	NO_2	N	N	Y (0m)	2.24m	N
Babergh DC	7 Ballingdon Street, Sudbury	Roadside	X 586723 Y 240941	NO_2	N	N	Y (0m)	2.25m	N
Babergh DC	30 Church Street, Sudbury	Roadside	X 586822 Y 240952	NO_2	N	N	Y (0m)	2.59m	N

Local Authority	Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Does this location represent worst-case exposure?
Babergh DC	54 Church Street, Sudbury	Roadside	X 586930 Y 241058	NO_2	N	N	Y (0m)	2.63m	N
Babergh DC	12 King Street, Sudbury	Roadside	X 587510 Y 241319	NO_2	N	N	Y (0m)	2.77m	Y
Babergh DC	7 Gainsborough Street, Sudbury	Roadside	X 587253 Y 241256	NO_2	N	N	Y (0m)	2.79m	Y
Babergh DC	31 Friars Street, Sudbury	Roadside	X 587257 Y 241110	NO_2	N	N	Y (0m)	2.61m	Y
Babergh DC	13 Gainsborough Road, Sudbury	Roadside	X 587211 Y 241252	NO_2	N	N	Y (0m)	2.69m	N
Mid Suffolk DC	Karnser, Station Road West, Stowmarket	Roadside	X 060497 Y 025874	NO_2	N	N	Y (0m)	2.24m	Y
Mid Suffolk DC	131 High Street, Needham Market	Roadside	X 060871 Y 025522	NO_2	N	N	N (19m)	4.57m	N
Mid Suffolk DC	Queens Head, Station Road West, Stowmarket	Roadside	X 060486 Y 025867	NO_2	N	N	N (22m)	1.69m	N
Mid Suffolk DC	Barnard and Sons, Gipping Way, Stowmarket	Roadside	X 060502 Y 025874	NO_2	N	N	N (29m)	2.32m	N
Mid Suffolk DC	Farmhouse Cottage, Stowupland Road, Stowmarket	Roadside	X 060604 Y 025930	NO_2	N	N	Y (0m)	15.7m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

Previous assessments have concluded that for Babergh and Mid Suffolk District Councils, monitoring is only necessary for Nitrogen dioxide. The aim of this monitoring is to determine whether any locations exceed, or are at risk of exceeding, the Air Quality Objective of 40 µg/m^3 as an annual mean. Over time, the location of diffusion tubes has varied, based upon the results obtained. This report considers the locations where monitored was conducted in 2014, and the trends at these locations since 2010.

2.2.1 Nitrogen Dioxide

Non automatic Nitrogen dioxide monitoring is conducted within both districts using diffusion tubes. Within the Babergh district this focuses around the Cross Street area of Sudbury, where an AQMA was designated in 2008. Within the Mid Suffolk district the diffusion tube monitoring focuses in and around the Gipping Way/Station Road junction in Stowmarket. Other locations which may be of concern are also monitored. Locations of diffusion tubes are shown in Figures 2.1 and 2.2.

Table 2.3 shows the results of monitoring during 2014. Where there is more than one diffusion tube at a monitoring location, the mean of these results has been calculated. Full details of individual monthly data for 2014 are given in Appendix E.

Each diffusion tube location was monitored for 12 months (100% data capture), with the exception of:

- 5 Ballingdon Street, Sudbury – monitoring was undertaken between June and December owing to high concentrations in this location from a single tube, with annual averages above 35 µg/m^3 between 2009 and 2013. It was decided to add an additional tube to increase the precision. In the last USA it was concluded that the AQMA boundary may need to increase to include Ballingdon Street, so it was beneficial to increase the monitoring at this location.
- 30 Church Street, Sudbury – monitoring was undertaken between January and July. Following a safety risk assessment of the practice of changing the

tube at this location, it was considered necessary to remove this site from the monitoring programme. In previous years, the results from this location have been significantly below the Air Quality Objective, and the results for the first seven months of 2014 indicated that this was still the case. Therefore, it was not considered necessary to relocate the diffusion tube.

- 13 Gainsborough Road, Sudbury - monitoring was undertaken between January and May. Following a safety risk assessment of the practice of changing the tube at this location, it was considered necessary to remove this site from the monitoring programme. In previous years, the results from this location have been significantly below the Air Quality Objective. Therefore, it was not considered necessary to relocate the diffusion tube.

The monitoring conducted in these three locations is summarised below, and details of the data annualisation are given in Appendix F.

Table 2.2 Details of locations where monitoring was not carried out for the full 2014 calendar year

Monitoring location	Monitoring period	Data capture for monitoring period	Data capture for the calendar year
5 Ballingdon Street, Sudbury (second tube)	June – December	100%	58%
30 Church Street, Sudbury	January – July	100%	58%
13 Gainsborough Road, Sudbury	January – May	100%	42%

With regard to 5 Ballingdon Street, Sudbury, this was a single site between January and May 2014 and this figure was used as the monthly result. The site was a duplicate-tube site between June and December 2014, and during this time a monthly mean was calculated. It is not appropriate to annualise the data for the second tube. As there was at least one diffusion tube at the site throughout the year, the data capture for this site is shown as 100% in Table 2.3.

Where the annual mean concentration exceeds the Air Quality Objective, the figure in Tables 2.3 and 2.4 is presented in bold. The annual mean concentration has not exceeded 60 µg/m^3 since the removal of a 'build out' (a highway safety obstruction)

in Cross Street, Sudbury, which occurred in March 2010. The data continues to show that the removal of the 'build out' has been effective in lowering the overall annual mean concentration and the risk of exceeding the 1-hour objective is no longer present. There are no other areas within the Babergh district, or locations within the Mid Suffolk district, that have an annual mean greater than 60 µg/m^3. Therefore, investigation into the 1-Hour Objective is not necessary.

With regard to locations where the annual mean exceeds the Objective, within the Babergh district these locations are all within the AQMA at Cross Street, Sudbury. There are two other locations within the Babergh district that are close to reaching the Objective, which are 58 Cross Street, Sudbury (annual mean 39.8 µg/m^3) and 7 Ballingdon Street, Sudbury (annual mean 38.5 µg/m^3). 58 Cross Street is within the AQMA, but 7 Ballingdon Street is not. All of these locations represent relevant exposure and therefore will be closely monitored in the future.

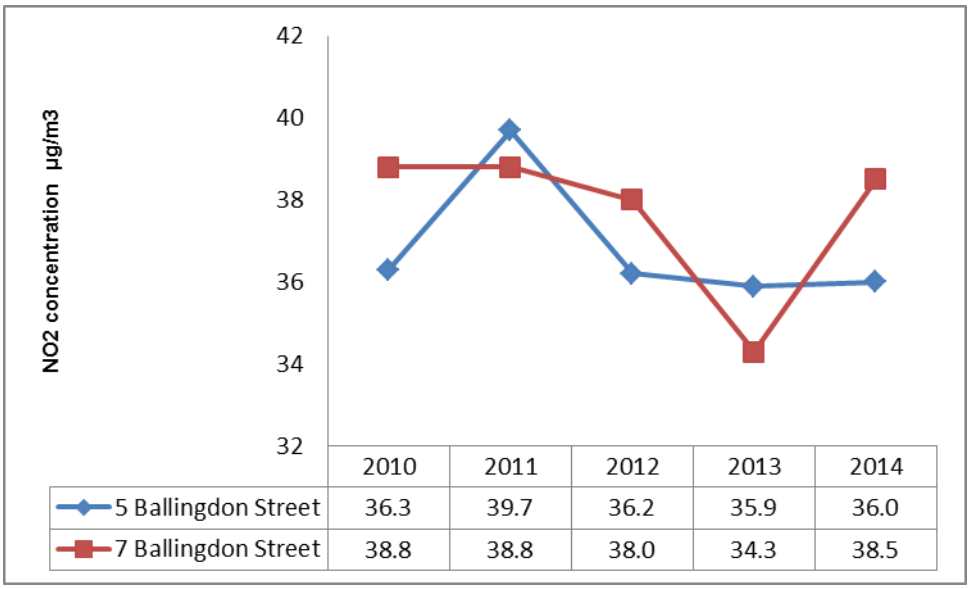
The locations that have exceeded the Objective in 2014 have, in all but one instance, exceeded the Objective since 2010. These results are shown in Figure 2.3 below. This trend graph includes the borderline location of 58 Cross Street. These results support the determination of the AQMA.

Figure 2.3 Annual mean Nitrogen dioxide concentrations at locations that exceeded the Objective in 2014

	2010	2011	2012	2013	2014
30 Cross Street	44.2	42.1	39.5	41.9	41.2
58 Cross Street	41.2	41.6	42.6	43.1	39.8
78 Cross Street	52.4	55.0	53.5	53.0	50.0
82 Cross Street	47.6	54.7	54.6	54.1	52.8
87 Cross Street	50.0	54.2	56.1	51.4	52.7

The only near-exceedance outside the AQMA was at 7 Ballingdon Street. It is proposed that monitoring with two diffusion tubes will continue at 5 and 7 Ballingdon Street, as the annual mean at both locations has been close to the Objective for a number of years (see Figure 2.4 below). The last USA concluded that the boundary of the AQMA may need to be extended to include Ballingdon Street. The results obtained since this report do not support extending the AQMA boundary at the current time, but the locations will be kept under review.

Figure 2.4 Annual mean Nitrogen dioxide concentrations at 5 and 7 Ballingdon Street, 2010-2014



	2010	2011	2012	2013	2014
5 Ballingdon Street	36.3	39.7	36.2	35.9	36.0
7 Ballingdon Street	38.8	38.8	38.0	34.3	38.5

Within the Mid Suffolk district, the one location that exceeded the Objective is at The Queens Head, Stowmarket, and this is not within an AQMA. However, there is no relevant exposure at the location of this tube, and so this monitoring location will be reviewed to consider this fact. The nearest relevant exposure is on a side-road off Station Road West, where there is very little traffic. The annual mean has not been distance-corrected as the environment at the nearest relevant exposure is very different from the monitoring location. Excluding this location, monitoring within the Mid Suffolk district has not identified an exceedance, or close-to exceedance, of the Objective.

The site called Barnard and Sons, Gipping Way, Stowmarket, does not represent relevant exposure. The nearest relevant exposure is across Gipping Way, and it may

be beneficial to monitor at this property as it will be affected differently by the traffic flow. It is therefore proposed that the monitoring point at Barnards and Sons be moved to represent relevant exposure. The location that would appear to be the worst case exposure at this crossroads is Karnser, Station Road West, as this is closest to queuing traffic. Data from 2011-13 showed results around the Objective, but the result for 2014 is lower, at 33.6 µg/m^3. Consideration will be given to monitoring this location with two tubes in the future to better establish whether there is an exceedance of the Objective.

A review of air quality monitoring locations within the Mid Suffolk district will be undertaken before September 2015 to ensure that all monitoring meets best practice, as defined in LAQM.TG(09). Several of the current monitoring locations do not represent relevant exposure and consideration will be given to relocating or removing these diffusion tubes. The changes to the road network in Stowmarket (see Chapter 3) will also be taken into account in this review of locations.

Diffusion Tube Monitoring Data

Table 2.3 Results of Nitrogen Dioxide Diffusion Tubes in 2014

Local Authority	Location	Site Type	Within AQMA?	Single, Double or Triplicate Tube	Data Capture 2014 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)*	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.81)[%] 2014 (μg/m^3)
Babergh DC	9 Cross Street, Sudbury	Roadside	Y	Double	12 months (100%)	N/A	N	34.7
Babergh DC	17 Cross Street, Sudbury	Roadside	Y	Double	12 months (100%)	N/A	N	34.2
Babergh DC	30 Cross Street, Sudbury	Roadside	Y	Triplicate	12 months (100%)	N/A	N	**41.2**
Babergh DC	36 Cross Street, Sudbury	Roadside	N	Single	10 months (83%)	N/A	N	32.1
Babergh DC	58 Cross Street, Sudbury	Roadside	Y	Triplicate	12 months (100%)	N/A	N	39.8
Babergh DC	70 Cross Street, Sudbury	Roadside	Y	Double	12 months (100%)	N/A	N	34.7
Babergh DC	78 Cross Street, Sudbury	Roadside	Y	Double	12 months (100%)	N/A	N	**50.0**
Babergh DC	82 Cross Street, Sudbury	Roadside	Y	Double	12 months (100%)	N/A	N	**52.8**
Babergh DC	87 Cross Street, Sudbury	Roadside	Y	Double	12 months (100%)	N/A	N	**52.7**
Babergh DC	5 Ballingdon Street, Sudbury	Roadside	N	Double	12 months (100%)	N/A	N	36.0
Babergh DC	7 Ballingdon Street, Sudbury	Roadside	N	Double	12 months (100%)	N/A	N	38.5
Babergh DC	30 Church Street, Sudbury	Roadside	N	Single	7 months (58%)	Y	N	22.8

Local Authority	Location	Site Type	Within AQMA?	Single, Double or Triplicate Tube	Data Capture 2014 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)*	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.81)[%] 2014 (μg/m^3)
Babergh DC	54 Church Street, Sudbury	Roadside	N	Single	12 months (100%)	N/A	N	24.3
Babergh DC	12 King Street, Sudbury	Roadside	N	Single	12 months (100%)	N/A	N	21.6
Babergh DC	7 Gainsborough Street, Sudbury	Roadside	N	Single	12 months (100%)	N/A	N	33.2
Babergh DC	31 Friars Street, Sudbury	Roadside	N	Single	11 months (92%)	N/A	N	20.7
Babergh DC	13 Gainsborough Road, Sudbury	Roadside	N	Single	5 months (42%)	Y	N	27.5
Mid Suffolk DC	Karnser, Station Road West, Stowmarket	Roadside	N	Single	11 months (92%)	N/A	N	33.6
Mid Suffolk DC	131 High Street, Needham Market	Roadside	N	Single	12 months (100%)	N/A	N	23.3
Mid Suffolk DC	Queens Head, Station Road West, Stowmarket	Roadside	N	Single	12 months (100%)	N/A	N	**43.6**
Mid Suffolk DC	Barnard and Sons, Gipping Way, Stowmarket	Roadside	N	Single	12 months (100%)	N/A	N	32.9
Mid Suffolk DC	Farmhouse Cottage, Stowupland Road, Stowmarket	Roadside	N	Single	12 months (100%)	N/A	N	26.9

***** See Appendix F for details of data that has been annualised

% Bias adjustment factor of 0.81, derived from Air Quality Review and Assessment Helpdesk Spreadsheet of Bias Adjustment Factors, v.03/15

Table 2.4 Results of Nitrogen Dioxide Diffusion Tubes (2010 to 2014)

Local Authority	Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) μg/m^3				
				2010[†] (Bias Adjustment Factor = 0.78)	2011[‡] (Bias Adjustment Factor = 0.84)	2012[%] (Bias Adjustment Factor = 0.79)	2013[%] (Bias Adjustment Factor = 0.81)	2014[%] (Bias Adjustment Factor = 0.81)
Babergh DC	9 Cross Street, Sudbury	Roadside	Y	31.5	34.3	32.2	33.7	34.7
Babergh DC	17 Cross Street, Sudbury	Roadside	Y	32.0	34.6	33.5	35.5	34.2
Babergh DC	30 Cross Street, Sudbury	Roadside	Y	**44.2**	**42.1**	39.5	**41.9**	**41.2**
Babergh DC	36 Cross Street, Sudbury	Roadside	Y	37.0	34.9	33.0	33.4	32.1
Babergh DC	58 Cross Street, Sudbury	Roadside	Y	**41.2**	**41.6**	**42.6**	**43.1**	39.8
Babergh DC	70 Cross Street, Sudbury	Roadside	Y	33.7	34.6	36.0	37.3	34.7
Babergh DC	78 Cross Street, Sudbury	Roadside	Y	**52.4**	**55.0**	**53.5**	**53.0**	**50.0**
Babergh DC	82 Cross Street, Sudbury	Roadside	Y	**47.6**	**54.7**	**54.6**	**54.1**	**52.8**
Babergh DC	87 Cross Street, Sudbury	Roadside	Y	**50.0**	**54.2**	**56.1**	**51.4**	**52.7**
Babergh DC	5 Ballingdon Street, Sudbury	Roadside	N	36.3	39.7	36.2	35.9	36.0
Babergh DC	7 Ballingdon Street, Sudbury	Roadside	N	38.8	38.8	38.0	34.3	38.5
Babergh DC	30 Church Street, Sudbury	Roadside	Y	30.5	28.8	25.6	24.7	22.8

Local Authority	Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) μg/m^3				
				2010[†] (Bias Adjustment Factor = 0.78)	2011[‡] (Bias Adjustment Factor = 0.84)	2012[%] (Bias Adjustment Factor = 0.79)	2013[%] (Bias Adjustment Factor = 0.81)	2014[%] (Bias Adjustment Factor = 0.81)
Babergh DC	54 Church Street,Sudbury	Roadside	Y	29.6	27.8	26.9	24.3	24.3
Babergh DC	12 King Street, Sudbury	Roadside	N	N/A	20.8	24.4	21.8	21.6
Babergh DC	7 Gainsborough Street, Sudbury	Roadside	N	N/A	36.5	35.1	33.3	33.2
Babergh DC	31 Friars Street, Sudbury	Roadside	N	N/A	20.2	22.4	22.3	20.7
Babergh DC	13 Gainsborough Road, Sudbury	Roadside	N	N/A	27.6	30.4	29.7	27.5
Mid Suffolk DC	Karnser, Station Road West, Stowmarket	Roadside	N	N/A	**42.3**	**40.4**	39.2	33.6
Mid Suffolk DC	131 High Street, Needham Market	Roadside	N	26.5	28.1	26.9	24.8	23.3
Mid Suffolk DC	Queens Head, Station Road West, Stowmarket	Roadside	N	30.7	29.2	**44.0**	**42.9**	**43.6**
Mid Suffolk DC	Barnard and Sons, Gipping Way, Stowmarket	Roadside	N	N/A	N/A	37.7	33.6	32.9
Mid Suffolk DC	Farmhouse Cottage, Stowupland Road, Stowmarket	Roadside	N	33.1	26.9	26.9	27.5	26.9

[†] Bias adjustment factor of 0.78, derived from Air Quality Review and Assessment Helpdesk Spreadsheet of Bias Adjustment Factors, v.03/11
[‡] Bias adjustment factor of 0.84, derived from Air Quality Review and Assessment Helpdesk Spreadsheet of Bias Adjustment Factors, v.04/12
[%] Bias adjustment factor of 0.79, 0.81 and 0.81, derived from Air Quality Review and Assessment Helpdesk Spreadsheet of Bias Adjustment Factors, v.03/15

2.2.2 PM_{10}

Previous assessments have not identified a risk of PM_{10} exceeding the Air Quality Objectives in either district. Therefore, monitoring is not conducted for PM_{10}.

2.2.3 Sulphur Dioxide

Previous assessments have not identified a risk of Sulphur dioxide exceeding the Air Quality Objectives in either district. Therefore, monitoring is not conducted for Sulphur dioxide.

2.2.4 Benzene

Previous assessments have not identified a risk of Benzene exceeding the Air Quality Objectives in either district. Therefore, monitoring is not conducted for Benzene.

2.2.5 Other pollutants monitored

Previous assessments have not identified any other pollutants as being of risk of exceeding the Air Quality Objectives in either district. Therefore, monitoring is not conducted for any other pollutants.

2.2.6 Summary of Compliance with Air Quality Objectives

Table 2.5 Summary of Compliance with Air Quality Objectives

Pollutant	General	New Exceedences identified?	Detailed Assessment Required	Objective	Description of Area
Babergh District Council					
NO_2	New monitoring outside AQMAs	No	No	N/A	N/A
	New monitoring inside AQMAs	Yes	No	N/A	N/A
PM_{10}	New monitoring outside AQMAs	No	N/A	N/A	N/A
	New monitoring inside AQMAs	N/A	N/A	N/A	N/A
All other pollutants	New monitoring outside AQMAs	No	N/A	N/A	N/A
	New monitoring inside AQMAs	N/A	N/A	N/A	N/A
Mid Suffolk District Council					
NO_2	New monitoring outside AQMAs	Yes	No	N/A	N/A
	New monitoring inside AQMAs	N/A	N/A	N/A	N/A
PM_{10}	New monitoring outside AQMAs	No	N/A	N/A	N/A
	New monitoring inside AQMAs	N/A	N/A	N/A	N/A
All other pollutants	New monitoring outside AQMAs	No	N/A	N/A	N/A
	New monitoring inside AQMAs	N/A	N/A	N/A	N/A

3 Road Traffic Sources

The Babergh and Mid Suffolk districts are predominantly rural, with few significant roads with the exception of the A12 and the A14, or significant changes to road networks over time. A number of locations have been assessed previously; up until 2012 in the Babergh district and until 2011 in the Mid Suffolk district. Changes since these dates, and sources that have not previously been assessed that may result in a risk of the Air Quality Objectives being exceeded, will be assessed in this report. The pollutants of interest with regard to road traffic sources are Nitrogen dioxide and PM_{10}. In line with LAQM.TG(09), the AQMA at Cross Street, Sudbury, will not be considered in this chapter.

Table 3.1 Summary of Road Traffic Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and objectives to be assessed
Narrow Congested Streets with Residential Properties Close to the Kerb	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A
Busy Streets Where People May Spend 1 Hour or More Close to Traffic	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	Yes	No	N/A	N/A
Roads with a High Flow of Buses and/or HGVs	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A
Junctions	Babergh DC	Yes	No	N/A	N/A
	Mid Suffolk DC	Yes	No	N/A	N/A

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and objectives to be assessed
New Roads Constructed or Proposed since the Last Round of Review and Assessment	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	Yes	No	N/A	N/A
Roads with Significantly Changed Traffic Flows	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A
Bus and Coach Stations	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Previous assessments have considered narrow congested streets in both districts. Modelling or data from diffusion tubes has shown that the only exceedance of the Air Quality Objective for Nitrogen dioxide is at Cross Street, Sudbury, where an AQMA has been designated. There are no new or newly identified narrow congested streets in either district.

3.2 Busy Streets Where People May Spend 1 Hour or More Close to Traffic

Within the Babergh district there are no new busy streets where people may spend an hour or more close to traffic. King Street, Sudbury has previously been assessed and no exceedances of the Objective were predicted. Traffic flows on King Street have been very consistent over the last 10 years[2], diffusion tube results are consistently below the Objective, and there is no reason to re-assess this location.

Within the Mid Suffolk district, the main retail centre is Stowmarket, and all other locations have been ruled out during previous assessments. Ipswich Street (the principal shopping area) was previously assessed, and the annual average daily traffic flow (AADT) was less than 5,000 vehicles in 2007. No further action was necessary as the relevant criteria for a detailed assessment (AADT greater than 10,000) were not met. Over recent years the population of Stowmarket has increased due to new housing developments on the fringes of the town, but it is very unlikely that the AADT will have doubled since 2007; hence Ipswich Street is not considered to be a busy street. Bury Street, Stowmarket is a newly identified shopping street where individuals may spend more than one hour. However, AADT figures on nearby roads that are more significant are less than 10,000[2], hence Bury Street does not require a Detailed Assessment.

3.3 Roads with a High Flow of Buses and/or HGVs

The only locations within the Babergh district that have previously been identified as meeting the criteria for having an unusually high proportion of Heavy Duty Vehicles (HDVs) are the A14 at Sproughton and the A14 at the Orwell Bridge. However, as there was not relevant exposure, no further assessment was previously required. It is likely that these locations still have an unusually high proportion of HDVs owing to the proximity of the container port at Felixstowe, but as there is no new relevant exposure, no further consideration of these locations is necessary.

Within the Mid Suffolk district, the industrial estates and airfields (for example at Eye and Horham) that were previously identified as having an unusually high proportion of HDVs did not have relevant exposure. There have not been any new receptors introduced into these areas and no further assessment is required.

3.4 Junctions

Within the Babergh district, Junction 55 of the A14 (Copdock Interchange, a roundabout junction of the A12, A14 and A1214) has been reconfigured, with works finishing in approximately 2012. These works have not led to relevant exposure within 10m of the kerb and therefore there is no need to proceed further.

Within the Mid Suffolk district, a new housing development on the urban fringe of Stowmarket has led to a new junction on the A1308 (Gipping Way), with Navigation Approach. There is not relevant exposure within 10m of this junction, and therefore there is no need to proceed further. Additionally, one of the previously modelled junctions, the A1308 with the B1115, Stowmarket (that was not predicted to exceed the Objectives), appears to now be less busy due this nearby change in road layout. The 2011 report mentioned that the A14 at Haughley (around Junctions 47 and 48) was being re-routed. This work is now complete and although there has been a change in points of access onto and off the A14, this has not led to junctions that meet the criteria for Detailed Assessment.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

There are no significant new or proposed roads within the Babergh district.

Within the Mid Suffolk district, the main new road is Navigation Approach, Stowmarket. An air quality assessment was commissioned by Suffolk County Council and did not predict exceedances of the Air Quality Objectives. A copy is not available at the District Council, so it cannot be confirmed whether the assessment is sufficient for review and assessment purposes. Therefore, this matter has been further looked into. Although traffic count data is not available for this road, nearby B-roads that appear to have similar volumes of traffic, have significantly below 10,000 vehicles[2]. Recent diffusion tube data from a nearby site where traffic flow may have changed since the construction of Navigation Approach has shown results lower than 36 µg/m^3. Therefore, the criteria for a Detailed Assessment are not met. There are no known proposed roads within the Mid Suffolk district.

3.6 Roads with Significantly Changed Traffic Flows

Within the Babergh district, there are few roads that have AADT greater than 10,000. Seven roads were identified in the 2012 USA, with comparisons between 2008 and 2010 presented, but traffic data is not available for many of these roads for 2014.

Additionally, the figures previously quoted for 2010 are slightly different from the current source of traffic data. Therefore, the assessment is limited, but there is no reason to predict a large increase in traffic on any road within the district, and those that have been assessed show increases that are far below the 25% increase that leads to a Detailed Assessment.

Road	2010	2014	Difference
A12 Copdock NB	23,510	24,070*	+2.4%
A12 Copdock SB	24,044	25,207	+4.8%
A131 - Ballingdon Street, Sudbury	14,000	15,001	+7.2%

* Figure for 2013 as no data available for 2014

Data from Reference 2

There is a similar situation in the Mid Suffolk district. Specific roads with AADT greater than 10,000 have not been identified in reports since 2005, and with the data available it is not possible to comment on current traffic flows on all of those roads. Calculations at that time showed little change between 2002 and 2005, and there is no reason to suspect that there is now a large increase in traffic on any of those roads. The roads for which recent data is available, with an AADT greater than 10,000 are presented below.

Road	2010	2014	Difference
A14 Baylham	47,358	47,266*	-0.2%
A140 Stuston	13,999	14,459	+3.3%
A140 Thornham Parva	13,539	14,379	+6.2%

* Figure for 2013 as no data available for 2014

Data from Reference 2

There are no roads in either district with significantly changed traffic flows and there is no need to proceed further.

3.7 Bus and Coach Stations

There are no relevant bus or coach stations in either district.

4 Other Transport Sources

Other transport sources have been assessed previously; up until 2012 in the Babergh district and until 2011 in the Mid Suffolk district. Changes since these dates, and sources that have not previously been assessed, that may result in a risk of the Air Quality Objectives being exceeded will be assessed in this report. These timeframes also apply to the sources discussed in Chapter 5, 6 and 7.

The pollutants of interest with regard to these other transport sources are Nitrogen dioxide and Sulphur dioxide.

4.1 Airports

There are no commercial airports operating in either district, as listed in Appendix C of LAQM.TG(09). There is a military installation at Wattisham (within the Babergh district), but this has previously been considered and did not meet the criteria for a Detailed Assessment. The nature of flights from Wattisham airfield has not changed significantly and no further investigation is required.

Table 4.1 Summary of Airport Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Airport	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

4.2 Railways (Diesel and Steam Trains)

There have not been any changes to the routes of railways since the last assessments, but timetables have changed. Stationary diesel and coal fired trains will be considered with regard to Sulphur dioxide, and moving diesel trains will be considered with regard to Nitrogen dioxide.

4.2.1 Stationary Trains

The main railway running through the two districts is the London to Norwich line. This is mainly served by electric trains, and trains are not regularly stationary on this line for more than 15 minutes. A short section of the Sudbury to Marks Tey line, including Sudbury station, is within the Babergh district. This line is served by diesel trains. The Mainline Train Timetable, from December 2014[3] shows that there is no idling on this line for more than 15 minutes. Within the Mid Suffolk district, there are four stations on the Ipswich to Cambridge line; Needham Market, Stowmarket, Elmswell and Thurston. This line is served by diesel trains. Trains only stop at these stations for as long as necessary for passengers to depart and alight, and there are no other locations on the route where trains are regularly stationary[4].

Table 4.2 Summary of Railway (Stationary Trains) Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Railways – Stationary Trains	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

4.2.2 Moving Trains

No sections of track that may have a large number of movements of diesel locomotives, as identified in LAQM.TG(09), pass through either district.

Table 4.3 Summary of Railway (Moving Trains) Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Railways – Moving Trains	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

4.3 Ports (Shipping)

Within the Babergh district, the Shotley peninsula lies between the ports of Felixstowe and Harwich. These large container ports are within adjacent local authority areas. Shipping movements have increased in recent years due to economic conditions and the development of the Port of Felixstowe, with the Harwich Haven Authority website stating there are 17,000 commercial movements per year[5]. The closest relevant exposure within the Babergh district is approximately 1100m from berths at the Port of Felixstowe and approximately 1050m from berths at the Port of Harwich. The main areas of manoeuvring are close to the berths. As there is not relevant exposure within 1km, there is no need to proceed further. However, air quality will be taken into account if residential properties are proposed within 1km of the berths in the future or an expansion of the port that will result in existing dwellings falling within a 1km radius of new berths.

The Mid Suffolk district is 'landlocked', and does not have any major rivers with shipping. No further consideration is therefore required.

Table 4.4 Summary of Port (Shipping) Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Port	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

5 Industrial Sources

5.1 Industrial Installations

Industrial installations can emit a range of pollutants. Those of particular interest in this assessment are Sulphur dioxide, Nitrogen dioxide, Benzene and PM_{10}. Sources within the districts and close to the boundaries are assessed. However, as most neighbouring local authorities are rural with little industry, the main consideration is sources within the borough of Ipswich.

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

The last USA for Babergh District Council mentioned that there had been pre-application discussions about a biomass generator within the borough of Ipswich, approximately 500m from properties within the Babergh district. This project has not proceeded.

At the time of the last Progress Report for Mid Suffolk District Council, an application had been made to the Environment Agency for an Environmental Permit for an 'energy from waste' facility at Lodge Lane, Great Blakenham. The information in this application included an assessment showing that relevant emission limits (under the Environmental Permitting Regulations 2010) would be met. The application had not been determined. No reference was made in the Progress Report to the planning application process (permission was granted by Suffolk County Council in August 2011, reference MS/210/11[6]). An air quality assessment for local air quality management purposes was included in the planning application, and assessed by both the District and County Councils. The air quality modelling predicted no significant air quality impacts and no exceedances of the Air Quality Objectives. Therefore, there is no reason to proceed further. For reference though, the Environmental Permit has been granted and the facility began operation in December 2014. The facility meets the requirements of the Waste Incineration Directive and continuous monitoring shows that pollutants are consistently below the limit stated in the permit[7].

There are no other new or proposed installations within the Mid Suffolk district and none within the Babergh district or adjacent local authorities.

Table 5.1 Summary of New or Proposed Installations for which an Air Quality Assessment has been Carried Out

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Industrial (New/Proposed Installations with Air Quality Assessment)	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	Yes	No	N/A	N/A

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

There are no installations in either district, or in a boundary location of an adjacent local authority, where emissions have substantially increased. Although production at sites has increased since the last reports, written during a time of decreased production due to economic conditions, current activity is not significantly greater and has not led to substantially greater emissions. There is no known new relevant exposure in the vicinity of existing installations.

Table 5.2 Summary of Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Reason	Description of Area to be assessed	Pollutants and Objectives to be assessed
Industrial	Babergh DC	No	No	N/A	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A	N/A

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

There are no known new or significantly changed installations in either district, or nearby in neighbouring authorities, for which an air quality assessment has not been conducted.

Table 5.3 Summary of New or Significantly Changed Installations with No Previous Air Quality Assessment

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Industrial (New Installation/ Increased Emissions without Air Quality Assessment)	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

5.2 Major Fuel (Petrol) Storage Depots

There are no major fuel (petrol) storage depots within either district. There is a major fuel depot within an adjacent local authority area, Vopak in Ipswich Borough Council, but this is not currently in operation. This depot is approximately 1,250m from residential properties in the Babergh district, and has not previously been assessed. Therefore, if the depot recommences operation, it will then be assessed.

Table 5.4 Summary of Major Fuel (Petrol) Storage Depot Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Major Fuel Storage Depot	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

5.3 Petrol Stations

There are no new petrol stations that are permitted under the Environmental Permitting Regulations 2010 since the last assessments. The criteria for assessment under LAQM.TG(09) is new petrol stations with an annual petrol throughput of more than 2 million litres, but as a permit is required for a lower annual throughput, and all previously permitted petrol stations have been assessed, it can be concluded that it is not necessary to proceed further. The petrol stations that have previously been shown to have an annual throughput greater than 2 million litres still do not have relevant exposure nearby.

Table 5.5 Summary of Petrol Station Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Petrol Station	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

5.4 Poultry Farms

Within the Babergh district there are still no poultry farms that have permits under the Environmental Permitting Regulations 2010[8] (a permit is required when the livestock capacity exceeds 40,000 poultry, which is a lower number of livestock than are required for an assessment under LAQM.TG(09)[9]).

Within the Mid Suffolk district there are several permitted poultry farms[8] and this potential source of PM_{10} emissions has not been assessed previously. There are six poultry farms that have between 200,000 and 400,000 permitted places[10]. Table 5.6 shows the details of these sites and their means of ventilation.

Table 5.6 Poultry Farms within the Mid Suffolk district with more than 200,000 permitted places

Site name	Number of permitted places	Mechanical or natural ventilation
Fenning Farm Poultry Unit	280,000	Mechanical
Collingsford (Thwaite) Farm	395,000	Mechanical
Ebdens Farm	252,000	Mechanical
Worlingworth Poultry Unit	230,000	Mechanical
Buchanan Airfield Poultry Farm	315,999	Mechanical
Brundish Poultry Farm	200,300	Mechanical

As these farms are all mechanically ventilated and do not exceed 400,000 birds, there is no need to proceed further. There are no turkey units.

Table 5.7 Summary of Poultry Farm Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Poultry Farm	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	Yes	No	N/A	N/A

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

There are no known biomass combustion appliances within either district that require assessment.

Table 6.1 Summary of Biomass Combustion (Individual) Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Biomass Combustion (Individual)	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

6.2 Biomass Combustion – Combined Impacts

There are no known areas within either district where the combined impact of biomass combustion appliances requires assessment.

Table 6.2 Summary of Biomass Combustion (Combined) Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Biomass Combustion (Combined)	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

6.3 Domestic Solid-Fuel Burning

As the districts are predominantly rural, there are few well-populated locations, which reduce the likelihood of the relevant criteria for a Detailed Assessment being met. Previously, data has been obtained for both districts from the Southern England

Regional Co-ordinator of the Approved Coal Merchants Scheme and this showed that through the 2000's, the use of solid fuel has reduced. This trend is expected to have continued and there are no known areas where significant coal burning takes place.

Table 6.3 Summary of Domestic Solid-Fuel Burning Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Domestic Fuel Burning	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

7 Fugitive or Uncontrolled Sources

Fugitive emissions from a range of sources, including quarries, landfills and construction sites can lead to elevated concentrations of PM_{10}. There are several quarries and landfill sites within both districts, but these have previously been assessed. There continues to be very few complaints of dust and no new relevant exposure. Furthermore, waste is now diverted from the landfill site at Great Blakenham (in the Mid Suffolk district) to the incinerator. There are no known long term construction sites, or significant number of complaints about dust from any location within the districts. Therefore, a Detailed Assessment is not required.

Table 7.1 Summary of Fugitive or Uncontrolled Sources

Source Type	Local Authority	New or previously not assessed sources identified?	Detailed Assessment required?	Description of Area to be assessed	Pollutants and Objectives to be assessed
Fugitive Emissions	Babergh DC	No	No	N/A	N/A
	Mid Suffolk DC	No	No	N/A	N/A

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

Within the Babergh district, four diffusion tube sites exceeded the Annual Mean Objective for Nitrogen dioxide in 2014. These are all within the designated AQMA. Another site within the AQMA showed results very close to the annual mean. This data supports the designation of the AQMA and the Order will not be amended at this time. Previous monitoring just outside the AQMA (Ballingdon Street) that showed results very close to the Objective, now shows minor reductions. There is not the evidence to include this area in the AQMA. In general, annual mean Nitrogen dioxide concentrations over the last five years have been fairly constant.

Within the Mid Suffolk district, the new monitoring data does not provide evidence to support the designation of an AQMA. There was one diffusion tube site that exceeded the Annual Mean Objective for Nitrogen dioxide in 2014, but this site does not represent relevant exposure. No actual or potential exceedances of the Objective for Nitrogen dioxide at relevant exposure have been identified. At all other locations, there has been a reduction in annual mean Nitrogen dioxide concentrations over the last five years.

8.2 Conclusions from Assessment of Sources

A range of sources of pollutants have been assessed in both districts. This has not identified any potential exceedances of the Air Quality Objectives in either district.

8.3 Proposed Actions

This USA has not identified the need to proceed to a Detailed Assessment for any pollutant. The key area of concern is the Cross Street area of Sudbury, and work will continue regarding the existing AQMA. Monitoring with diffusion tubes will continue at the same sites within the Babergh district as these are relevant locations, and a review of the location of diffusion tubes within the Mid Suffolk district will be carried

out. It is intended that a Progress Report covering both districts will be submitted in 2016.

9 References

1. 2011 Census, Office for National Statistics.
2. Suffolk Observatory, www.suffolkobservatory.info.
3. Mainline Train Timetables, Abellio Greater Anglia.
4. Ipswich to Cambridge and Peterborough Timetable, Abellio Greater Anglia.
5. Harwich Haven Authority, http://www.hha.co.uk/commercial.html.
6. Planning consent for Suffolk Energy from Waste facility, Lodge Lane, Great Blakenham, IP6 0JE, reference MS/210/11.
7. Suffolk Energy from Waste, http://www.suffolkefw.co.uk/, accessed 15/05/2015 regarding emissions monitoring from last 90 days.
8. Environment Agency Public Register http://epr.environment-agency.gov.uk/ePRInternet/SearchRegisters.aspx.
9. Environment Agency, Poultry Farms: General Regulations, https://www.gov.uk/poultry-farms-general-regulations.
10. Permitted intensive poultry farming installations at end April 2015 in Mid Suffolk, obtained from Environment Agency.
11. Automatic Urban and Rural Network section of DEFRA website, http://uk-air.defra.gov.uk/data/.

Appendices

Appendix A: Email correspondence with LAQM Helpdesk.

Appendix B: Location of Babergh and Mid Suffolk District Councils within Suffolk.

Appendix C: Babergh District Council Air Quality Management Order 2008 for Cross Street, Sudbury.

Appendix D: QA/QC Data for Diffusion Tubes.

Appendix E: Monthly Diffusion Tube Results (2014).

Appendix F: Details of data that has been annualised.

Appendix A: Email correspondence with LAQM Helpdesk

From: antony.wiatr@uk.bureauveritas.com [mailto:antony.wiatr@uk.bureauveritas.com] **On Behalf Of** LAQMHelpdesk@uk.bureauveritas.com
Sent: 30 March 2015 12:23
To: Jennifer Lockington
Cc: anna.czerska@uk.bureauveritas.com
Subject: Re: 2587 - USA template for Local Authorities working in partnership

Dear Jennifer,

Thank you for contacting the LAQM Helpdesk. Your query has been allocated the unique reference code: 2587 and you should use this as a reference for any further follow up regarding the following response.

Either template could be used. However, I suggest you adapt the Regional Group USA template for your purposes to form a combined submittal. This would demonstrate the joined-up approach that Babergh District Council and Mid Suffolk District Council are taking. It should also facilitate some time savings, as I am sure there a common themes due to the partnership approach.

Ultimately, the templates provided are only suggestions - you may adapt them as you see fit for your purposes, as long as the requirements of the reporting round are met (as per TG(09) guidance).

When it comes to submittal of a combined report, there are 2 options. You can either submit under the lead authorities record, with the understanding that if any 1 of the 2 LAs fails their appraisal, both will fail; or alternatively submit 2 copies on the RSW, 1 under Babergh District Council and another under Mid Suffolk District Council - this would mean each are appraised and recorded on the RSW individually.

Hope this helps, please let me know if any further queries in relation to the above.

Regards

Antony

Dr Antony Wiatr
LAQM Helpdesk Team
Email: LAQMHelpdesk@uk.bureauveritas.com
Website: http://laqm.defra.gov.uk/
FAQs: http://laqm.defra.gov.uk/laqm-faqs/
What's New: http://laqm.defra.gov.uk/whatsnew.html
Telephone: 0800 032 7953

To: LAQMHelpdeskmail@VERITAS
cc:

Attn: Antony Wiatr/GBR/VERITAS

Subject: 2587 - USA template for Local Authorities working in partnership

Good morning

Babergh District Council and Mid Suffolk District Council are working in partnership, with a shared management structure, and many officers working in both districts. They are two legal entities however.

We would like to submit one USA covering both districts. Please could you advise me whether the standard USA template or the regional group template is most suitable for this situation. I can see advantages and disadvantages of either approach, and wondered which you would recommend please.

Regards

Jennifer Lockington (Mrs)
Environmental Protection Officer
Babergh and Mid Suffolk District Councils - Working Together

Telephone: 01449 724706

Email: jennifer.lockington@baberghmidsuffolk.gov.uk
Websites: www.babergh.gov.uk www.midsuffolk.gov.uk

Appendix B: Location of Babergh and Mid Suffolk District Councils within Suffolk

1. Forest Heath District Council
2. St Edmundsbury District Council
3. Babergh District Council
4. Mid Suffolk District Council
5. Ipswich Borough Council
6. Suffolk Coastal District Council
7. Waveney District Council

Appendix C: Babergh District Council Air Quality Management Order 2008 for Cross Street, Sudbury

BABERGH DISTRICT COUNCIL
AIR QUALITY MANAGEMENT ORDER 2008

Babergh District Council ("the Council") of Corks Lane, Hadleigh, Ipswich, Suffolk IP7 6SJ, has made the following Order, in exercise of its powers under Section 83 of the Environment Act 1995:

1. This Order may be cited as the "Babergh District Council Air Quality Management Order 2008". It will come into operation on 21 November 2008.

2. The Council declares that it has designated an area situated on either side of a section of Cross Street, Sudbury, Suffolk, as an Air Quality Management Area ("the Designated Area"). The Designated Area comprises the land hatched red on the attached map, which is indexed in Schedule 1. The Order and map have been prepared and sealed with the Common Seal of the Council and deposited at the offices of the Council at Corks Lane, Hadleigh, Ipswich, Suffolk IP7 6SJ. An explanatory note is included in Schedule 2.

3. The Order may be varied or revoked by a subsequent Order.

4. The Council may revise the Designated Area from time to time.

Schedule 1 – Designated Area

Air Quality Management Area: Map reference No. AQMA1/08

Schedule 2 – Explanatory Note

The Air Quality Management Order 2008 designates an area situated on either side of a section of Cross Street, Sudbury, Suffolk, shown hatched red on Map reference No. AQMA1/08, as an Air Quality Management Area. This is an area in which the Government's annual mean air quality objective for nitrogen dioxide is unlikely to be achieved. The area will be subject to an Action Plan in order to pursue the achievement of the annual mean objective for nitrogen dioxide in the Designated Area.

Dated 20 November 2008

THE COMMON SEAL OF BABERGH DISTRICT COUNCIL was hereunto affixed in the presence of:

Solicitor to the Council .....

Air Quality Management Order 2008, Schedule 1

Air Quality Management Area: Map reference No. AQMA1/08

BABERGH DISTRICT COUNCIL
Corks Lane, Hadleigh, Ipswich. IP7 6SJ
Telephone : 01473 822801
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N

SCALE 1:1250

Date Printed : 06/11/2008

Appendix D: QA/QC Data for Diffusion Tubes

Diffusion Tube Bias Adjustment Factors

Diffusion tubes are supplied and analysed by Environmental Services Group (ESG) Didcot. The preparation method is 50% TEA in acetone. The bias adjustment factors that have been used for 2012, 2013 and 2014 are 0.79, 0.81 and 0.81 respectively, from spreadsheet version number 03/15. The bias adjustment factor used for 2011 is 0.84 from spreadsheet version number 04/12. The bias adjustment factor used for 2010 is 0.78 from spreadsheet version number 03/11.

Discussion of Choice of Factor to Use

As there are no collocated studies, the national bias adjustment factors have been used.

Short-term to Long-term Data Adjustment

Details of this process are explained in Appendix F.

QA/QC of Diffusion Tube Monitoring

The analysis of diffusion tube samples to determine the amount of Nitrogen dioxide present on the tube is within the scope of ESG Didcot's UKAS schedule. The samples are analysed in accordance with ESG's standard operating procedure, which meets the guidelines set out in DEFRA's 'Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance'. In the WASP intercomparison scheme for comparing spiked Nitrogen dioxide diffusion tubes, ESG is ranked as a 'satisfactory' laboratory, with 100% of results considered satisfactory between April 2013 and November 2014. With regard to precision results, ESG Didcot, 50% TEA in acetone obtained 13 good results and 9 poor results in 2014.

Appendix E: Monthly Diffusion Tube Results, 2014 (µg/m^3)

Babergh District Council

Site ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Count	Min	Max	Mean	Bias corrected
9 Cross Street, Sudbury	54.7	46.7	59.2	41.2	38.8	38.3	33.0	31.6	42.5	49.9	52.2	45.8	12	31.6	59.2	44.5	
9 Cross Street, Sudbury	49.7	45.3	58.8	41.1	32.7	32.1	30.5	30.6	41.1	48.3	45.0	39.6	12	30.5	58.8	41.2	
9 Cross Street, Sudbury, Mean	52.2	46.0	59.0	41.2	35.8	35.2	31.8	31.1	41.8	49.1	48.6	42.7	12	31.1	59.0	42.9	34.7
17 Cross Street, Sudbury	54.3	49.2	44.5	47.7	38.2	35.0	36.8	35.2	43.5	51.5	54.8	39.5	12	35.0	54.8	44.2	
17 Cross Street, Sudbury	50.4	41.8	42.9	37.2	36.0	33.9	34.7	31.8	42.9	46.3	47.4	36.8	12	31.8	50.4	40.2	
17 Cross Street, Sudbury, Mean	52.4	45.5	43.7	42.5	37.1	34.5	35.8	33.5	43.2	48.9	51.1	38.2	12	33.5	52.4	42.2	34.2
30 Cross Street, Sudbury	55.2	54.3	59.2	60.7	49.2	52.5	46.2	45.2	68.0	57.6	62.7	45.8	12	45.2	68.0	54.7	
30 Cross Street, Sudbury	53.3	51.8	51.6	52.2	45.9	46.4	45.1	43.7	58.7	57.1	59.4	44.0	12	43.7	59.4	50.8	
30 Cross Street, Sudbury	49.1	50.1	45.4	51.6	44.7	46.3	37.7	36.5	54.0	54.7	57.8	39.4	12	36.5	57.8	47.3	
30 Cross Street, Sudbury, Mean	52.5	52.1	52.1	54.8	46.6	48.4	43.0	41.8	60.2	56.5	60.0	43.1	12	41.8	60.2	50.9	41.2
36 Cross Street, Sudbury	45.7	43.0	45.5	42.0	33.2	28.5	36.8	29.2	40.9	51.0			10	28.5	51.0	39.6	32.1
58 Cross Street, Sudbury	48.9	50.1	54.1	55.4	41.6	48.3	51.1	46.4	56.0	57.4	53.6	59.7	12	41.6	59.7	51.9	
58 Cross Street, Sudbury	46.3		53.3	51.2	39.8	47.9	50.4	41.3	54.5	52.7	53.2	52.3	11	39.8	54.5	49.4	
58 Cross Street, Sudbury	38.7		46.8	46.2	38.7	46.5	47.6	37.7	52.8	49.4	49.3	47.6	11	37.7	52.8	45.6	
58 Cross Street, Sudbury, Mean	44.6	50.1	51.4	50.9	40.0	47.6	49.7	41.8	54.4	53.2	52.0	53.2	12	40.0	54.4	49.1	39.8
70 Cross Street, Sudbury	38.2	40.5	49.2	45.0	39.5	45.0	49.8	32.8	51.6	43.4	48.6	46.0	12	32.8	51.6	44.1	
70 Cross Street, Sudbury	31.9	39.5	46.5	44.5	36.2	39.2	44.9	32.5	51.1	40.1	47.8	43.1	12	31.9	51.1	41.4	
70 Cross Street, Sudbury, Mean	35.1	40.0	47.9	44.8	37.9	42.1	47.4	32.7	51.4	41.8	48.2	44.6	12	32.7	51.4	42.8	34.7
78 Cross Street, Sudbury	50.3	62.3	66.2	65.1	65.4	65.5	72.3	59.8	74.3	75.7	73.7	70.7	12	50.3	75.7	66.8	
78 Cross Street, Sudbury	42.6	43.4	62.6	63.0	46.1	55.6	56.4	49.5	64.4	63.9	69.7	64.1	12	42.6	69.7	56.8	
78 Cross Street, Sudbury, Mean	46.5	52.9	64.4	64.1	55.8	60.6	64.4	54.7	69.4	69.8	71.7	67.4	12	46.5	71.7	61.8	50.0
82 Cross Street, Sudbury	60.0	76.2	66.4	66.9	54.1	55.8	62.6	70.3	72.6	80.1	71.0	75.1	12	54.1	80.1	67.6	
82 Cross Street, Sudbury	54.7	72.0	62.9	61.7	52.7	46.2	52.7	68.9	71.8	68.4	68.4	72.0	12	46.2	72.0	62.7	
82 Cross Street, Sudbury, Mean	57.4	74.1	64.7	64.3	53.4	51.0	57.7	69.6	72.2	74.3	69.7	73.6	12	51.0	74.3	65.1	52.8

Site ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Count	Min	Max	Mean	Bias corrected
86/87 Cross Street, Sudbury	63.4	73.0	66.6	70.6	55.4	53.8	66.2	61.7	72.6	76.9	67.1	81.5	12	53.8	81.5	67.4	
86/87 Cross Street, Sudbury	57.2	67.4	61.5	64.1	55.0	49.7	57.0	60.6	70.6	67.5	64.6	76.7	12	49.7	76.7	62.7	
86/87 Cross Street, Sudbury, Mean	60.3	70.2	64.1	67.4	55.2	51.8	61.6	61.2	71.6	72.2	65.9	79.1	12	51.8	79.1	65.0	52.7
5 Ballingdon Street, Sudbury	55.3	55.6	52.1	36.8	36.0	38.1	33.4	33.6	47.3	52.5	54.4	53.4	12	33.4	55.6	45.7	
5 Ballingdon Street, Sudbury						31.3	30.1	30.3	41.8	45.8	53.5	49.0	7	30.1	53.5	40.3	
5 Ballingdon Street, Sudbury, Mean	55.3	55.6	52.1	36.8	36.0	34.7	31.8	32.0	44.6	49.2	54.0	51.2	12	31.8	55.6	44.4	36.0
7 Ballingdon Street, Sudbury	66.9	53.8	62.3	45.3	40.4	40.9	38.2	42.9	49.3	62.4	55.0	58.2	12	38.2	66.9	51.3	
7 Ballingdon Street, Sudbury	36.5	52.0	61.0	41.2	30.1	31.3	27.1	37.8	43.7	59.6	50.5	54.9	12	27.1	61.0	43.8	
7 Ballingdon Street, Sudbury, Mean	51.7	52.9	61.7	43.3	35.3	36.1	32.7	40.4	46.5	61.0	52.8	56.6	12	32.7	61.7	47.6	38.5
30 Church Street, Sudbury	30.4	34.1	35.5	31.2	23.9	21.3	19.7						7	19.7	35.5	28.1	22.8
54 Church Street, Sudbury	34.0	30.9	35.4	27.9	23.7	20.0	23.7	24.5	28.5	35.9	32.7	42.5	12	20.0	42.5	30.0	24.3
12 King Street, Sudbury	38.4	32.6	29.0	23.3	16.3	15.7	17.4	20.2	25.0	29.7	35.2	36.9	12	15.7	38.4	26.6	21.6
7 Gainsborough St, Sudbury	43.6	44.6	47.5	38.6	38.4	34.2	37.2	40.3	35.5	46.4	38.6	47.3	12	34.2	47.5	41.0	33.2
31 Friars Street, Sudbury	28.1	30.7	29.0	27.2	19.4	19.4		19.1	22.8	27.4	33.8	23.9	11	19.1	33.8	25.5	20.7
13 Gainsborough Rd, Sudbury	46.7	42.2	38.3	33.1	34.2								5	33.1	46.7	34.0	27.5

Mid Suffolk District Council

Site ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Count	Min	Max	Mean	Bias corrected
Karnser, Station Road West, Stowmarket	41.2	40.9	44.9	32.9	32.2	28.4	38.9	44.5		43.9	48.4	60.0	11.0	28.4	60.0	41.5	33.6
131 High Street, Needham Market	31.0	32.9	33.2	25.9	24.7	18.4	23.9	25.8	30.4	27.5	31.0	40.0	12.0	18.4	40.0	28.7	23.3
Queens Head, Station Road West, Stowmarket	58.1	53.8	56.9	48.0	52.0	40.0	86.0	32.4	55.4	51.1	59.9	52.0	12.0	32.4	86.0	53.8	43.6
Barnard and Sons, Gipping Way, Stowmarket	45.8	47.5	46.7	35.4	40.0	30.3	33.9	26.0	44.9	39.8	53.9	43.6	12.0	26.0	53.9	40.7	32.9
Farmhouse Cottage, Stowupland Rd, Stowmarket	30.5	24.0	41.5	35.3	36.2	31.0	34.3	24.2	43.2	29.7	40.6	28.2	12.0	24.0	43.2	33.2	26.9

Appendix F: Details of Data that has been annualised

Data has been annualised for two diffusion tube locations – 30 Church Street, Sudbury and 13 Gainsborough Road, Sudbury (both within the Babergh district). Data was collected at 30 Church Street between January and July, with a mean of 28.0 µg/m^3, and at 13 Gainsborough Road between January and May, with a mean of 38.9 µg/m^3.

To annualise this data, the process in Box 3.2 of LAQM.TG(09) has been followed. The sites used from the Automatic Urban and Rural Networks are St Osyth, which is 38km away and Wicken Fen which is 40km away. These are both background rural sites. The data used in this process has been obtained from the DEFRA website[11].

Site ID	AURN site	Annual mean	Period mean	Ratio	Adjustment factor	Annualised mean (µg/m^3)
30 Church Street, Sudbury	St Osyth	14.5	13.9	1.043	1.0025	28.07
	Wicken Fen	7.6	7.9	0.962		
13 Gainsborough Road, Sudbury	St Osyth	14.5	15.0	0.967	0.875	34.04
	Wicken Fen	7.6	9.7	0.783		