ENV/254/67
17/08/2011

2011 Air Quality Progress Report for Suffolk Coastal District Council

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

(August, 2011)

Local Authority Officer	Mrs Denise Lavender Mr Andrew Reynolds

Department	Environmental Protection
Address	Suffolk Coastal District Council Melton Hill Woodbridge Suffolk IP12 1AU
Telephone	01394 444624
e-mail	Environmental.Protection@Suffolkcoastal.gov.uk

Report Reference number	ENV/254/67
Date	August 2011

Executive Summary

This report fulfils the requirements of the Local Air Quality Management (LAQM) 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.

This report consists of an air quality update Progress Report 2011 for the whole district, together with the Air Quality Action Plan Progress Report for the AQMA declared at the junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction).

Previous rounds of review and assessment for the district have culminated in the declaration of two AQMAs. The first was declared in 2006 and encompasses several properties on the Woodbridge Junction. The second was declared more recently, in 2009, for The Dooley Inn, Ferry Lane, Felixstowe. This is a single property close to the Port of Felixstowe.

This Progress Report has not identified the need to proceed to a Detailed Assessment for any pollutant at this time.

There are 2 existing industrial installations which require further emission information to be collected to determine whether a Detailed Assessment is required. These are Eurovia Limited (formerly Ringway Infrastructure Services) and Novera Energy, both located in Brightwell.

Assessment of 20 biomass combustion installations within the district was undertaken,16 require no further action to be taken and 4 were identified as requiring additional information and investigation (2 located in Tunstall, 1 in Heveningham and 1 in Leiston). A screening assessment will be undertaken for each installation and presented in the next annual air quality report.

Suffolk County Council has investigated a number of options for the A12 at Stratford St Andrew and Farnham and will be implementing a warning sign system so that should heavy goods vehicles be approaching the Farnham bend from both directions at the same time a warning sign will be activated to inform the vehicles of the approaching situation.

The Action Plan for the Woodbridge Junction AQMA was accepted by the Department for Environment, Food and Rural Affairs (Defra) in May 2011. It consists of 20 measures (out of 79 potential ones) that could be undertaken at the junction to hopefully ease the congestion / reduce the overall traffic flows and therefore in turn reduce the elevated levels of nitrogen dioxide being experienced. Updates on each of the 20 measures are included in this report.

The Further Assessment for the AQMA at The Dooley Inn, Ferry Lane, Felixstowe received Defra approval in 2010. The Action Plan options for this site are currently being drawn up and finalised with the Port of Felixstowe. A full Public and Statutory Consultation on the options drawn up is due to be undertaken later this year.

For further information concerning this report please contact:
Environmental Protection, Suffolk Coastal District Council, Melton Hill, Woodbridge IP12 1AU
Tel: (01394) 444624
Email: environmental.protection@suffolkcoastal.gov.uk

Non - Technical Summary

All Councils must assess air quality within their district on a regular basis to see whether levels set by the Government are being exceeded anywhere. If they are, there is then a set procedure to follow which ends in the declaration of an Air Quality Management Area and the production of a long term Action Plan to try and reduce these levels. An air quality report must be produced every year - this document is an update report on our progress and any changes in the last 12 months on the district.

Historic assessment of air quality in the district has led to 2 areas being identified which are above the levels set by the Government for the pollutant nitrogen dioxide. These are several houses on the road junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction), and the Dooley Inn, Ferry Lane, Felixstowe (a single property close to the Port of Felixstowe). Both areas have been officially declared as Air Quality Management Areas, Woodbridge in 2006 and Felixstowe in 2009. We have produced the Action Plan for the Woodbridge Junction, included in section 9 of this report is the official annual 'Action Plan Progress Report' due for the Woodbridge Junction. We are in the process of producing a draft Action plan for the Dooley Inn, Felixstowe for Public Consultation.

The information which needs to be provided in this report is set by Government guidance and consists of;

- monitoring results collected in 2010;
- information on any new sources of pollutants including road traffic, other transport sources (rail, air, shipping), industry, use of solid fuel in biomass boilers and domestic houses and sources where emissions cannot be controlled such as quarries, landfill sites etc.
- On-going planning applications with air quality implications
- Planning Policies
- Transport Plans
- Climate Change Strategies

Monitoring Data

In 2010 nitrogen dioxide was the only pollutant measured in the district. This was undertaken using 2 different techniques; automatic analyser (2 sites) which provides an average level every 15 minutes, and diffusion tube (29 sites) which provides an average level over a month.

There were 5 areas within the district in 2010 where levels were measured – Felixstowe, Kesgrave, Melton, Woodbridge and Martlesham. The specific locations have been chosen following past assessment of air quality which has shown they could be at risk of exceeding the set level for nitrogen dioxide.

The results of monitoring show a number of locations where nitrogen dioxide is above the set level. These locations are all situated within the declared Air Quality Management Areas in Woodbridge and Felixstowe. Work is on-going at these sites to try and reduce the levels through the Action Plan produced for each area.

New Local Developments / sources of pollutants

There are no new sources of road traffic or other transport sources (air, rail, shipping) in the district since the 2010 air quality report.

There are 3 new industrial premises on the district all dealing with the disposal/transfer of waste. Emissions from these sites are not large enough to cause exceedance of any of the set levels and no further investigations are needed.

There are 2 historic industrial premises on the district, both within Brightwell, for which further information on emissions of pollutants is required before we can confirm whether any levels could be exceeded. This information will be obtained and the results included in the next air quality report due in 2012.

There are 20 sites within the district with known or proposed use of solid fuel in a biomass boiler which have been investigated. 16 of these sites will not cause air quality levels to be exceeded. The remaining 4 sites require further information to be collected to carry out an assessment. These are located in Tunstall, Heveningham and Leiston. The results will be included in the next air quality report. There are no areas within the district with sufficient domestic use of solid fuel to cause any levels to be exceeded.

There are no new industrial sites in the district where emissions cannot be controlled (quarries, landfill sites etc.)

Planning Applications

Any planning applications within the district which could impact on air quality need to be listed in this report and updates on each provided in future air quality reports.

There are 4 developments which were listed in last year's (2010) air quality report for which updates are provided:

- Land at junction of Station Road and Wilford Bridge Road and Girdlestone Pumps, Station Road, Melton
- Redevelopment of Adastral Park, Martlesham Heath
- Orwell High School and land to the North West and High Street, Maidstone Road, Felixstowe
- Land between Rendham Road and A12, Rendham Road, Saxmundham (outline application)

There is 1 new development:

- Incinerator installation at The Knackers Yard, Valley Farm Road, Melton

Additional Information

The following additional information is provided in this report should you wish to view it:

- Planning Policies (Section 6 of this report)
- Transport Plans, mainly Suffolk County Council (Section 7 of this report)
- Climate Change Strategies (Section 8 of this report)

A number of options have been investigated at Stratford St Andrew and Farnham due to difficulties experienced when two heavy goods vehicles (HGVs) travelling in opposite directions meet at the narrowest point of the sharp bend at Farnham. Following their investigations, Suffolk County Council have decided to implement a warning sign system so that should HGVs be approaching from both directions at the same time a warning sign will be activated to inform the vehicles of the approaching situation.

Action Plan Progress Report for the Woodbridge Junction Air Quality Management Area

The Action Plan written for the Woodbridge Junction was accepted by the Government earlier this year. It consists of 20 measures (out of 79 potential ones) that could be undertaken at the junction to hopefully ease the congestion / reduce the overall traffic flows and therefore in turn reduce the elevated levels of nitrogen dioxide being experienced. The measures can be split into 2 types; 'on the ground works' (mainly to be undertaken by Suffolk County Council with Suffolk Coastal District Council input) and more 'softer measures' to be undertaken mainly by Suffolk Coastal District Council.

The 'on the ground works' have started with the installation of a new computerised system to the traffic lights which should reduce congestion and therefore queue lengths. If this option alone is not successful, then installation of a straight on/right hand turning lane on Melton Hill and moving/removing the car parking currently opposite the Council Offices will be investigated. The 'softer measures' include contacting bus companies that use the junction to see whether they can use a cleaner fleet in Woodbridge, travel plans for schools and businesses and investigating improving cycling/walking links in the town and these have already begun to be actioned.

Update on the Air Quality Management Area at The Dooley Inn, Ferry Lane, Felixstowe

This Air Quality Management Area was declared in 2009. Following declaration, the Government procedure requires that we undertake a 'Further Assessment' of the site. This includes results from a further 12-months of monitoring data, to confirm whether the levels are still being exceeded, and information on the sources of air pollution which are causing the elevated levels.

A Further Assessment was produced in 2010 which confirmed that the levels are still being exceeded. The main air pollution sources causing the problem are container handling operations on the Port of Felixstowe and exhaust emissions from heavy duty vehicles (lorries) on roads near the Air Quality Management Area but outside of the Port boundary. Other smaller sources include rail, shipping and light duty vehicles (cars and vans) on roads near the Air Quality Management Area but outside of the Port boundary.

The Action Plan is currently being drawn up for this site and finalised with the Port of Felixstowe. A full Public Consultation on the options drawn up is due to be undertaken later this year.

Table of contents

1 Introduction 1

1.1 Description of Local Authority Area 1

1.2 Purpose of Progress Report 1

1.3 Air Quality Objectives 1

1.4 Summary of Previous Review and Assessments 6

2 New Monitoring Data 10

2.1 Summary of Monitoring Undertaken 10

2.2 Comparison of Monitoring Results with Air Quality Objectives 15

3 New Local Developments 22

3.1 Road Traffic Sources 22

3.2 Other Transport Sources 22

3.3 Industrial Sources 22

3.4 Commercial and Domestic Sources 24

3.5 New Developments with Fugitive or Uncontrolled Sources 26

4 Local / Regional Air Quality Strategy 28

5 Planning Applications 29

6 Air Quality Planning Policies 35

7 Local Transport Plans and Strategies 37

8 Climate Change Strategies 39

9 Action Plan Progress Report for Woodbridge AQMA 41

10 The Dooley Inn, Ferry Lane, Felixstowe 55

11 Conclusions and Proposed Actions 56

10.1 Conclusions from New Monitoring Data 56

10.2 Conclusions relating to New Local Developments 56

10.3 Other Conclusions 57

10.4 Proposed Actions 57

12 References 59

Appendices

Appendix A	**AQMA Order – Woodbridge Junction**	**63**
Appendix B	**AQMA Order – Ferry Lane, Felixstowe**	**65**
Appendix C	**QA:QC Data**	**67**
Appendix D	**Maps showing NO_2 diffusion tube locations**	**71**
Appendix E	**NO_X analyser results summaries**	**79**
Appendix F	**NO_2 diffusion tube results 2010**	**84**
Appendix G	**Environmental Permitting Regulations 2010 - process list**	**91**
Appendix H	**Suffolk County Council Report on Traffic Signs in the Woodbridge Area for Air Quality Management Purposes**	**93**

Glossary of terms and abbreviations **99**

List of Tables

Table 1.1	**Air Quality Objectives included in Regulations for the purpose of Local Air Quality management in England**	**2**
Table 2.1	**Details of Automatic Monitoring Sites**	**10**
Table 2.2	**Details of Non-Automatic Monitoring Sites**	**11**
Table 2.3a	**Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective**	**15**
Table 2.3b	**Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective**	**15**
Table 2.4	**Results of Nitrogen Dioxide Diffusion Tubes**	**17**
Table 3.4	**Biomass boilers within the Suffolk Coastal district and stage of assessment**	**26**
Table 9.1	**Woodbridge Junction Action Plan Progress Summary Table**	**43**
Table 10.1	**Percentage contribution to NOx concentrations at the Dooley Inn receptor by source type, 2008**	**55**

List of Figures

Figure 1.1a	**Map showing the boundary of the AQMA declared at the junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge**	**4**
Figure 1.1b	**Map showing the boundary of the AQMA declared at the Dooley Inn, Ferry Lane, Felixstowe**	**5**
Figure 2.1a	**Location of the automatic NOx analyser, AQMA, and NO_2 diffusion tubes sited at the Woodbridge Junction**	**13**
Figure 2.1b	**Site map showing location of automatic NOx analyser and NO_2 diffusion tubes at the Dooley Inn Public House, Ferry Lane, Felixstowe**	**14**
Figure 2.4a	**Trends in annual mean nitrogen dioxide concentrations measured at permanent diffusion tube sites in Felixstowe**	**19**
Figure 2.4b	**Trends in annual mean nitrogen dioxide concentrations measured at permanent diffusion tube sites in Kesgrave**	**20**
Figure 2.4c	**Trends in annual mean nitrogen dioxide concentrations measured at permanent diffusion tube sites in Woodbridge**	**20**
Figure 2.4d	**Trends in annual mean nitrogen dioxide concentrations measured at permanent diffusion tube sites in Melton**	**21**
Figure 6.1	**Summary of the Local Development Framework**	**36**
Figure 6.2	**Summary of the Development Plan Documents for the Suffolk Coastal District**	**36**
Figure 9.1	**Location of the AQMA declared at the Woodbridge Junction**	**42**

1 Introduction

1.1 Description of Local Authority Area

Suffolk Coastal is a diverse district incorporating thirty miles of coast, expansive areas of countryside, much of which still forms a working landscape, five market towns including Woodbridge, the resort and port of Felixstowe as well as many villages. The district supports over 4,000 businesses, including large employers like the Port of Felixstowe, BT and Sizewell Power Station, as well as a high proportion of small and medium sized businesses that are vital to the local economy. Tourism is also a major driver for the local economy. Much of the district is within the Haven Gateway that is identified for significant growth.

The main source of emissions, within the majority of the district, is road traffic. Within the town of Felixstowe, emissions from and associated with the Port of Felixstowe are a large source of pollutants. While the quality of our air is generally very good and well within the limits set by Government for the protection of human health, there are now two areas within the district where levels of pollution give rise for concern. As such, two Air Quality Management Areas (AQMAs) have been declared in the District, one in Woodbridge (road traffic related) and the other in Felixstowe (associated with emissions from and associated with the Port of Felixstowe).

1.2 Purpose of Progress Report

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 exceedence of an Air Quality Objective, the Local Authority 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 Local Air Quality Management (LAQM) **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043). They are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (for carbon monoxide the units used are milligrammes per cubic metre, mg/m^3). Table 1.1 includes the number of permitted exceedences in any given year (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in England.

Pollutant	Concentration	Measured as	Date to be achieved by
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

1.4 Summary of Previous Review and Assessments

The first round of review and assessment

This was completed in 2001 and consisted of three stages. The findings of the first round were that the air quality objectives for all seven pollutants would be met within the Suffolk Coastal district and no AQMAs were declared.

The second round of review and assessment

An Updating and Screening Assessment was published in 2003, Detailed Assessments in 2004 and 2005 and a Progress Report in 2005.

The findings of the second round were that the air quality objectives for benzene, lead, 1,3-butadiene, and carbon monoxide would be met within the Suffolk Coastal district and no further assessment was necessary.

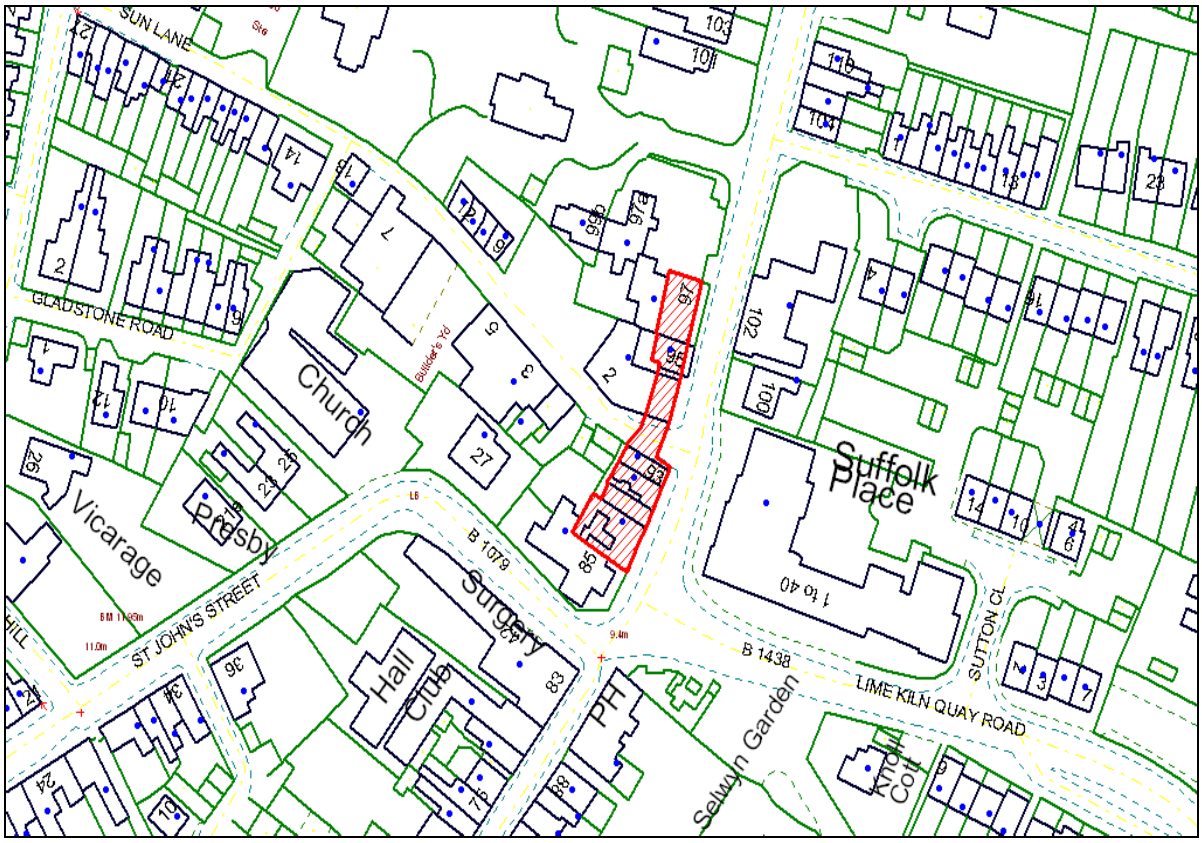
A **Detailed Assessment** monitoring study at locations on the A1214 close to the junction with Bell Lane at Kesgrave showed that it was unlikely that the air quality objective for nitrogen dioxide would be exceeded where there was relevant exposure of members of the public and declaration of an Air Quality Management Area was not necessary.

For nitrogen dioxide, sulphur dioxide and particulate matter the second round of review and assessment concluded that there was a potential risk of the air quality objectives being exceeded. Further investigation was required to assess emissions of nitrogen dioxide from traffic using the junction of Lime Kiln Quay Road, Thoroughfare, and St. John's Street in Woodbridge (Woodbridge Junction), and emissions of nitrogen dioxide, sulphur dioxide and particulate matter from activities on and associated with the Port of Felixstowe.

A **Detailed Assessment** report was produced for the Woodbridge Junction in September 2005. This concluded, from further monitoring and modelling, that the annual mean NO_2 objective was likely to be exceeded in 2005 for two properties at Melton Hill, Woodbridge. On 3 March 2006 an **Air Quality Management Area** Order was made by Suffolk Coastal District Council for the Woodbridge Junction, this came into effect on 3 April 2006. The designated area incorporates properties on the Western side of the Thoroughfare and Melton Hill arm of the junction with Lime Kiln Quay Road, in Woodbridge, Suffolk. A map showing the AQMA boundary can be seen in Figure 1.1a overleaf, and a copy of the AQMA Order is included as Appendix A.

A **Further Assessment** was produced for the Woodbridge Junction in October 2007 which confirmed that the AQMA should be retained and covers the appropriate area at the junction. The source apportionment calculations undertaken concluded that a reduction of vehicle NOx emissions of 16.4% is required to eliminate the exceedances of the objective. Queuing and Heavy Duty Vehicle reductions will be the keys to improving air quality at the junction.

Figure 1.1a Map showing the boundary of the AQMA declared at the junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge.



The third round of review and assessment

The **Updating and Screening Assessment** report (September 2006) determined that further investigation in the form of Detailed Assessment monitoring and computer modelling was required to investigate emissions of nitrogen dioxide, sulphur dioxide and particulate matter from activities on and associated with the Port of Felixstowe, including future predictions for 2010 with the Felixstowe South Reconfiguration and Bathside Bay developments on-line:

The **Detailed Assessment** report for Felixstowe was produced in May 2008 and concluded the following:

- Modelled **sulphur dioxide** concentrations were less than the air quality objectives for all locations outside the port boundary for all modelled scenarios. Measured concentrations at the nearest residential location to the port (Adastral Close) confirm the results of the modelling study. It was not recommended that Suffolk Coastal District Council declare an Air Quality Management Area for sulphur dioxide.
- Measurements indicated that the annual mean objective for **nitrogen dioxide** was exceeded at the Dooley Inn. The modelling study indicated that this is currently the only relevant receptor location at which the objective is not met. The modelling study indicated that there is a risk that the objective for nitrogen dioxide will not be met at approximately fifteen additional properties at the west end of Adastral Close in 2010 and beyond following the Felixstowe South Reconfiguration. Source apportionment studies indicated that container handling operations by rubber tyred gantry (RTG) crane and internal movement vehicles will potentially make the largest contribution to oxides of

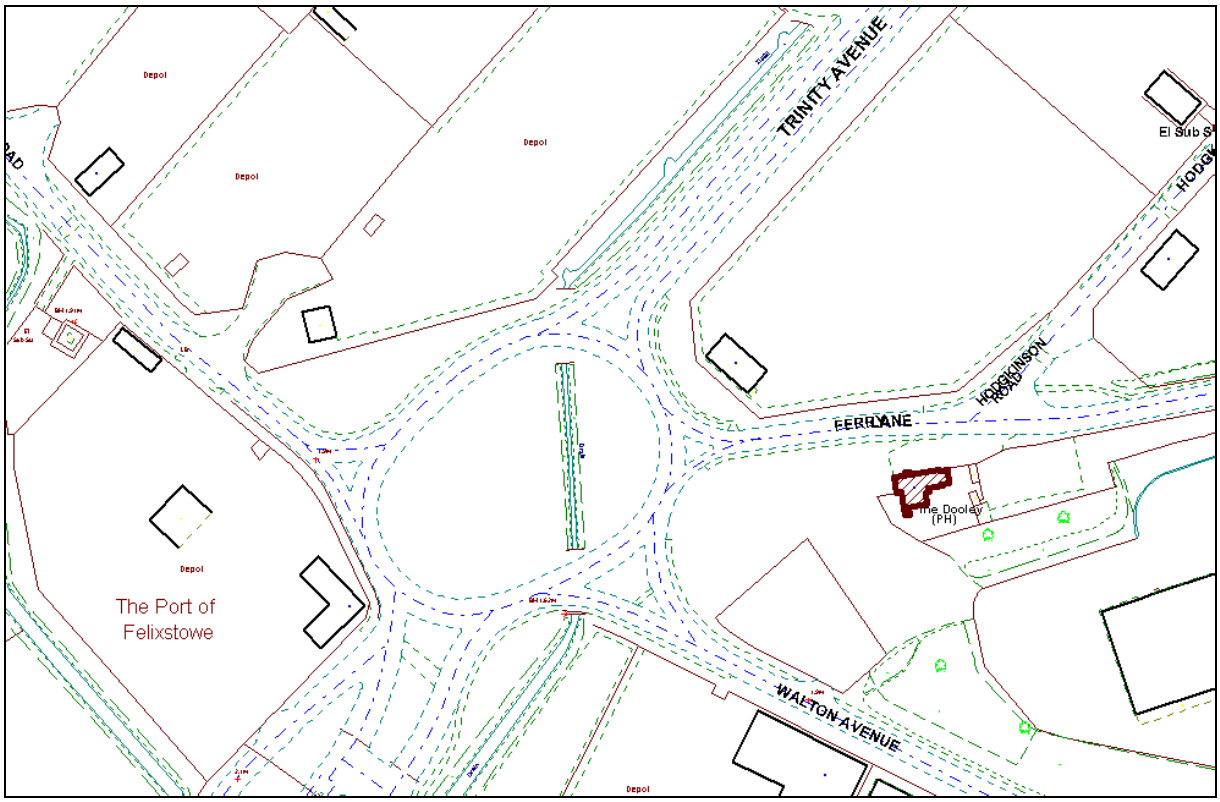
nitrogen concentrations both at Adastral Close and at the Dooley Inn in 2010. The modelling studies indicate that reducing RTG emissions has the potential to reduce concentrations sufficiently that the air quality objective could be met both at Adastral Close and at the Dooley Inn.
It was recommended that Suffolk Coastal District Council declare an Air Quality Management Area for the annual mean nitrogen dioxide objective to cover the Dooley Inn.

- Measurements undertaken at Adastral Close indicate that Suffolk Coastal District Council is not required to declare an Air Quality Management Area for **PM_{10}**. Dispersion modelling of the emissions from ships, roads and container handling operations at the port indicates that members of the public are not currently subject to relevant exposure to concentrations in excess of the objective. Port emissions may increase with the Felixstowe South Reconfiguration but it is predicted that the air quality objective for PM_{10} will continue to be met. It was not recommended that Suffolk Coastal District Council declare an Air Quality Management Area for PM_{10}.

On 1 May 2009 an **Air Quality Management Area** (AQMA) Order was made for the Dooley Inn, Ferry Lane, Felixstowe with regard to the annual mean nitrogen dioxide concentration. A map showing the AQMA boundary can be seen in Figure 1.1b below, and a copy of the AQMA Order is included as Appendix B.

The **Progress Report 2008** provided an update regarding air quality within the district and did not identify any new areas of concern.

Figure 1.1b Map showing the boundary of the AQMA declared at The Dooley Inn, Ferry Lane, Felixstowe.



The fourth round of review and assessment

The **Updating and Screening Assessment report 2009** and the **Progress Report 2010** did not identify the need to proceed to a Detailed Assessment for any pollutant. They advised that work is continuing in order to identify biomass combustion plant within the district in order to undertake a screening assessment.

The draft **Air Quality Action Plan for the Woodbridge Junction** was produced in August 2009 and received approval by Defra. It underwent a full Public Consultation between March and May 2010 from which a number of Consultation responses were received. Further information was obtained relating to the consultation responses and the Action Plan was finalised earlier this year - February 2011. Defra approval of the final Action Plan was received during March 2011.

A **Further Assessment** was produced for the **AQMA declared at Ferry Lane, Felixstowe** in April 2010 and received Defra approval. The **Action Plan** options for this site are currently being drawn up and a full Public Consultation on the options is due to be undertaken later this year.

1.5 Findings of Recent Air Quality Consultations

All Local Authorities must consult on the findings of their periodic reviews of air quality, as laid out in Schedule 11 of the Environment Act 1995. This enables local views to be taken into consideration within the review and assessment process, which is of great importance as Local Air Quality Management (LAQM) is about air quality issues relevant to the Suffolk Coastal district.

Since the Progress Report 2010, there have been two public Consultations undertaken simultaneously. The first consulted on the findings of the afore-mentioned Progress Report 2010. The second consulted on the Further Assessment for the AQMA declared at the Dooley Inn, Ferry Lane, Felixstowe in 2009.

A total of 4 responses were received; 3 with comments relating to the Progress Report 2010; and 1 relating to both reports - this was a thank you with no comments attached.

The 3 responses received relating to the Progress Report 2010 are discussed below, as two of the responses covered a number of topics each topic area is expanded upon separately.

- **Difficulty in reading the reports due to their technical nature** – Two of the consultation responses commented on the technical nature of the information contained within the air quality reports. They explained the difficulty that the general public will have in trying to read and understand the information presented and requested that we try to overcome this.

  It is important to us that members of the public are able to access and comment on air quality within the district should they wish and agree that the general public may have difficulties in reading the air quality reports produced.

  We are in a difficult situation as the Department of Environment, Food and Rural Affairs (Defra) are the body who must officially accept the findings of our reports and they require a certain level of technical detail, particularly surrounding the presentation of

monitoring results. A number of our historic air quality reports were written to be read more easily by members of the public but Defra over the years have requested more technical information for inclusion and, in the last 2 years, have provided all local authorities with a template for the reports and lists of what must be included. We have tried to produce a report that follows the requirements of Defra but that can still be read by members of the public (at least the main conclusions as a minimum) but there are obviously still some difficulties. We have forwarded the consultation comments on to Defra for their information, who advised that they are currently reviewing reporting requirements and will look at what can be done to make reports more accessible.

In this Progress Report we unfortunately have not be able to alter the general layout set by Defra or the required technical detail, but we have added a Non-Technical Summary at the start of the report, and a glossary of technical terms and abbreviations at the back of the report which will hopefully help.

- **Request for air quality monitoring at the new Crematorium, Porters Covert, Nacton**

  The Council is required by Defra to look at all new industrial installations within the district and determine whether monitoring and/or computer modelling of emissions is required. The information obtained from Defra regarding all new crematoria is that all emissions are treated to such an extent on site that what is finally emitted to the air would not be significant to cause exceedances of the air quality objectives.

  Due to financial restraints on the Council we are only able to undertake monitoring on sources considered to have significant emissions which could cause the air quality objectives to be exceeded, and we are therefore unable to undertake monitoring at the Porters Covert Crematorium. The Crematorium is however required to have a Permit to run under the Environmental Permitting Regulations 2010. The Local Authority (Environmental Protection Team) is responsible for issuing the permit and ensuring it is complied with. The Permit sets emission limits that the Crematorium must operate within and these limits ensure that the Air Quality Objectives set within Local Air Quality Management (this reports remit) will not be breached at any receptor locations nearby. The Permit necessitates that emission testing is undertaken at least once per year to confirm that the process is operating within its permitted emission limits and the results must be sent to the Council. In this way emissions from the Crematorium are regulated.

- **Emissions from shipping at Felixstowe –** concerns were raised that there appeared to be no recognition in the Progress Report 2010 that the Council were aware of the polluting potential of the large number of container ships visiting the Port of Felixstowe. Concern was also raised that the Port of Felixstowe may have been involved in this lack of reporting.

  The current Local Air Quality Management regime requires that an Updating and Screening Assessment of air quality throughout the entire district is undertaken every three years (the most recent one having been undertaken in 2009). In this assessment all significant sources of the 7 set pollutants are investigated to determine whether anything has changed since the previous Updating and Screening Assessment that would cause any of the objectives to potentially be breached. In each of the 2 interim years we are required to produce a Progress Report which is a much briefer look at the district with particular focus on any Air Quality Management Areas that have been declared. Emissions from shipping at the Port of Felixstowe are included in detail in section 4.3 of the Updating and Screening Assessment 2009, which can be found

listed under August 2009 reports at
http://www.suffolkcoastal.gov.uk/yourdistrict/envprotection/airquality/reports/default.htm
but, for the reasons explained above, emissions from shipping are not discussed in the Progress Report as it is not a newly identified transport source.

Significant air quality monitoring and modelling work has been undertaken for the Port of Felixstowe which looks at all sources of emissions coming from this area including shipping, and has determined that the only pollutant objective exceeded is the annual mean for nitrogen dioxide at one receptor location -The Dooley Inn, Ferry Lane close to the Port boundary, for which an Air Quality Management Area (AQMA) has been declared and an Action Plan is currently being drawn up. The most recent report produced is the Further Assessment for the AQMA at Ferry Lane, Felixstowe (2010) which can also be found at the above website address listed under April 2010. This Further Assessment repeated all of the air quality modelling undertaken for all emission sources in the area, including shipping, and confirmed our findings that only the annual mean objective for nitrogen dioxide is exceeded at The Dooley Inn, Ferry Lane. The modelling included both the current situation and also future predictions for 2013 with Felixstowe South Reconfiguration on-line. We are now in the process of producing options for the Action Plan which will be consulted upon widely.

Regarding concerns about the Port of Felixstowe being involved in lack of reporting on shipping emissions, as discussed in the answer above, emissions from all activities on and associated with the Port of Felixstowe (including specifically shipping) have been investigated in depth and reports produced detailing the findings. The Port of Felixstowe has been very helpful to us in providing all emission information that we have requested from them. We are continuing production of an Action Plan for the AQMA declared at The Dooley Inn, Ferry Lane which will consider all options available to try and reduce nitrogen dioxide concentrations at this location. The Action Plan options will be consulted upon once the final list has been drawn up.

- **Recent research on shipping emissions** - Information was provided regarding research into emissions from the largest container ships and exclusion zones being put in place in the United States to restrict the type of fuel burnt by ships.

  With regard to large container ship emissions research and exclusion zones in the Unites States, we are not aware of this research. Information of this kind will be used by Central Government when producing the air quality technical guidance issued to all local authorities. This guidance allows us to assess the different emission sources within our district, specifically shipping emissions in this case. The introduction of exclusion zones related to ships fuel usage in the UK would not be for local authorities to put in place, it would have to come from Central Government and be a National measure. One of the options we will be considering as part of the Felixstowe draft Action Plan is lobbying Central Government for National measures to help in the reduction of emissions from shipping and Ports. This will all be detailed in the Action Plan Consultation for the public to see and comment upon.

- **Use of NHS respiratory statistics to determine air quality monitoring locations** – this question was asked following similar respiratory illness experienced by three people on the Peninsula. Concern was raised regarding the plumes from the container ships grounding at distance from the ships themselves, possibly in Parishes on the Peninsula.

  We have not looked into obtaining access to NHS statistics related to respiratory conditions in the Suffolk Coastal District as we are not sure what these would be able to tell us. The Council's air quality officer does not have a medical background to be able

to interpret them. Asthma and respiratory conditions can be caused by a number of things such as; genetic pre-disposition; hay fever; allergies to things such as dust mites, pollen and animal fur/feathers; smoking, being born with a low birth weight; and certain flu/virus infections, not just from exposure to air pollutants. How you would determine what the cause was for each case and therefore how the data could realistically be used is unsure.

Air quality monitoring and modelling was undertaken as part of a Detailed Assessment of emissions from and associated with the Port of Felixstowe. This report is titled 'Detailed Assessment for Adastral Close and Ferry Road (May 2008)' and can be found listed under May 2008 reports at http://www.suffolkcoastal.gov.uk/yourdistrict/envprotection/airquality/reports/default.htm . A major input to the modelling was emissions from shipping, particularly sulphur dioxide as the main pollutant of concern from ships. The modelling took account of stack emissions from both ships at berth and moving ships, emissions from moving ships were considered from a distance of 2 km outside Landguard Point thereby ensuring inclusion of any stack emissions 'grounding' at a distance from the source. A series of contour maps showing the modelling results for receptors up to a 2.5km distance in Felixstowe are presented in the Detailed Assessment report on pages 17-20. The modelling shows results comparable to the 15-minute mean standard for sulphur dioxide, which is set at 266 micrograms per metre cubed as a 15-minute mean not to be exceeded more than 35 times in a year, and this was used as it is the most stringent of the 3 objectives for sulphur dioxide. The modelling results show the dispersal of the emissions from the ships stacks and confirm that the highest concentrations are 150-200µg/m^3, well within the standards set for sulphur dioxide. At distance from the source this reduces to 100-150µg/m^3. Emissions of sulphur dioxide do not exceed the standards, and this has taken into account grounding of stack emissions at distance from the source.

- **Request for air pollution monitoring at Parishes along the Orwell Estuary** – testing by the Council showed that there is no potential for pollution by shipping to Parishes along the Orwell Estuary. Will these areas be tested at regular intervals?

  The original measurements referred to in the Progress Report 2010 were collected at a number of sites in Felixstowe and the Trimleys. These were used to run a computer model for all residences in those areas to predict levels at each. The only areas where the objectives are / could be exceeded were at sites close to the Port boundary, at Ferry Lane and Adastral Close. Measurements and modelling were not undertaken any further along the estuary than the Trimleys as, due to the distances involved, emissions from the Port would be very unlikely to cause any exceedances. We are continuing our measurements at numerous sites in Felixstowe and the Trimleys for the foreseeable future. This measurement is being undertaken using diffusion tubes, as the analyser located at Ferry Lane (which measured 24 hours a day) has now had to be removed – further explanation provided later in this Report.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

In 2010 two automatic analysers measuring oxides of nitrogen remained within the Suffolk Coastal district in the following locations, both now declared as Air Quality Management Areas:

- Junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction)
- The Dooley Inn Public House, Ferry Lane, Felixstowe

Further detail regarding each site is provided in Table 2.1 below. The location of each analyser is shown on the maps in Figures 2.1a and 2.2b on the following pages. Details of Quality Assurance/ Quality Control carried out for each of the analysers is provided in Appendix C.

From late March to early October 2010 the continuous analyser situated at The Dooley Inn, Felixstowe was out of action, as the pub in which it is situated was unoccupied and boarded up with no electricity supply. New occupiers approved the re-installation of the monitoring equipment, and monitoring re-commenced in October 2010.

Following significant layout changes carried out at The Dooley Inn by the new owner, and a plan of on-going alterations for the external areas, the current location of the cabinet housing the air quality monitoring equipment would need moving. Options for re-siting of the analyser in a suitable location are minimal and also subject to possible further changes in 2011/2012. It was therefore decided that the analyser would be removed from the Dooley Inn at the end of 2010. Additional diffusion tube locations have been sited on and around the property to provide additional data starting in 2011.

Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	Monitoring Technique	In AQMA ?	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 ?
Woodbridge Junction	Kerbside	X 62759	Y 24926	Nitrogen dioxide (NO_2)	ozone chemi.-luminescence	Yes	Yes (0.1m)	1m	Yes
Ferry Lane, Felixstowe	Industrial / Road traffic	X 62796	Y 23423	Nitrogen dioxide (NO_2)	ozone chemi-luminescence	Yes	Yes (0.1m)	12m to local road 72m to main road of concern	Yes

2.1.2 Non-Automatic Monitoring sites

During 2010 there were 29 sites monitoring concentrations of NO_2 using passive diffusion tubes, exposed on a monthly basis, in the Suffolk Coastal district. Further details regarding each site are provided in Table 2.2 below.

There were 12 diffusion tube sites removed from the monitoring program at the end of 2009 as NO_2 levels recorded were shown to be within the air quality standards and the sites were no longer required. The sites removed were as follows:

- Felixstowe 4 - Urban Background site, lampost outside 37 Lynwood Avenue, Felixstowe
- Felixstowe 18 - Roadside site, lampost at 67 Kirton Road, Trimley St. Martin
- Felixstowe 19 - Urban Background site, lampost at 4 Welbeck Close, Trimley St. Mary
- Felixstowe 25 - Roadside site, drainpipe on 46 Rendlesham Road, Felixstowe
- Felixstowe 28 - Roadside site, rear garden of 63 Blyford Way, Felixstowe
- Felixstowe 30 - Industrial Site, 39 Adastral Close, Felixstowe
- Felixstowe 32 - Industrial Site, 64 Adastral Close, Felixstowe
- Kesgrave 4 - Urban Background site, Kesgrave High School, Main Road, Kesgrave
- Kesgrave 6 - Roadside site, All Saints Church / The Bell Inn, Main Road, Kesgrave
- Melton 2 - Urban Background site, drainpipe on 106 Hall Farm Road, Melton
- Melton 6 - Roadside site, Melton County Primary School, Melton Road, Melton
- Woodbridge 21 - Roadside Site, drainpipe on the front of 27 St John Street, Woodbridge

Diffusion tubes can over or under read and the annual average obtained needs to be corrected to take account of laboratory bias thus improving accuracy. This can be done either by using a combined 'national' bias adjustment factor for the laboratory, or calculated from a co-location study with a continuous analyser carried out locally by the authority. For this reason diffusion tubes are co-located in triplicate alongside the automatic monitoring sites in Woodbridge and Felixstowe so that a local bias adjustment factor can be obtained for these locations.

Information regarding the analytical laboratory, Quality Assurance/ Quality Control and bias adjustment factors are provided in Appendix C. Maps showing the diffusion tube sites are provided in Appendix D.

From late March to early October 2010 the continuous analyser situated at The Dooley Inn, Felixstowe was out of action, as the pub in which it is situated was unoccupied, and boarded up with no electricity supply. New occupiers approved the re-installation of the monitoring equipment, and monitoring re-commenced in October 2010 giving us only four months of the year with at least 75% data capture. Due to the limited data capture the decision was taken not to use this site to calculate a bias adjustment factor for the diffusion tubes. Further information regarding this decision is provided in Appendix C.

Table 2.2 Details of Non- Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA?	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Worst-case Location?
Felixstowe 12 (FLX 12)	Roadside	(6)3036 (2)3489	NO_2	No	Yes 0m	5m	Yes
Felixstowe 14 (FLX 14a,b,c)	Industrial	(6)2860 (2)3284	NO_2	No	Yes 0m	N/A	
Felixstowe 17 (FLX 17a,b,c)	Roadside	(6)2881 (2)3632	NO_2	No	Yes 0m	31m	Yes

Table 2.2 (Continued) Details of Non- Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA?	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Worst-case Location?
Felixstowe 20 (FLX 20)	Industrial / Road traffic	(6)2867 (2)3398	NO_2	No	Yes 0m	54m	Yes
Felixstowe 21 (FLX 21)	Urban background	(6)2925 (2)3443	NO_2	No	Yes 9m	N/A	
Felixstowe 22 (FLX 22)	Industrial	(6)2917 (2)3344	NO_2	No	Yes 0m	N/A	
Felixstowe 23 (FLX 23a,b)	Roadside	(6)2854 (2)3659	NO_2	No	Yes 0m	25m	Yes
Felixstowe 24 (FLX 24)	Roadside	(6)2834 (2)3462	NO_2	No	Yes 0m	32m	Yes
Felixstowe 26 (FLX 26a,b,c)	Industrial / Road traffic	(6)2796 (2)3423	NO_2	Yes	Yes 0m	75m from roundabout	Yes
Felixstowe 27 (FLX 27)	Industrial / Road traffic	(6)2795 (2)3424	NO_2	Yes	Yes 0m	75m from roundabout	
Felixstowe 29 (FLX 29)	Industrial	(6)2871 (2)3289	NO_2	No	Yes 0m	N/A	
Felixstowe 31 (FLX 31)	Industrial	(6)2863 (2)3279	NO_2	No	Yes 0m	N/A	
Kesgrave 9 (KSG 9)	Roadside	(6)2180 (2)4579	NO_2	No	Yes 0m	2.6m	Yes
Melton 5 (MEL 5a,b)	Roadside	(6)2814 (2)5041	NO_2	No	Yes 1m	4m	Yes
Woodbridge 1 (WBG 1a,b,c)	Kerbside	(6)2759 (2)4926	NO_2	Yes	Yes 0m	1m	Yes
Woodbridge 3 (WBG 3)	Urban background	(6)2699 (2)4848	NO_2	No	Yes 9m	N/A	
Woodbridge 5 (WBG 5a,b,c)	Roadside	(6)2760 (2)4924	NO_2	No	Yes 0m	2.5m	Yes
Woodbridge 6 (WBG 6)	Roadside	(6)2759 (2)4925	NO_2	Yes	Yes 0m	2m	
Woodbridge 8 (WBG 8)	Roadside	(6)2759 (2)4928	NO_2	Yes	Yes 0m	3m	
Woodbridge 10 (WBG 10)	Roadside	(6)2756 (2)4924	NO_2	No	Yes 1m	2m	Yes
Woodbridge 12 (WBG 12)	Roadside	(6)2766 (2)4920	NO_2	No	Yes 0m	5m	Yes
Woodbridge 13 (WBG 13)	Roadside	(6)2758 (2)4924	NO_2	No	Yes 5m	2.5m	
Woodbridge 15 (WBG 15)	Roadside	(6)2758 (2)4924	NO_2	Yes	Yes 0m	2m	
Woodbridge 17 (WBG 17)	Roadside	(6)2761 (2)4926	NO_2	No	Yes 0m	7m	
Woodbridge 18 (WBG 18)	Roadside	(6)2762 (2)4933	NO_2	Yes	Yes 0m	1.5m	Yes
Woodbridge 20 (WBG 20)	Roadside	(6)2760 (2)4929	NO_2	No	Yes 0m	1.5m	Yes
Woodbridge 22 (WBG 22)	Roadside	(6)2763 (2)4923	NO_2	No	Yes 0m	8m	Yes
Woodbridge 23 (WBG 23)	Kerbside	(6) 2755 (2) 4923	NO_2	No	Yes 1m	1m	Yes
Martlesham 1 (MRT 1a,b,c)	Roadside	(6)2463 (2)4544	NO_2	No	Yes 0m	21m	Yes

Figure 2.1a Location of the Automatic NOx analyser, AQMA, and NO_2 diffusion tubes sited at the Woodbridge Junction

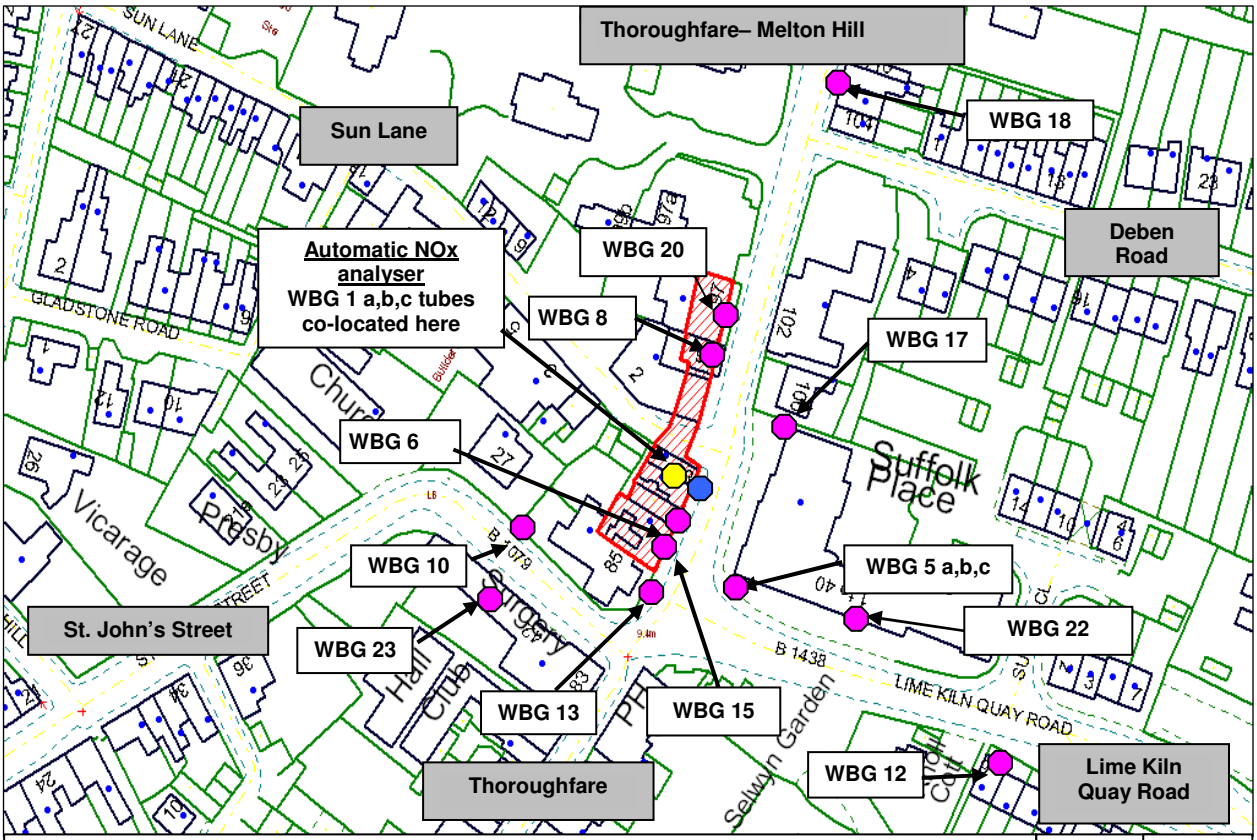
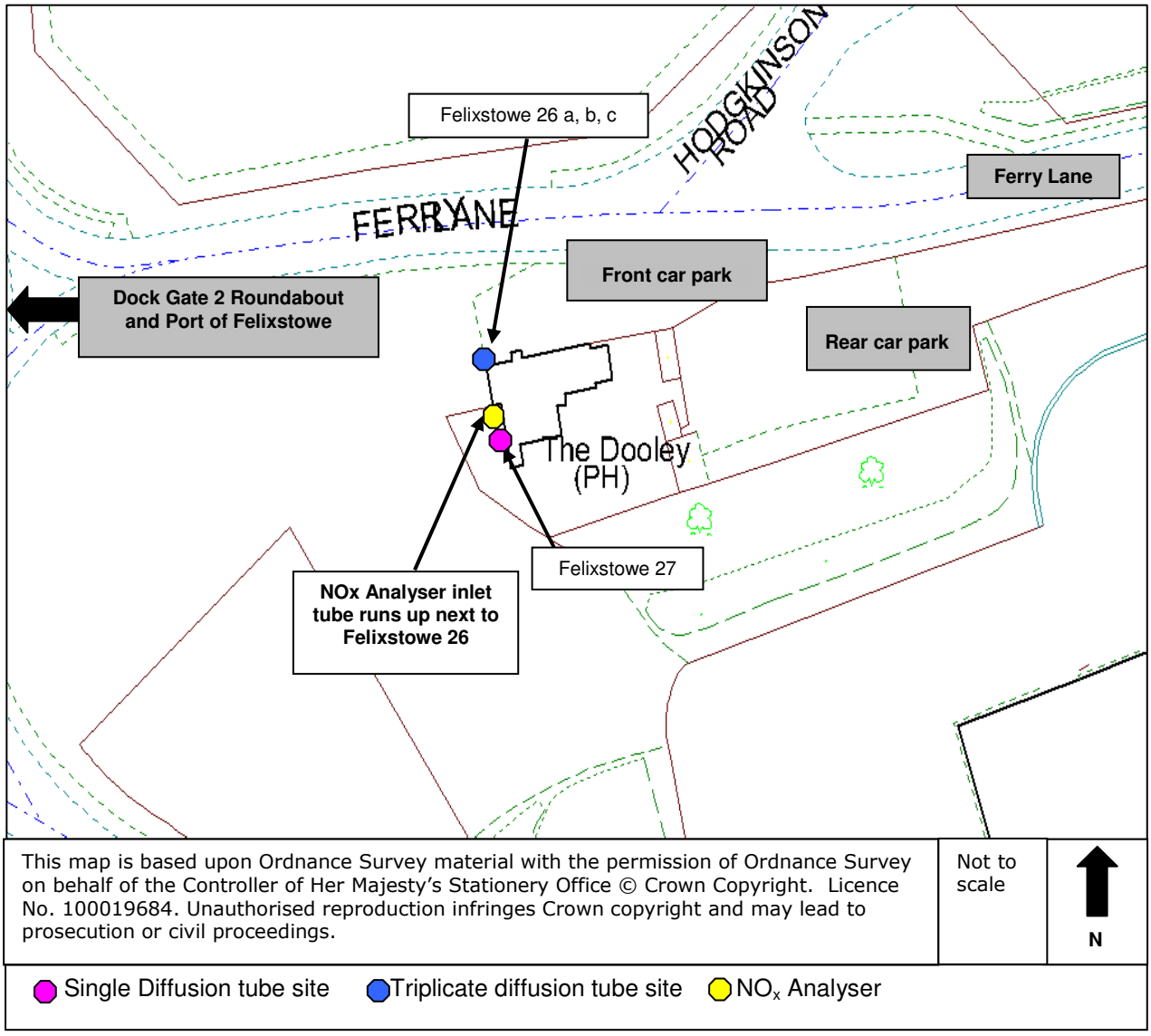


Figure 2.1b Site map showing location of automatic NOx analyser and NO_2 diffusion tubes at The Dooley Inn Public House, Ferry Lane, Felixstowe



2.2 Comparison of Monitoring Results with Air Quality Objectives

Within the Suffolk Coastal district in 2010 monitoring was undertaken for nitrogen dioxide using both automatic analysers and diffusion tubes. No other pollutants were monitored.

2.2.1 Nitrogen Dioxide

Automatic Monitoring Data

A summary of the results of automatic monitoring of NO_2 at both the Woodbridge and Felixstowe sites can be seen in tables 2.3a and 2.3b. Table 2.3a presents results comparable with the annual mean objective of 40µg/m^3, and Table 2.3b presents results comparable with the 1-hour mean objective of 200µg/m^3. In addition to the most recent monitoring, results for 2008 and 2009 have also been included in the tables for comparison purposes. Detailed summary tables and graphs showing the 2010 monitoring results for both sites are presented in Appendix E.

Table 2.3a Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Relevant public exposure? Y/N	Data Capture for full calendar year 2010 (%)	Annual mean concentration (µg/m^3)		
					2008	2009	2010
Woodbridge	Woodbridge Junction	Yes	Yes	96.8	**45**	**45**	**45**
Felixstowe	The Dooley Inn, Ferry Lane, Felixstowe	Yes	Yes	44.4	**42**	**44**	**50 (annualised value = 37 µg/m^3)**

Table 2.3b Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective

Site ID	Location	Within AQMA?	Relevant public exposure? Y/N	Data Capture for full calendar year 2010 (%)	Number of Exceedences of hourly mean (200 µg/m^3)		
					2008	2009	2010
Woodbridge	Woodbridge Junction	Yes	Yes	96.8	**2**	**1**	**0**
Felixstowe	The Dooley Inn, Ferry Lane, Felixstowe	Yes	Yes	44.4	**0**	**3**	**5 (99.8th %ile = 185 µg/m^3)**

The automatic analysers at Woodbridge and Felixstowe are sited within declared AQMAs and show the annual mean concentration at both locations to be above the air quality objective (Table 2.3a). Over the three years 2008–2010, the annual mean concentration at Woodbridge has remained stable, but appears to be increasing at Felixstowe Dooley Inn. However, it should be noted that data capture at this site was low, and the data obtained are mostly from winter months, when concentrations of this pollutant are typically higher. The mean from Felixstowe Dooley Inn has therefore been "annualised", using the procedure set out in Box 3.2 of the Technical Guidance LAQM.TG(09), to produce the best estimate of the annual mean. The monitoring sites used for the annualisation procedure were chosen from the UK Automatic Urban and Rural Network (AURN) which is run by Defra. Those sites were St. Osyth and Wicken Fen, both rural AURN sites. Following this procedure, the annualised mean is 37µg/m^3 for Felixstowe Dooley which is within the Objective.

The 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times per year) is not exceeded at either site more than the permitted number of times (see Table 2.3b).

At the Felixstowe site data capture was less than 90%, in these circumstances LAQM.TG(09) advises that the 99.8th percentile of hourly mean values should be compared with the Objective and not the total number of exceedances seen. The 99.8th percentile is the value that 99.8% of all the data collected fall below, or equal. The 99.8th percentile of hourly mean NO_2 concentrations at the Felixstowe Dooley site was 185µg/m^3, which is within the Objective. The number of exceedences of the hourly Objective at the Felixstowe site appears to have increased in recent years: during the operational period in 2010 there were 5 exceedances of the Objective: this follows an increase in the number of exceedences of this objective from 0 to 3 in 2009.

The 2009 Progress Report for Suffolk Coastal district Council suggested that the increase in the annual mean NO_2 concentration at the Felixstowe monitoring site in 2009 might be due to heavy snow in December 2009 which made it very difficult for heavy goods vehicles accessing Hodgkinsons Road, near to the monitoring location, to travel up the incline from Dock Spur 2 roundabout towards the monitoring site. However, the fact that the number of exceedences of the 1-hour Objective has increased again in 2010 suggest that the 2009 results were not an anomaly. Our records show that the exceedances of the 1-hour objective in 2009 were all seen on 4 February when there was heavy snow. The weather in 2010 was however similar with heavy snow and prolonged cold periods both at the beginning and end of the year, which may again explain the exceedances seen. The 1-hour exceedances occurred on 19 and 26 January, 16 November and 20 December 2010, the weather reports for all days advised that the temperature was around or below freezing. The presence of snow was only seen on 20 December 2010.

Diffusion tube monitoring data

A summary of the results of diffusion tube monitoring of NO_2 at sites within the district can be seen in Table 2.4 overleaf, together with the results for 2008 and 2009 for comparison purposes. Detailed tables showing the monthly monitoring results for all sites in 2010 are presented in Appendix F. The graphs in Figures 2.4a to 2.4d show the trends over time at a number of long term sites within the district.

The annual mean NO_2 concentrations shown in Table 2.4 have had a bias adjustment factor applied. The choice of bias adjustment factor is explained in Appendix C and the bias adjustment factor used at each site is presented in Appendix F.

Where there was less than 90% data capture for the year (because two or more diffusion tube results were missing or invalid), the mean of the 2010 data has been "annualised" using the procedure set out in LAQM.TG(09) to produce the best estimate of the annual mean. The sites

used for the annualisation procedure were the St Osyth and Wicken Fen rural AURN sites. Further detail regarding annualisation of the diffusion tube sites is presented in Appendix C.

Table 2.4 Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Data Capture for monitoring period 2010 %	Data Capture for full calendar year 2010 %	Annual mean concentrations (µg/m^3) adjusted for bias. *(Adjustment factor used for 2010 is detailed in Appendix F)*		
					2008	2009	2010
FLX 12a,b,c	Ford Bros., Hamilton Rd	No	85	85	**32**	**38**	**31**
FLX 14	1 Adastral Close	No	100	100	**29**	**28**	**27**
FLX 17	38 Spriteshall Lane, Trimley	No	100	100	**30**	**27**	**26**
FLX 20	73 Glemsford Close	No	100	100	**28**	**25**	**24**
FLX 21	4 Kingsfleet Road	No	100	100	**27**	**25**	**24**
FLX 22	13 Levington Road	No	100	100	**28**	**25**	**25**
FLX 23	23 Heathgate Piece, Trimley	No	100	100	**32**	**29**	**31**
FLX 24	22 Brandon Road	No	92	92	**34**	**31**	**31**
FLX 26a,b,c	The Dooley Inn, Ferry Road	Yes	100	100	**42**	**45**	**43**
FLX 27	The Dooley Inn, Ferry Road	Yes	83	83	**36**	**38**	**33**
FLX 29	18 Adastral Close	No	100	100	**30**	**27**	**27**
FLX 31	44 Adastral Close	No	100	100	**33**	**28**	**30**
KSG 9	118 Main Road	No	92	92	**34**	**33**	**29**
MEL 5	6 The Street	No	65	65	**28**	**24**	**28**
WBG 1a,b,c	93 Thoroughfare	Yes	75	75	**46**	**45**	**42**
WBG 3	8 Kingston Farm Road	No	100	100	**20**	**15**	**18**
WBG 5	Suffolk Place, Lime Kiln Quay Rd	No	92	92	**30**	**28**	**29**
WBG 6	87 Thoroughfare	Yes	92	92	**44**	**41**	**41**
WBG 8	95 Thoroughfare	Yes	100	100	**46**	**42**	**41**
WBG 10	St John's Street signpost	No	81	81	**35**	**34**	**34**
WBG 12	8 Lime Kiln Quay Road	No	100	100	**30**	**26**	**26**
WBG 13	85 Thoroughfare	No	100	31	**37**	**34**	**36**
WBG 15	87 Thoroughfare	Yes	60	60	**39**	**38**	**38**
WBG 17	Suffolk Place, Lime Kiln Quay Rd	No	100	100	**3**	**31**	**30**
WBG 18	106/108 Thoroughfare	No	100	100	**39**	**38**	**38**
WBG 20	97 Thoroughfare	Yes	100	65	**41**	**38**	**43**
WBG 22	Suffolk Place, Lime Kiln Quay Rd	No	100	100	**26**	**24**	**23**
WBG 23	Lamppost at 50 St. John's Street	No	75	75	~	**29**	**27**
MRT 1a,b,c	Horseman Court, Eagle Way	No	100	100	~	**29**	**24**

After annualisation (where applicable) and bias adjustment, five sites had annual mean NO_2 concentrations above the Objective of 40µg/m^3 in 2010 all of which are within the declared AQMAs at Woodbridge and Felixstowe. These were:

- WBG 1 (93 Thoroughfare, Woodbridge), which is co-located with the Woodbridge automatic monitoring site
- WBG 20 (97 Thoroughfare, Woodbridge)
- WBG 6 (87 Thoroughfare, Woodbridge)
- WBG 8 (95 Thoroughfare, Woodbridge)

- FLX 26 (The Dooley Inn, Ferry Road, Felixstowe), which is co-located with the Felixstowe automatic monitoring site.

The site at Woodbridge 20 showed a reduction in nitrogen dioxide levels between 2008 and 2009 to below the air quality Objective of 40µg/m^3. The concentration recorded at this site has risen in 2010 back above the air quality Objective. We do not have any information regarding why this may have happened. As this site is within the elevated levels will be tackled under the Air Quality Action Plan now finalised for this junction.

Levels of nitrogen dioxide recorded at Felixstowe 12 increased between 2008 and 2009 from 31 to 38µg/m^3 and have since decreased back to 32µg/m^3 in 2010. This is thought to be related to increased local traffic queues due to temporary road works in place near this site during much of 2009.

Diffusion tube trend graphs

NO_2 levels have been monitored in Suffolk Coastal since 1993 using diffusion tubes, however most of the original sites have now been relocated or removed. The graphs in figures 2.4a to 2.4d on the following pages show the annual average concentration of NO_2 recorded at those sites planned, at the current time, to remain in place for the foreseeable future. The exception this year are the sites at Felixstowe 4, Melton 2, Kesgrave 4 and Kesgrave 6 which were removed in 2010 but have a lot of historic data and so have been left in for this report. Only sites with five or more years of data that could provide useful information on trends have been included in the graphs.

Historically, trend data presented in our reports has been corrected for laboratory bias using both local bias correction factors and national laboratory correction factors depending upon the location of the monitoring site. Following receipt of our 2010 Progress Report, the Department for Environment, Food and Rural Affairs (Defra) had the following comment to make; *"The Council should consider reviewing its historic diffusion tube data and consistently applying a laboratory factor from the helpdesk database if possible in order to achieve a better picture of trends over time."*

Defra's advice has been followed in this report and the National Diffusion Tube Bias Adjustment Factor Spreadsheet version 04/11, available at http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html, was used to obtain a bias adjustment factor for each year between 2000 and 2010.

Each of the 4 areas monitored (Felixstowe, Kesgrave, Woodbridge and Melton) are very different, the majority of the Felixstowe sites are in place to measure concentrations around and associated with the Port of Felixstowe including both road traffic and other Port emissions. The remaining 3 sites are all at road junctions controlled by traffic lights, but again each is very different in terms of layout and amount of congestion experienced. The sites at Kesgrave and Woodbridge are much more enclosed than that at Melton and the site at Woodbridge also has an AQMA and Action Plan in place which will be working towards trying to reduce concentrations at all monitoring locations. It is therefore not easy to see any trends across the district as a whole.

The background sites situated in each of the 4 areas generally show that concentrations of NO_2 to have remained fairly stable over time. There are a few exceptions, 2003 in Melton for example where concentrations were elevated, but for each of these we do not have any information which could provide an explanation for the anomaly.

Figure 2.4a – Felixstowe

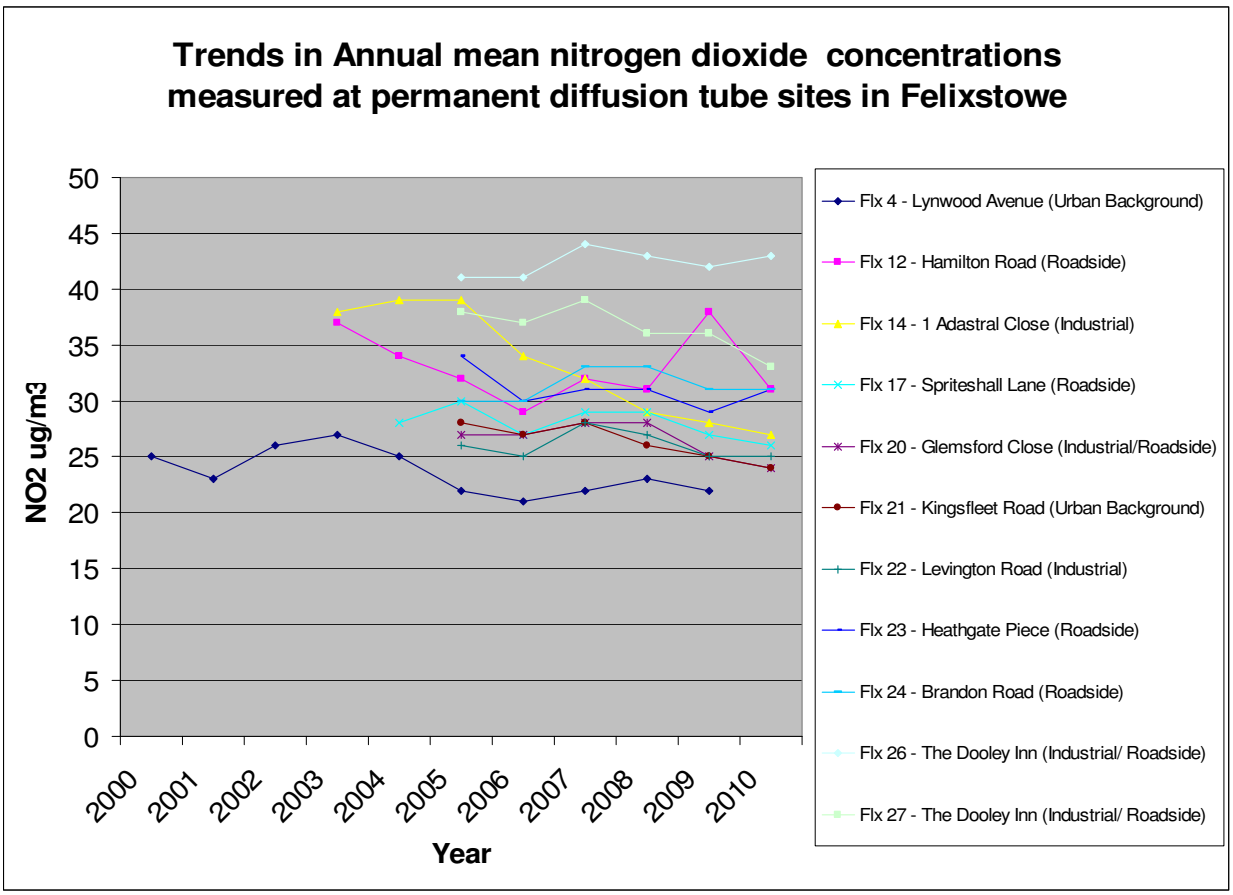


Figure 2.4b - Kesgrave

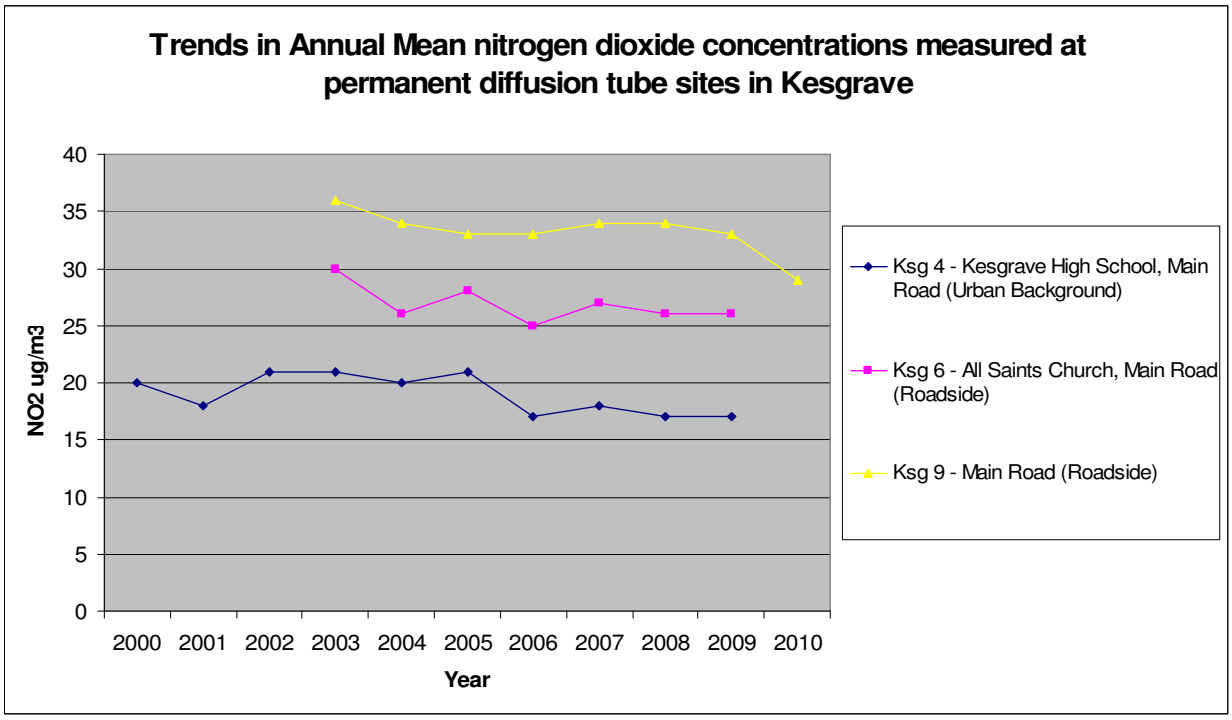


Figure 2.4c - Woodbridge

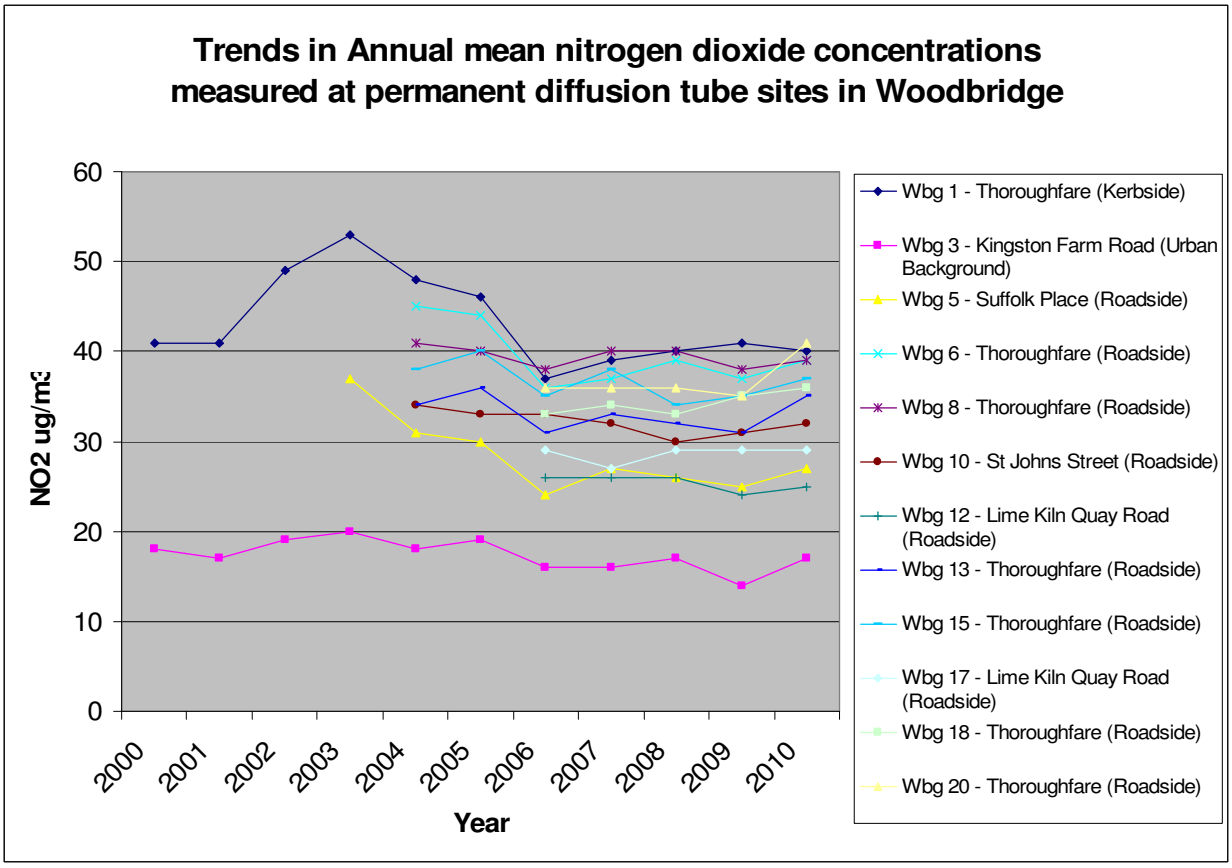
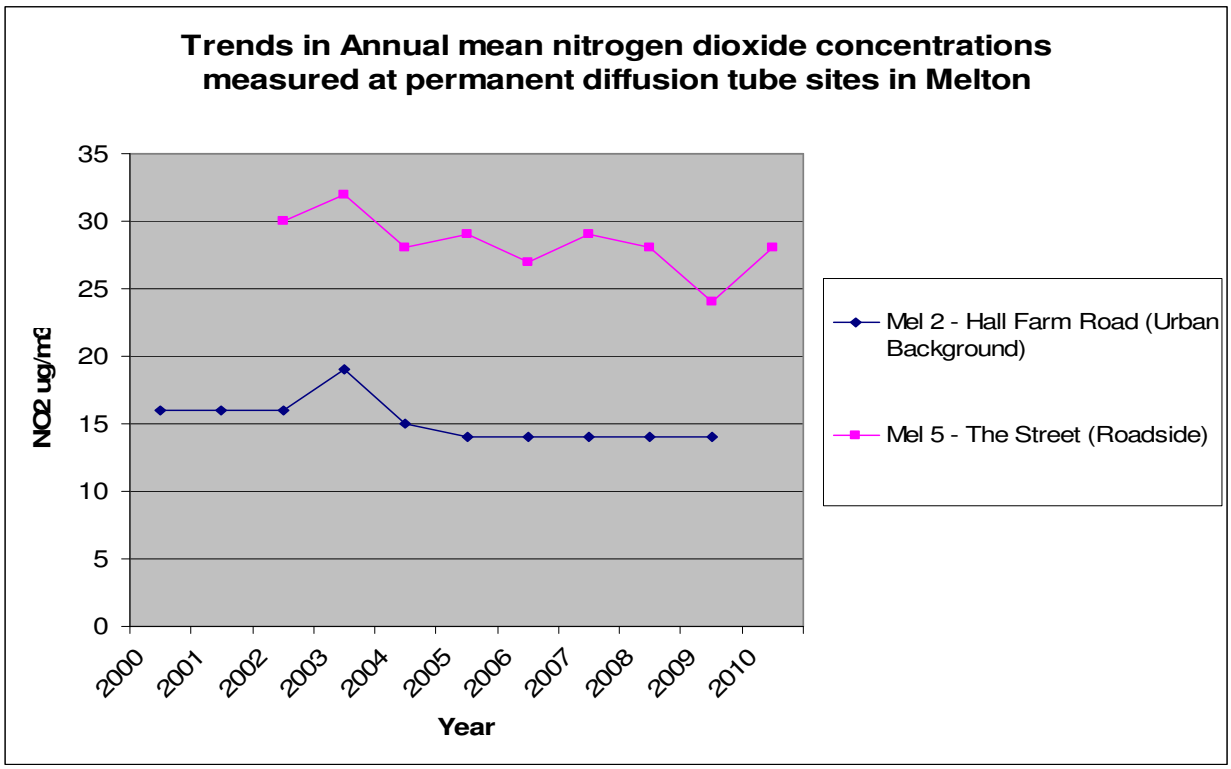


Figure 2.4d - Melton



Felixstowe – the majority of sites here have shown a reduction in concentrations in the last 3-4 years with the exception of an increase noted at Felixstowe 12 (Hamilton Road) in 2009 and Felixstowe 26 (The Dooley Inn) in 2010. The increase noted at the Hamilton Road site in 2009 was significant (7 µg/m^3) and is believed to be due to a number of road works that were in place along this stretch of road in 2009 causing traffic congestion in this area. The elevation seen at the Dooley Inn in 2010 is only by 1µg/m^3 and takes the annual mean concentration back to levels experienced in 2008.

Kesgrave - the urban background site (Kesgrave 4) and the roadside site (Kesgrave 6) follow the same trend in NO_2 concentrations from 2003 onwards, with an overall decrease seen up to 2009. The second roadside site (Kesgrave 9) shows a much smoother trend not altering significantly between 2004 and 2009 but then decreasing by 4µg/m^3 in the last year (2010). We do not have an explanation for this decrease.

Woodbridge – the majority of sites in Woodbridge follow the trend seen in the urban background site (Woodbridge 3) which is located away from the road junction of concern, fairly stable since 2006/2007 with a reduction seen in 2009 and a following increase in 2010. For a number of sites the increase seen in 2010 is more marked - Woodbridge 5, 13 and 20. These increases could be attributable to the introduction of the traffic control system (MOVA) to the junction which has been malfunctioning for the last 18 months and possibly causing greater congestion on Thoroughfare/Melton Hill than previously experienced. More information regarding the problems experienced with MOVA are provided in section 9 of this report. These sites do also follow the general trend seen at the urban background site however and future data collected will be able to help us determine any longer term trends here.

Melton – The urban background site shows a very stable trend since 2000, with the exception of 2003 as already discussed above, whereas the roadside site fluctuates more over the time

period. There was a reduction of 4µg/m^3 seen in 2009 with the concentration increasing again in 2010 back to that seen in 2008. We do not have any explanation for the reduction seen in 2009 but it was also seen at a number of other sites in Woodbridge (Woodbridge 3, 5, 6, 8, 12).

2.2.2 Summary of Compliance with AQS Objectives

Suffolk Coastal District Council has examined the results from monitoring in the district. Concentrations outside of the two declared Air Quality Management Areas are all below the objectives at relevant locations, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

Any new local developments, since the 2009 Updating and Screening Assessment Report, that may affect air quality within the Suffolk Coastal district are listed in this Progress Report so that they can be considered in more detail during the next full round of review and assessment. This includes developments that are now in operation or have been granted planning permission to be brought into operation in the near future.

3.1 Road Traffic Sources

Any new / newly identified road traffic sources within the Suffolk Coastal district since the 2009 Updating and Screening Assessment must be identified, this includes;

- Narrow congested streets with residential properties close to the kerb.
- Busy streets where people may spend one hour or more close to traffic.
- Roads with a high flow of buses and/or HGVs.
- Junctions.
- New roads constructed or proposed since the last Updating and Screening Assessment.
- Roads with significantly changed traffic flows.
- Bus or coach stations.

There are no new / newly identified road traffic sources within the Suffolk Coastal district since the 2009 Updating and Screening Assessment.

3.2 Other Transport Sources

Any new / newly identified transport sources within the Suffolk Coastal district since the 2009 Updating and Screening Assessment must be identified, this includes;

- Airports.
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.
- Locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.
- Ports for shipping.

There are no new / newly identified transport sources within the Suffolk Coastal district since the 2009 Updating and Screening Assessment.

3.3 Industrial Sources

Any new / newly identified industrial sources within the Suffolk Coastal district since the 2009 Updating and Screening Assessment must be identified, this includes;

- **Industrial installations:** new or proposed installations for which an air quality assessment has been carried out.
- **Industrial installations:** existing installations where emissions have increased substantially (greater than 30%) or new relevant exposure has been introduced.

- **Industrial installations:** new or significantly changed installations with no previous air quality assessment.
- Major fuel storage depots storing petrol.
- Petrol stations.
- Poultry farms.

New installations

The Progress Report 2010 listed 5 new Part A1 industrial installations permitted under the Environmental Permitting Regulations 2010 authorised since the Updating and Screening Assessment in 2009 and 2 new planned industrial installations for which air quality investigations were undertaken. It was determined that none of the listed installations would have an impact on air quality within the district and no further action is required. Further details can be seen in the Progress Report 2010.

Since this time, there have been an additional 3 Part A1 industrial installations (regulated by the Environment Agency) permitted under the Environmental Permitting Regulations 2010 that we have been made aware of from the Environment Agency, listed below:

- Harrow Lane Farm (Leiston) Limited, Breakers Yard, Moat Road, Theberton
  Disposal of Waste, Section 5.2

- Skipaway, Leiston Transfer Station, Master Lord Industrial Estate, Station Road, Leiston
  Disposal of Waste, Section 5.2

- Shotley Holdings (Leiston), (trading as Collins skips) Master Lord Industrial Estate, Station Road, Leiston
  Disposal of Waste, Section 5.2

Harrow Lane Farm (Leiston) Limited is a scrap metal site and Skipaway and Shotley Holdings are Waste Transfer Stations, all authorised by the Environment Agency. Information was obtained from the Environment Agency who confirmed that here are no significant emissions of any pollutants covered by the Local Air Quality Management regime from any of these sites. No further assessment is required.

Industrial installations with substantially increased emissions

Within the Suffolk Coastal district there are three existing industrial installations, permitted under the Environmental Permitting Regulations 2010, with the potential to emit significant quantities PM_{10} or NO_2, these are listed below.

- Cemex UK Materials Limited (Trading as Ipswich Coated Stone), Sinks Pit, Kesgrave (PM_{10})
- Eurovia Limited (previously Ringway Infrastructure Services), Foxhall Four Quarry, Foxhall Road, Brightwell (PM_{10})
- Novera Energy, Foxhall Generation Plant, Foxhall Landfill Site, Foxhall Road, Brightwell (NO_2)

LAQM.TG (09) advises that it should be determined whether any of the installations have either experienced substantially increased emissions (greater than 30%) or have received new relevant exposure in their vicinity since the last review and assessment.

None of the installations have received any new relevant exposure. Recent emission testing reports (2010/2011) for the installations have been obtained for comparison with emissions recorded in 2009.

Emissions of PM_{10} from **Cemex UK Materials Limited** increased by 9.6% and since the last emission tests and therefore no further action is required.

The 2010 NOx emission report for **Novera Energy** has been requested from the Environment Agency (as this process falls within their remit). The figures for 2010 are still being finalised and agreed by the Environment Agency and are still unavailable at this time. Once the results are obtained we will determine whether any further assessment is required. The results will be presented in the next air quality report due, the Updating and Screening Assessment Report 2012.

Emissions of PM_{10} from **Eurovia Limited** have increased by 732% between March 2010 and January 2011 (the most recent emission test) but are still within their permitted limits under the Environmental Permitting Regulations 2010. The site manager advised us that following the emissions test in January 2011 it was found that the filter screens, which remove particulate matter from the process, were about to fail and they were replaced in February 2011. The next emissions test for the installation is due in July 2011 and we will await the results of this test before determining whether a screening and/or Detailed Assessment is required. The results will be presented in the next air quality report due, the Updating and Screening Assessment Report 2012.

3.4 Commercial and Domestic Sources

Consideration must be given to the use of biomass combustion in the commercial and domestic sectors, and to other solid-fuel combustion in domestic use. Biomass burning can lead to an increase in both PM_{10} and NOx emissions due to the process of combustion.

Any of the following, newly identified since the Updating and Screening Assessment 2009, must be listed in this report:

- Biomass combustion plant – individual installations.
- Areas where the combined impact of several biomass combustion sources may be relevant.
- Areas where domestic solid fuel burning may be relevant.

Individual installations

A list of 20 sites with known or proposed biomass plant with a thermal output greater than 50kW has been drawn up for the district, see table 3.4 overleaf. Work has been on-going in order to undertake a screening assessment of each in accordance with the Technical Guidance: Screening assessment for biomass boilers produced by AEA Energy & Environment on behalf of Defra, July 2008.

Screening assessments of all biomass boilers within Suffolk County Council owned buildings (County Primary Schools) has been undertaken, confirming that no further assessment is required for any of the sites.

Obtaining the details required to undertake a screening assessment has, and is continuing, to prove difficult particularly for smaller units (50-150kW) which serve a single domestic property or small rural premises. Advice was obtained from the Defra helpdesk on these smaller units which confirmed the following: The boilers are predominantly wood-chip boilers, each associated with a single domestic property. No two boilers lie within the same 500 m x 500 m geographical square. The boilers are not located in large urban areas. Background PM_{10} concentrations are not close to, or in breach of, the air quality objectives. Therefore, these boilers will not have any significant combined PM_{10} impact. Individually, the impact of each of these boilers will be acceptable.

Table 3.4 Biomass boilers within the Suffolk Coastal district and stage of assessment

Address of biomass boiler	Size of boiler (kW thermal)	Screening assessment undertaken?	Further action required?
Private residence, Sibton	60 kW	Yes	No
Private Farm, Alderton Road, Hollesley	60 kW	Yes	No
Private Farm, Theberton	70 kW	Yes	No
Control tower, Bentwaters Airfield, Rendlesham	60 kW	Yes	No
Private residence, Orford	60 kW	Yes	No
Suffolk Punch Trust, Hollesley	75 kW	Yes	No
Private residence, Wenhaston	120 kW	Yes	No
Private residence, Playford Road, Little Bealings	Unknown but small	Yes	No
Private residence, Aldeburgh	75 kW	Yes	No
Felixstowe Road, Purdis Farm – wood burning stove	Unknown	Yes	No
Rendlesham County Primary School	115 kW	Yes	No
Eyke County Primary School	120 kW	Yes	No
Cookley & Walpole County Primary School	80 kW	Yes	No
Knodishall Coldfair Green County Primary School	80 kW	Yes	No
Hollesley County Primary School	95 kW	Yes	No
GR Green Cricket Bats, Bromeswell	154 kW	Yes	No
Snape Maltings, Tunstall	550 kW	No	
Aldeburgh Productions music offices, Snape Maltings, Tunstall	60 kW	No	
Heveningham Hall and estate buildings, Heveningham	900 kW	No	
L F Geater & Sons Limited, West End Nurseries, Westward Ho, Lesiton	1.5 MW	No	

There are 4 biomass boilers for which information is still be gathered in order to undertake a screening assessment:

- Snape Maltings, Tunstall – 550 KW thermal boiler used to supply heating and hot water to new development on this mixed commercial and residential site. Air Quality Consultants Limited have been employed to undertake air quality modelling of emissions from this boiler due to the complex nature of the site which has many buildings with roof heights above the boiler stack.
- Aldeburgh Productions music offices, Snape Maltings, Tunstall – 60 kW thermal boiler situated within 100m of the 550 kW thermal boiler detailed above on this site. Air

Quality Consultants will also be including emissions from this boiler within the modelling study to determine whether Detailed Assessment is required.

- Heveningham Hall and estate buildings, Heveningham – 900 kW thermal woodchip boiler.
- L F Geater & Sons Limited, West End Nurseries, Westward Ho, Leiston – 1.5 MW thermal straw burner. This is a Part B process permitted under the Environmental Permitting Regulations 2010 which also requires assessment here as a biomass boiler.

Progress on, and results of, the screening assessments for these 4 installations will be detailed in the Updating and Screening Assessment Report due for production in April 2012.

Combined impacts of biomass combustion sources

There is one site within the district, identified since the 2009 Updating and Screening Assessment, which requires an assessment for combined impacts of biomass boilers – Snape Maltings, Tunstall, as detailed in the above section. This site has 2 biomass boilers located approximately 100m apart, a 60 kW thermal unit serving the Aldeburgh Production music offices and a 550 kW thermal unit providing heating and hot water for new development on the site (mixed commercial and residential).

Air Quality Consultants Limited have been employed to undertake air quality modelling of emissions from these boilers, due to the complex nature of the site which has many buildings with roof heights above the boiler stacks, and will determine whether a Detailed Assessment is required.

Results of the screening assessment for this site will be detailed in the Updating and Screening Assessment Report due for production in April 2012.

Domestic solid fuel burning

There are no new areas within the district, identified since the 2009 Updating and Screening Assessment, which would trigger a Detailed Assessment for domestic solid-fuel burning.

3.5 New Developments with Fugitive or Uncontrolled Sources

Dust emissions from a number of fugitive and uncontrolled sources can give rise to elevated PM_{10} concentrations. These sources include, but are not limited to:

- Quarrying and mineral extraction
- Landfill sites
- Coal and material stockyards or materials handling
- Major construction works
- Waste management sites

There are no new locations with significant emissions and no areas where there is any new relevant exposure that we are aware of within the district.

Suffolk Coastal District 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.

Suffolk Coastal District 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.

Emissions of NOx from the permitted process at Novera Energy are not yet available for 2010. Assessment will be undertaken once these figures are received.

Emissions of PM_{10} from the permitted process at Eurovia Limited increased by 732% between the latest emissions tests. We have been advised that the filters which screen out PM10 from the process were replaced in February 2011. Once the results of the emissions test due in July/August 2011 for the process are received a screening and/or Detailed assessment will be undertaken as required.

Suffolk Coastal District Council has identified two single biomass combustion installations, and one site with two biomass combustion installations which may have combined impacts, which require a screening assessment to determine whether they may impact on air quality in the Local Authority area and require a Detailed Assessment. We are currently working to obtain the information required in order to undertake screening assessment of each installation.

The findings from the above assessments will be presented in the Updating and Screening Assessment Report due for production in April 2012.

4 Local / Regional Air Quality Strategy

Suffolk Coastal District Council has not drawn up a local Air Quality Strategy at the present time. We have two AQMAs declared in the district for annual mean nitrogen dioxide, each due to very localised and different sources. Air quality in these two areas will be dealt with most effectively by the individual Action Plans prepared. The need for a strategy will be considered as part of our ongoing review of air quality.

5 Planning Applications

There are a number of developments within the Suffolk Coastal district which have been recently approved or are currently waiting to be determined, and which may impact on air quality. It is important that these developments are logged in this Progress Report so that their progress through the planning system can be monitored and any potential impacts on air quality assessed. There are 4 developments that were detailed in the Progress Report 2010 and 1 new development. Below are brief updates on the current situation regarding each:

Land at junction of Station Road and Wilford Bridge Road and Girdlestone Pumps, Station Road, Melton – Planning Application (C09/0584)

This application is for the demolition of the current Girdlestones building to be replaced by the erection of 10,735m^2 of light and general industrial use. This will consist of two and three storey business units to include offices, workshops, coffee shop/café. There will also be associated external works, off site highway works and formation of new access to Station Road.

The application provided an Air Quality Assessment which determined that overall it is considered that the impact of the proposed development on the ambient air quality near the development site and at the junction of Wilford Bridge Road and Melton Road will be very small and will not cause a breach of the limits set out in the Air Quality Limit Value Regulations of 2000. In addition, at the Woodbridge Junction, which is located within an AQMA, the increase in concentrations of the pollutants will also be very small so it has been concluded that the air quality does not constitute a material consideration in the assessment of the planning application.

The Air Quality Assessment was reviewed by this Department and the findings accepted. The application was determined on 4 March 2010 and approval was given. A Section 106 agreement has been signed including the Conditions to be placed upon the site. Work has not yet begun on the site.

Redevelopment of Adastral Park, Martlesham Heath (Planning Application C09/0555)

British Telecommunications plc (BT) submitted an outline planning application for the regeneration of Adastral Park and land to the east and south on 12 September 2008. Comments received from Suffolk Coastal District Council, statutory consultees and local residents led to an agreement to make proposed changes to the master plan layout. As a result, BT decided to withdraw the first application and submitted a revised outline planning application on 9 April 2009.

Adastral Park itself covers nearly 40 hectares (100 acres), and BT own a further 100 hectares (250 acres) of land surrounding the site, much of which has been or will be quarried to extract sand and gravel. BT's revised outline planning application includes refurbishment of Adastral Park and development of the adjoining land for the creation of a new residential community with its own infrastructure, services and facilities to provide:

- Up to 60,000m^2 net additional employment floor space, related car parking spaces and landscaping
- Up to 2,000 homes, related car parking spaces and landscaping

- Mixed use local centre (comprising health care provision, community centre, retail, Cafe, Public House, takeaway, related car parking spaces and landscaping.
- Education provision
- Hotel, related car parking spaces and landscaping
- Energy centre and other utility infrastructure
- Public car park and other areas of public open space, including formal open space provision for recreation and play
- Supporting services and facilities
- Network of landscape designed boulevards and streets to provide access and utility services for the development
- Full provision for the operation of public transport through the development, primarily on the boulevards and main streets
- New road connections to C356 (Newbourne Road/Heath Road/ Waldringfield Road) and related road improvements
- Changes to junctions on the A12
- Landscape areas and visual buffers around the perimeter of the land
- Ground remodelling following minerals extraction (subject to separate minerals planning application)
- Other minor works and development ancillary to the main proposals.

In January 2010 the applicants submitted an Environmental Impact Assessment Statement, which included an air quality assessment for the application, together with a Transport Assessment to predict the likely impact of the development on existing transport patterns. The air quality assessment identifies 5 sources of emissions that have the potential to influence air quality:

- Dust emissions during the construction period
- Emissions from construction traffic and plant during the construction period
- Traffic emissions from vehicles accessing the application area once the development is complete
- Emissions from the energy centre proposed for the development
- Potential emissions from quarrying activities within the application site

The conclusions of the Environmental Impact Assessment Statement with regard to air quality are summarised as follows:

- Construction activities at the development site have the potential to cause dust emissions at nearby sensitive receptors. Dust emissions from construction sites can be controlled effectively by the employment of management practices, for example wheel washers, use of screens etc. Particular attention will be paid to ensure mud and dust is not tracked onto the public roads close to the site. Care will be needed to ensure that these practises are applied throughout the construction period and over all areas of the site. Measures for control of dust will be included within a Construction Environmental Management Plan which will be submitted and agreed with SCDC prior to construction commencing.

- Prediction of pollution concentrations arising from traffic flows arising with the proposed development once operational have shown that the development will have a negligible impact on ambient air quality

- Pollution concentrations within the vicinity of the development site are predicted to remain well below the UK air quality objectives at all locations with the completed development in place. Therefore there will be negligible impacts from the introduction of new residential occupants in terms of exposure to poor air quality.

- As part of the development proposals there will be a number of junction improvements along the A12, three junctions of concern which are to be signalised are as follows:

    - ❖ A12/Newbourne Road/Foxhall Road roundabout
    - ❖ A12/Eagle Way/Barrack Square roundabout
    - ❖ A12/Eagle Way/Anson Road roundabout

    There are no sensitive receptors located adjacent to the A12/Newbourne Road/Foxhall Road and so no assessment was made for this junction. Prediction of pollutant concentrations arising as a result of the other two junction changes have shown that at the majority of locations these changes will have a negligible impact on air quality, and in fact the increase in distance from the junction at some receptors on the A12/Eagle Way/Anson Road junction is predicted to have a slightly beneficial impact on air quality.

- A feasibility study carried out for the site has concluded that the development would be able to support a community heat and power scheme with a centralised Energy Centre which would include biomass boilers providing additional heat for the site. At this time adequate information is not available to the applicants regarding the equipment to be used to allow the completion of a detailed assessment of the impact on air quality from the proposed plant. The impact of the Combined Heat and Power and biomass boilers proposed for the site will be assessed in detail at the detailed planning application stage using the relevant guidance (AEA Technical Guidance sited in the LAQM.TG(09) guidance on air quality for local authorities). This will ensure that stacks are sized appropriately for adequate dispersal of pollutants, and that emissions do not have an adverse impact on air quality.

- There is potential that some areas of the site will be utilised for sand and gravel extraction at the same time as the remainder of the site is developed. This could results in new residential properties being located in close proximity to areas of land under extraction. Sand and gravel operations have the potential to results in high emissions of dust which could results in nuisance impacts. However, the phased approach to both the mineral extraction works and the proposed development, along with attention to site management and the appropriate use of mitigation techniques will significantly reduce any impacts and the potential for nuisance impacts will be low.

The air quality assessment was appraised by external consultants AEA Technology plc, on behalf of the Environmental Protection team at SCDC, who could provide sufficient expertise to comment on the air quality modelling undertaken and other information included within the report. AEA concluded that the methodology adopted in the air quality assessment generally follows the guidance outlined in LAQM.TG(09) and therefore meets the outlined requirement, the approach taken to the potential impacts of construction of the development on air quality should ensure that the potential negative impacts are minimised. The road traffic modelling assessment predicts that at all sensitive receptors concentrations will be well below the annual mean objectives for NO_2 and PM_{10} in 2011 or 2018 both with and without the development and the impact of the development itself is negligible. **In light of this it is recommended that the application is <u>not</u> refused on the grounds of air quality.**

In January 2010 the applicants submitted further information and revised documentation which included altered traffic predictions. An addendum to the Environmental Impact Assessment Statement was provided which concluded that the daily traffic flows used in the April 2009 Environmental Impact Assessment Statement to assess air quality are not affected. The air quality results therefore remain valid.

Details of the application and associated documents can be viewed on the Council's website at www.suffolkcoastal.gov.uk/yourdistrict/planning/devcontrol/adastralpark/default.htm.

To find the Environmental Impact Assessment Statement, and specifically the air quality assessment:

Select “Review the revised application documents received 9 April 2009”
Under Application Documents, Environmental Statement select “Environmental Statement (2.22MB)”
The air quality assessment is in Section 8 of this report.

It is proposed that the application will go to September 2011 Planning Committee for consideration, and for the Council to determine its position as Local Planning Authority in respect of the application. The Council will be considering the principle of development at this site and whether it is minded to grant planning permission subject to the resolution of a number of outstanding matters, including planning obligations.

Orwell High School and land to the North West and High Street, Maidstone Road, Felixstowe (Planning Reference C10/0161)

This is an Outline Planning Application to be determined by Suffolk County Council for a new High School located on a site currently occupied by Orwell High School. Scale, Appearance, Layout and landscaping are to be reserved for future detailed submission. Access details are included as part of the application with new vehicular, pedestrian and cycle access proposed from The High Road.

The eventual aim is to provide a new school facility on the Orwell High School site which will have capacity to accommodate pupils from both Orwell and Deben Schools. The main vehicular access to the new building will be relocated to High Street.

Permission is not being sought for specific layout or design at this stage, but only for the size and location of a zone in which development can take place, as well as the new access arrangements.

Outline Planning Permission was granted by Suffolk County Council on 1 April 2010 with 43 conditions attached, those relevant to air quality are as follows:

- A screening assessment for road traffic impacts on properties in close proximity to the new access on High Street, Walton shall be submitted to and approved in writing by the County Planning Authority including:

  Details of a local air quality impact assessment in accordance with the Design Manual for Roads and Bridges methodology, to include any congestion/queuing effects on the High Street and recommendations for mitigation, if appropriate

- A design stage assessment outlining air quality and emissions from all heat and power sources (including Biomass Boilers and CHP installations) shall be submitted to and approved in writing by the County Planning Authority including:

  A biomass boiler screening assessment in accordance with Local Air Quality Management Guidance, with particular attention paid to the design height requirement of the stack. In the event of biomass being the selected form of energy supply, an assessment of emissions included under the Local Air Quality Management Guidance associated with biomass boilers should be provided, at detail design stage to the County Planning Authority.

No further documents have been receieved by this department in relation to air quality to date.

Land between Rendham Road and A12, Rendham Road, Saxmundham (Planning Application C10/0294). Outline planning permission.

The site encompasses an area of 5.2 hectares of former agricultural land on the western edge of Saxmundham, broadly between Rendham Road (to the north) and the A12 (to the west). It is an Outline Planning Application for 90 residential units, a small retail store (in the region of 100 sq. m), and 8,500m^2 of B1 (Business), B2 (General Industrial), B8 (Storage or Distribution) space together with associated highways, car parking, land, landscaping and other associated works. Details have been submitted showing a proposed site layout and potential impact. However, the detailed layout of uses and buildings on the site are reserved for later approval as a 'reserved matter'.

This department was consulted as part of the Planning process and recommended, with regard to air quality, that insufficient information has been provided and that an air quality assessment should be made to determine the effect of traffic generated by the proposed development on the Air Quality Objectives.

The application went to Development Control Sub Committee on 26 May 2010 who approved the scheme subject to controlling conditions. The controlling conditions have now been finalised and the air quality recommendations of this department were not included. There is no obligation for the applicant to provide any information regarding air quality. We will therefore have to assess any air quality impacts once the site is developed should there appear to be any problems.

Incinerator installation at Treatment building, The Knackers Yard, Valley Farm Road, Melton (Planning Application C10/1792)

This application is for an extension to the existing processing building to provide housing for an incinerator for disposal of Category 1 (highest risk) dead animals and an associated flue. This incinerator does not require a permit under the Environmental Permitting Regulations 2010 as the throughput is less than 50 kg per hour.

The Clean Air Act 1993 controls the height of chimneys associated with small combustion plant less than 20MW thermal input, such as this one. This requires the local authority to approve the chimney height to ensure the correct dispersal of pollutants in order to protect air quality. The applicants calculated the necessary height of the chimney using 'Her Majesty's Inspectorate of Pollution (HMIP) Technical Guidance Note (Dispersion) D1 – Guidelines on discharge stack heights for polluting emissions'. This calculated a chimney height of 15 metres for correct dispersal of the pollutants emitted.

In addition to the D1 calculation a screening assessment of the chimney emissions was also required for Local Air Quality Management purposes using the guidance provided in LAQM.TG(09). The screening assessment concluded that no further assessment was required for nitrogen dioxide but that a Detailed Assessment would be required for Particulate Matter (PM_{10}).

A Detailed Assessment was undertaken by Air Quality Consultants on behalf of the applicant in January 2011 which considered the impact on both the short term and long term air quality objectives for PM_{10}. The assessment used the air quality dispersion model ADMS-4 to include meteorological data and take into account the unusual topography surrounding the application site. PM_{10} concentrations arising as a result of the incinerator were modelled at a number of sensitive receptors in the area.

The results of modelling indicate that the increase in PM_{10} concentrations as a result of the incinerator will be small. Based on Environment Agency guidance the increases are deemed

‘insignificant’. The Environmental Protection Team therefore had no objections on air quality grounds to the incinerator application as long as the equipment and flue installed is the exact specification quoted in the air quality modelling.

The application was granted planning consent on 3 February 2011 with Conditions attached specifying the make and model of incinerator, a flue height of 15 metres, a flue diameter of 0.32 metres and submission of flue details for agreement prior to installation. Any deviation from these specifications will require reassessment of the incinerator on air quality grounds.

6 Air Quality Planning Policies

The land use planning system is recognised to play an integral part in improving air quality in the Local Air Quality Management regime. Government policy on planning is set out in The Planning and Compulsory Purchase Act 2004 and associated regulations and circulars. More detailed advice and guidance on a range of topics is in the form of Planning Policy Guidance Notes and Planning Policy Statements which are proposed to be replaced by a new National Planning Policy Framework, a draft of which was published July 2011

The 2004 Act requires Local Planning Authorities to replace their existing adopted Local Plans with a new Local Development Framework. The new Local Development Framework will comprise a suite of documents as shown in Figures 6.1 and 6.2, and promote a wider spatial approach to the management of development of land than the earlier Local Plan regime. For Suffolk Coastal it is intended that five Development Plan Documents will be prepared, see Figure 6.1 & 6.2.

Figure 6.1 Summary of the Local Development Framework

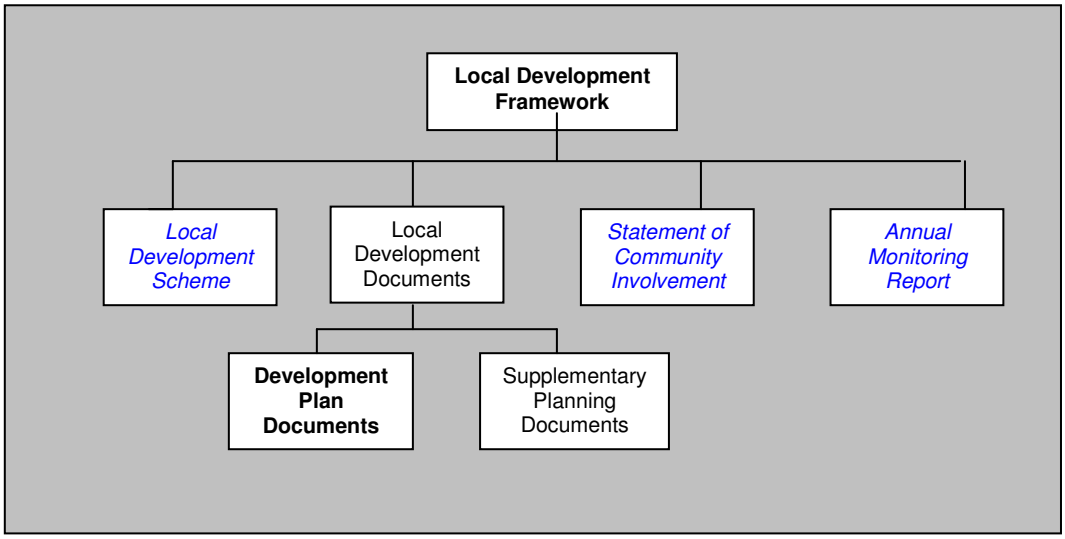
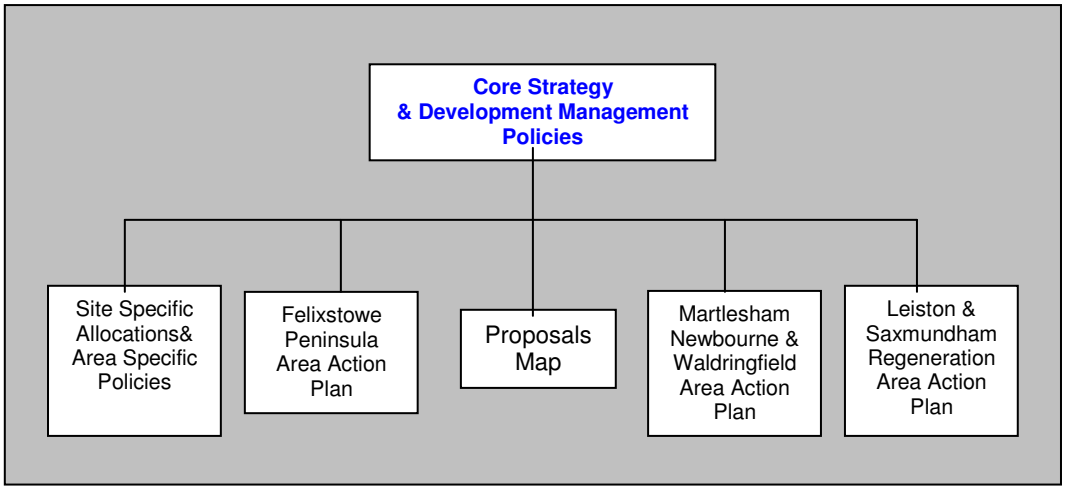


Figure 6.2 Summary of the Development Plan Documents for the Suffolk Coastal District



The most significant of these documents is the Core Strategy & Development Management Policies as this will establish the context for the remainder. This document deals with principles setting out a vision, strategies and objectives for the district. It cascades down to the local level advice and guidance from national and regional planning guidance.

The latest iteration of the Core Strategy is the Reviewed Core Strategy (November 2010) which is due to formally replace the current Interim Core Strategy (March 2010) in autumn 2011. At this point, it will become a material consideration in the determination of planning applications and enforcement. Paragraph 3.129 of the Reviewed Core Strategy refers specifically to air pollution.

The Reviewed Core Strategy has still to be tested for "soundness" in front of an independent Planning Inspector, so is not expected to be formally adopted until autumn 2012. Until then, these Core Strategy policies sit alongside "saved policies" from the Suffolk Coastal Local Plan (incorporating 1st and 2nd Alterations) in the consideration of development proposals.

The anticipated timetable for the progress of each of the other Development Plan Documents is available on the Council's website. In brief, the Site Specific Allocations and Policies will relate to specific areas or places, e.g. towns and town centres. Where specific sites are allocated or designated for particular uses these will be shown on the separate Proposals Map. Area Action Plans will be prepared at a later date. These relate to areas where change is to take place and will set out an implementation plan for that change including a more detailed set of development management policies.

The starting point for the determination of planning applications is that they should accord with the development plan as referenced above. A system exists whereby all planning applications to Suffolk Coastal District Council are recorded on a Public Register. This comprehensive list is then circulated to the Environmental Health Officers in the Environmental Protection team who assesses which applications will require investigation by the team. Details of these applications are then provided for relevant comment on any issues relating to air quality amongst others.

Air Quality Management and New Development Supplementary Guidance Document for Suffolk

A draft Air Quality Management and New Development Supplementary Guidance Document for Suffolk has been prepared by the Suffolk Air Quality Management Group. The group consists of officers from each local authority working in the field of air quality. The guidance is for use by all of the local authorities in Suffolk when considering planning applications and potential impacts on air quality. The document has two principal aims which are to:

- Maintain and where possible improve air quality
- Ensure a consistent approach to local air quality management and new development across the county by:
  i) identifying circumstances where an air quality assessment would be required to accompany a planning application
  ii) providing guidance on the requirements of the air quality assessment
  iii) providing guidance on mitigation and offsetting of impacts

A full public Consultation exercise has been undertaken on the draft document. The results of the Consultation are currently being collated and the document will be amended accordingly before being adopted by each of the Suffolk local authorities.

7 Local Transport Plans and Strategies

The Local Transport Plan system is a 5-year transport strategy at a local level whereby Local Transport Authorities are required to submit a 5-year Local Transport Plan (LTP) for their area that sets objectives and targets for transport, and strategies for achieving them. The plans must cover all forms of transport and establish strategies to tackle congestion and poor air quality. The LTP provides the basis for allocating resources to the Local Transport Authority in order for them to implement their plans. The Local Transport Authority for Suffolk is Suffolk County Council.

The Department for Transport (Dft) included air quality as one of four shared priority areas to be reported in the Second Local Transport Plan (LTP2) which covers the period from 2006 to 2011. This was the first time that air quality has been addressed separately as a priority alongside three other areas which are congestion, accessibility and road safety.

Suffolk County Council's Plan was completed early in 2006 and can be seen at http://www.suffolk.gov.uk/TransportAndStreets/Policies/SuffolkLocalTransportPlan2006-2011.htm

A full report on Suffolk's air quality, including reference to the Woodbridge Air Quality Management Area declared in April 2006, has been included in Chapter 8 of the LTP2 together with the County Council's objectives of:

a) To comply with the requirements of the National Air Quality Strategy and

b) To seek to maintain and where possible improve air quality in Suffolk.

As a result of its submission, Suffolk County Council received a rating of "excellent" from the Dft for its management of local air quality. This was awarded partly in recognition of the close working relationships developed between the two tier local authorities in Suffolk.

Following submission Dft awarded funding, through the LTP process, to address traffic and transport problems within the Woodbridge AQMA for the three financial years starting April 2008. Funding from SCC has recently been agreed in order to progress several of the measures in the draft Action Plan, and work will begin in 2010.

It was intended that the Action Plan for Woodbridge would be integrated into the LTP2 process at the appropriate biannual delivery report. This has not been possible as the Action Plan is only now being finalised and there are no more progress reports due for LTP2 as the LTP3 process has now begun. SCC is therefore intending to integrate the Woodbridge Action Plan into the LTP3, which is currently being drafted.

An LTP2 Progress Report was prepared in the summer of 2008 which provided an update on the air quality situation at that time. The report can be seen at http://www.suffolk.gov.uk/NR/rdonlyres/73AC1039-A794-4C99-96D4-F410FC90E4CB/0/ETLocalTransPlanTHIN.pdf

The linkages with the other priority areas are recognised and funding for measures to address congestion, minimise the impact of lorries on towns and Communities, and promote the sustainable transport "soft options" should also have the benefit of maintaining or improving air quality and vice versa.

A number of strategy objectives have been presented as part of the LTP2 Plan Implementation Programme, with the largest impact on Suffolk Coastal potentially arising from the objective to "Support the sustainable development of the ports of Felixstowe, Ipswich and Lowestoft in their roles as gateways to the rest of the county". This will be a vital input when drafting an Action Plan for the Air Quality Management Area declared at Ferry Lane, Felixstowe which is partially due to emissions from local road traffic external to the Port boundary. Local Transport Action Plans are no longer prepared as part of the LTP process and for the future, interventions will be developed against each of the identified strategy objectives.

The Local Transport Plan 3 (LTP3) has recently been finalised and is available at http://www.suffolk.gov.uk/TransportAndStreets/Policies/Local TransportPlan.htm. The outcomes of LTP3 will fall within the next round of air quality reporting due for 2011/12 at which time the contents will be discussed in the Updating and Screening Assessment Report due April 2012.

Suffolk Coastal District Council's Final Action Plan for the Woodbridge junction was formally endorsed by Suffolk County Council's Portfolio Holder for Roads Transport and Planning in February 2011. A Timeline of activities was prepared at the start of the financial year 2010/2011 by Suffolk County Council setting down timescales for the main activities. Detailed information relating to this can be seen in Section 9 of this report.

The only major scheme proposed for the Suffolk Coastal district is the A12 Four Villages Bypass. A full investigative study of a number of bypass route options was carried out in 2004 which, although identifying strong economic and safety benefits, highlighted potentially severe environmental impacts. The traffic problems through the four villages of Farnham, Stratford, Glemham and Marlesford are so severe that further work on a range of alternative solutions focussing on traffic management measures to the existing route has been carried out. A number of options have been investigated at Stratford St Andrew and Farnham. At the time of our Progress Report 2010 the only measure considered feasible by Suffolk County Council was to introduce signing and control to ensure that Heavy Goods Vehicles (HGVs) are held so that two do not pass simultaneously at the narrowest point of the sharp bend at Farnham. This would be undertaken using sensors in the road to detect HGVs approaching the bend at Farnham, should HGVs be approaching from both directions at the same time traffic lights would hold up one set of traffic. Additional investigations undertaken by Suffolk County Council since this time have determined that the scheme will now consist of a warning sign system only, and not traffic lights, should HGVs be approaching from both directions at the same time a warning sign will be activated to inform the vehicles of the approaching situation. This system has still to be implemented.

Works to the A1152/B1438 Melton Crossroads junction have been completed which has enabled traffic to move more freely through the junction minimising queuing and congestion.

8 Climate Change Strategies

On 26 October 2006 The Council signed the Nottingham Declaration, an acknowledgement that Climate Change is a key issue for the Council. Since then further work has been done to ensure that this area of activity is given a high priority within the Council and the Local Strategic Partnership.

Suffolk Coastal District Council's 2009 Climate Change Strategy sets out policies and specific actions to help reduce greenhouse gas emissions and prepare for the effects of a changing climate, and forms part of the ambition to support work towards a sustainable future for the district. The strategy was developed with partners to produce a framework for action to help the district reduce greenhouse gas emissions and to prepare for the effects of a changing climate. It is due to be reviewed in 2011/12. There are six main greenhouse gases recognised for their global significance. These include carbon dioxide, methane and nitrous oxide. The strategy concentrates on the reduction of CO_2 emissions because this gas is released in the largest quantities, has a long term effect in the atmosphere and is the greenhouse gas that we have the greatest control over. Where there is the ability to have control over the other gaseous emissions they will not be ignored.

The vision behind the strategy is to work with others to reduce district emissions of carbon dioxide by 60% by 2025, relative to 2005 levels as set out in the Suffolk Community Strategy, reduce reliance on fossil fuels, and to have formally embedded risks and benefits from changes in the climate into the Council decision making process and to inspire others to do the same.

The Strategy sets out long term ambitions, but also includes targets and actions to be achieved in both the short and the medium term. The three core objectives to be met are:

Objective 1: Reduced carbon dioxide emissions.

- Work with partners across the County to reduce CO_2 emissions.
- Work with staff and service delivery partners to reduce council emissions
- Work with individuals, communities and businesses to help them reduce their emissions

Objective 2: Preparing for a changing climate.

- Continue to assess the risks faced by our district and how projected changes to the climate may impact on the services we deliver, the development we permit and the communities we serve.
- Continue to assess work with local communities and organisations to help increase understanding of potential climate risks

Objective 3: Reduced reliance on fossil fuels.

- Promote and make more efficient use of energy and to promote and use low carbon energy sources where feasible.

The Council intends to work with partners and key contractors to meet these objectives through the following key areas of action:

Objective 1: Reduced carbon dioxide emissions.

- Achieve an ongoing reduction in carbon dioxide emissions from Council operations and estate.
- Have all communities engaged in activities which will reduce carbon dioxide emissions by 2020.
- Aim towards a district that is a centre of excellence for low carbon lifestyles.

Objective 2: Preparing for a changing climate.

- Developing understanding of risks and benefits associated with changes in the climate and incorporation of these into formal decision making processes.
- Developing examples of organisations and communities in the district who are looking at how changes to the climate are affecting them.

Objective 3: Reduced reliance on fossil fuels.

- To promote and make more efficient use of energy in the delivery of our services.
- To be engaged in partnerships which are researching the best ways to reduce our reliance on fossil fuels.
- To utilise non fossil fuel dependent technologies where feasible in our own estate and operations and to promote these within our local communities.

Since developing the climate change strategy, the Council has continued to try to reduce its own carbon emissions and encourage and support local communities to play their part in tackling climate change. The Council has amongst other actions:

- Further insulated its property portfolio, improved lighting and lighting controls and heating and heating controls, closed Melton Hill on Saturdays, installed an air source heat pump, and installed a teleconference and video conference system to reduce staff mileage.

- Worked with staff to help them reduce their personal carbon dioxide emissions; including advice on energy efficiency, renewables, cycling, public transport, and provision of smarter driver training.

- Supported 12 community groups as they attempt to engage their wider communities in playing their part in tackling climate change, hosted 7 training/practical action events and 9 Greenprint forums, various environmental visits and provided talks and a presence at numerous events reaching approximately 500 individuals. Managed the Green Homes DIY Partnership project which enabled 98 homes to improve their energy efficiency. Run a loft clearance scheme to help people clear their loft for insulation. Incorporated climate change considerations into estuary planning work with communities.

- Our Business Energy Advisor has calculated potential annual cost savings of £514,519 and cumulative potential annual carbon savings of 2,247.89 tonnes of CO2(e). from 111 audits within Suffolk Coastal. In addition we have worked with Resource Efficiency East, Waveney, Ipswich and Bury St Edmunds to deliver efficiency workshops and audits to our supply chain.

- Assessed Suffolk Coastal LSP members action on energy/water efficiency, renewable technologies and climate adaptation and created case studies and hosted an event to share learning.

Progress will be monitored by the Officer for the Greenest County Steering Group. Headline progress will be reported to the Green Issues Task group and through the Council's annual report.

If you have any questions or require further information regarding the Climate Change Strategy, please contact the Council's Environmental Sustainability Officer by email at environmental.protection@suffolkcoastal.gov.uk , or by telephone on (01394) 444624.

9 Action Plan Progress Report for Woodbridge AQMA

Junction of Lime Kiln Quay Road, Thoroughfare and St. John's Street in Woodbridge (Woodbridge Junction)

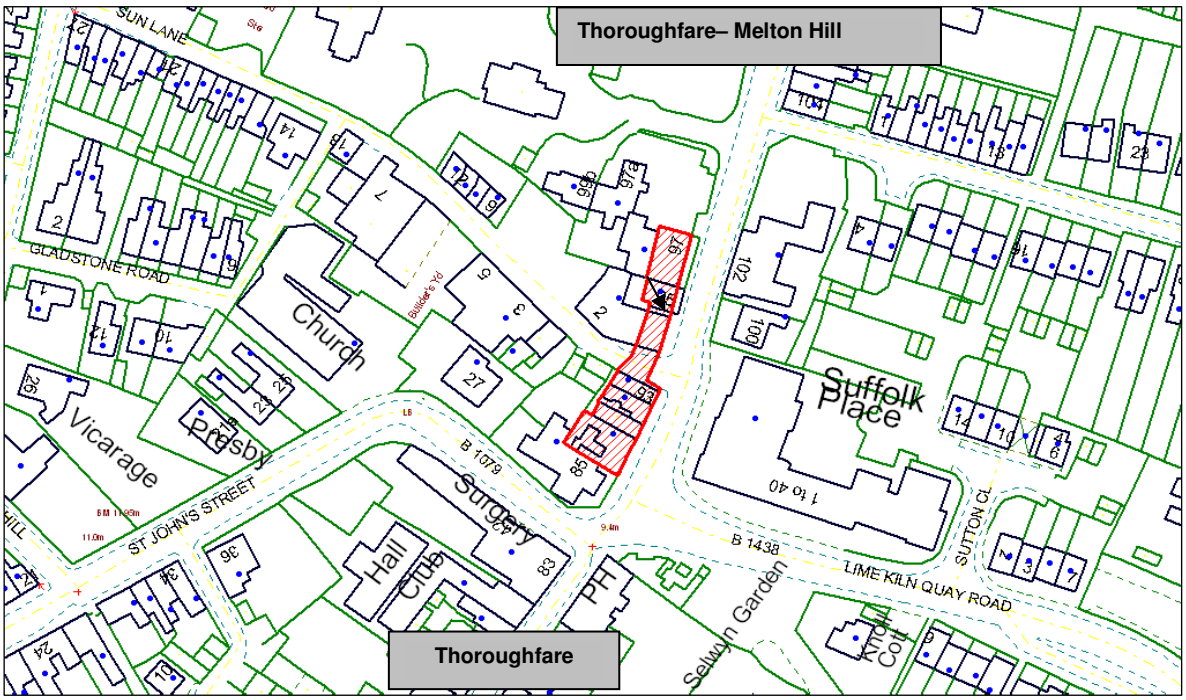
On 3 March 2006 an Air Quality Management Area Order was made for the Woodbridge Junction with regard to the annual mean NO_2 concentration, this came into effect on 3 April 2006. The designated area incorporates properties on the Western side of the Thoroughfare and Melton Hill arm of the junction with Lime Kiln Quay Road, in Woodbridge, Suffolk. A copy of the AQMA Order is included as Appendix A and a location map is provided below.

A Further Assessment was produced for the Woodbridge junction in October 2007 and the draft Action Plan underwent Statutory and Public Consultation from March to June 2010. The responses received were presented in the final Action Plan, accepted by Defra in May 2011.

The Action Plan confirms the likely source of NO_2 is from transport, in particular heavy goods vehicles. Evidence suggests that a 16% reduction in traffic emissions of oxides of nitrogen (NOx), a precursor to NO_2, is necessary (based on 2006 figures) to achieve the air quality standard. The Action Plan considers 79 options to improve air quality and recommends 20 of these for implementation. Inevitably, the Action Plan has taken time to develop and finalise, but we have continued to monitor air quality at the junction and worked to introduce any measures available in the interim.

Table 9.1 overleaf contains a summary of progress made on each of the 20 measures contained within the Action Plan and further detail regarding each is provided after the table.

Figure 9.1 Location of the AQMA declared at the Woodbridge Junction



Not to scale

N

Table 9.1 Woodbridge Junction Action Plan Progress Summary Table

No.	Measure description	Focus	Lead authority	Plan-ning phase	Implemen-tation date	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated comple-tion date	Comments relating to emission reductions
1	Install queue detectors (MOVA) on traffic signals to reduce queuing at the junction	Reduce queuing traffic at the lights	Suffolk County Council	2009	2010	Reduction in peak queue lengths	10%	Queue length survey undertaken late 2009. MOVA was then installed at the end of 2009 but software issues meant it has only recently become functional	Due to software problems MOVA only became fully functional in June 2011.	2011 **Completed**	MOVA needs leaving in place for 6-12 months before we can assess air quality data to see if any changes have occurred. Queue length survey post MOVA needed. Unsure whether emissions in actual AQMA area will be reduced, may just be reduction for other areas of junction.
2	Install right hand turning lane at lights on Thoroughfare /Melton Hill arm of the junction	Reduce queuing traffic at the lights	Suffolk County Council	2011-2012	2013 Only for implementation if measure 1 is not successful	Reduction in peak queue lengths	5%	Preliminary design prepared. Alternative options still need investigation	Preliminary design prepared.	2013	Concerns raised as will move carriageway closer to Suffolk Place residential home - may increase emissions here. Assessment/feasibility study to be carried out. Bid for Defra Grant funding to be submitted.
3	Extension of restrictions to Thoroughfare (8am-6pm)	Reduce queuing traffic at the lights	Suffolk County Council	2012	2012 Only investigate if measures 1 and 2 not feasible / successful	N/A at present	2%	None	None	2013-2014	
4	Remove ability to turn right from direction of Thoroughfare	Reduce queuing traffic at the lights	Suffolk County Council	2012 - 2013	2013 Only consider if measures 1, 2 and 3	N/A at present	N/A at present	None	None	2014-2015	

No.	Measure description	Focus	Lead authority	Plan-ning phase	Impleme-ntation date	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated comple-tion date	Comments relating to emission reductions
	/Melton Hill				**Contd.** are not feasible / successful.						
5	Relocate the on street parking currently in Thoroughfare /Melton Hill to the opposite side of carriageway.	Reduce queuing traffic in AQMA	Suffolk County Council	2010-2011	2012 If study and consultation shows this is feasible.	Reduction in peak queue lengths Would only be traffic heading away from junction along Thorough-fare / Melton Hill	5%	Preliminary design prepared.	Preliminary design prepared.	2012	5% emission reduction may be an over-estimation as would only affect traffic travelling away from junction along Thoroughfare/ Melton Hill. Air quality study/ modelling to give us better idea of potential emission reductions. Bid for defra Grant funding to be submitted.
6	Remove the on street parking currently in Thoroughfare /Melton Hill.	Reduce queuing traffic in AQMA	Suffolk County Council	2012-2013	2013 Only for consideration if measure 5 is not successful.	Reduction in peak queue lengths Would only be traffic heading away from junction along Thorough-fare / Melton Hill	5%	None	None	2013-2014	5% emission reduction may be an over-estimation as would only affect traffic travelling away from junction along Thoroughfare/ Melton Hill. Air quality study/ modelling to give us better idea of potential emission reductions. Bid for Defra Grant funding to be submitted.
7	Investigate Satellite Navigation (SatNav) system	Reduce traffic flows through AQMA	SCDC	N/A	2010	SatNav providers contacted. Peak queue	1%	Most popular SatNav systems tested, some routes are via the	Discussed with SCC who deal with SatNav providers.	2010 **Completed**	As this option is not to be taken forward no emission reductions to be gained as part of it.

No.	Measure description	Focus	Lead authority	Plan-ning phase	Impleme-ntation date	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated comple-tion date	Comments relating to emission reductions
7	routes around town					lengths reduced.		junction but majority sent via the bypass. **Contd.**	There are no real options or incentives for providers to alter their systems. No further action. **Contd.**		
8	Bus operators to use cleanest fleet in Woodbridge – contact them to request.	Reduce emissions from HDVs through the AQMA junction	SCDC	2010	2010	Number of Euro IV buses operating in Wood-bridge.	2%	List of 8 bus operators compiled. 3 bus operators contacted.	As for previous column	2011	Of operators contacted none willing so far to alter fleet as only very small service operates in Woodbridge. All buses maintained regularly so no emission reductions to be gained as yet. . All First buses operating out of Ipswich now low floor, but Euro standard information not available.
9	Demand Responsive Transport	Reduce traffic flows through AQMA junction	Suffolk County Council	N/A	2009	Increased bus patronage	2%	Scheme in place as of 2009	None	2009	Discussions with SCC show bus patronage hard and costly to measure. This indicator to be removed. No other relevant indicator. Will have a positive effect to reduce cars using junction, but no real way to measure whether emission reduction target will be reached.
10	Simplified Ticket Scheme	Reduce traffic flows through	Suffolk County Council	2009-2010	2012	Increased ticket sales and bus patronage	1%	Working group set up 2009 to investigate option. Scheme	Trial set up, awaiting report once completed.	2012	Bus patronage hard and costly to measure so will remove this indicator. Unsure about ticket sales.

No.	Measure description	Focus	Lead authority	Plan-ning phase	Impleme-ntation date	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated comple-tion date	Comments relating to emission reductions
		AQMA junction						to be trialled in Ipswich and reported on.			If implemented, will have a positive effect to reduce **Contd.** cars using junction, but no real way to measure whether emission reduction target will be reached.
11	Improve accessibility to bus timetable	Reduce traffic flows through AQMA junction	Suffolk County Council	2009	2009	Website launch. Leaflets delivered. Increased bus patronage	1%	Website launched. New leaflets delivered.	None	2009 **Completed**	Bus patronage hard and costly to measure. This indicator to be removed. No other relevant indicator. Will have had a positive effect to reduce cars using junction, but no real way to measure whether emission reduction target has been reached.
12	Turban Centre new bus station/ interchange	Reduce traffic flows through AQMA junction	Suffolk County Council	2010 /2011	2012	Opening of new bus shelter. Increased bus patronage	2%	Design could not be agreed in time for budget cuts. Funding now withdrawn. Bus shelters will now just be upgraded.	As previous column	2012 for upgraded bus shelters	May be some positive influence on bus patronage due to new bus shelters. Not possible to predict what reduction in emissions this may give.
13	Procurement of bus contracts to include fleet upgrade	Reduce emission from HDVs through AQMA	Suffolk County Council	2009	2009	Quality assess-ment process in place.	2%	Quality assessment process in place as of 2009.		2015	New low emission vehicles added to SCC's fleet are compliant for the London Low Emission Zone and the London 2012 Olympics. However, impacts on

No.	Measure description	Focus	Lead authority	Plan-ning phase	Impleme-ntation date	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated comple-tion date	Comments relating to emission reductions
		junction			2015	Buses to be Euro III standard					AQMA likely to be very small.
14	Car sharing scheme	Reduce car trips	SCDC	N/A	2010 and on-going	Increase in registered users of scheme	2%	Baseline no. of scheme users obtained 1/9/10 as 1,599. SCDC website updated with details. Articles published in local magazines.	As for previous column. 1,831 registered users of scheme 20/7/11.	On-going	Increased number of users can only have a positive effect. Current projections state 1,930,657 miles and 920 grams of NOx saved for all members for next 12 months (July '11–July '12). Scheme Suffolk wide so investigating whether statistics for Woodbridge area are available. May be able to then work out potential emission reduction associated with the scheme.
15a	Business Travel Plans	Reduce reliance on car and queuing time in AQMA	Suffolk County Council / SCDC	N/A	2010 - 2011	Businesses contacted. Number of Travel Plans adopted by businesses	2% for 15a,b and c combined	List of businesses in Woodbridge with > 20 employees sent to SCC to contact.	As for previous column.	2012	Investigations show there are not really any large businesses within Woodbridge. Potential to adopt Travel Plans much smaller and any impact from them also minimal.
15b	School Travel Plans	Reduce reliance on car and reduce queuing time in AQMA	Suffolk County Council / SCDC	N/A	2010	Contact schools to remind them about Travel Plan. Contact Wood-	2% for 15a,b and c combined	All schools in Woodbridge with exception of Woodbridge School have a Travel Plan in place.	None	2011	All schools currently have a Travel Plan so most associated emission reductions will have already been made. Woodbridge School has been approached in the past and did not wish to participate. Will contact again.

No.	Measure description	Focus	Lead authority	Plan-ning phase	Impleme-ntation date	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated comple-tion date	Comments relating to emission reductions
						bridge School re adopting a Travel Plan.					Will have a positive effect to reduce cars using junction, but no real way to measure whether emission reduction target will be reached.
15c	Travel Plan for the District Council offices	Reduce reliance on car and reduce queuing time in AQMA	SCDC	N/A	2009	Travel Plan adopted Key actions completed Reduction in staff work mileage	2% for 15a,b and c combined	Travel Plan adopted late 2009 Key actions completed late 2010	Key actions completed late 2010. Staff work mileage figures being looked at for any trends.	2010 and on-going	Only indicator potentially available to assess emission reduction is reduction in staff mileage. This does not include Council workers who drive to work but do not use car for work journeys. Will be difficult to ascertain overall emissions reduction from the Travel Plan although it can only have a positive effect on emissions in the AQMA.
16	Promotion of cycling and walking in Woodbridge	Reduce traffic flows through AQMA	Suffolk County Council	2010	2011/2012	Build base network of current situation Investigate any ideas from the above process	1%	Currently reviewing cycling and walking in Woodbridge. Looking into shared space scheme for Town centre	As for previous column	2012 for study production. Unsure about dates for work completion	Once the baseline report is written and study undertaken into shared space scheme we will have more information regarding potential emission reductions and whether 1% is realistic.
17	Integration with Planning System	Avoid worse-ning air quality and open S106 funding	SCDC	2010/ 2011	2011	Produce Supple-mentary Planning Document for Suffolk and consult	1%	Draft Document produced and consultation undertaken. Document being finalised	As per previous column	2011 / 2012 for production and adoption of final document	Document will ensure air quality reports are produced for planning applications when they require one. Unsure how we can measure emission reductions due to this

No.	Measure description	Focus	Lead authority	Plan-ning phase	Impleme-ntation date	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated comple-tion date	Comments relating to emission reductions
		stream									unless application is closely associated with AQMA. Assess as and when relevant application(s) received.
18	Raise air quality awareness	Reduce traffic flows in AQMA	SCDC	N/A	On-going	Promotion of air quality and reports on website	N/A	Articles published in local magazines and papers. Air quality reports on the SCDC website	As for previous column	On-going	No emission reduction targets possible for this measure although it can only have a positive effect on car usage and emissions in the AQMA.
19	Monitor air quality	To report progress	SCDC	N/A	On-going	Continue monitoring	N/A	Monitoring on-going	As previous column	On-going	N/A
20	Undertake identified feasibility studies	To fully understa nd impact of identified measure	SCDC / Suffolk County Council	N/A	2011	Feasibility studies for measures 2 and 5 undertaken	N/A	Feasibility studies for measures 2 and 5 have started	As previous column	2011/2012	N/A

An update report has recently been provided by Suffolk County Council (SCC) regarding each of the Action Plan measures they are tasked to implement. The report advises that deadlines regarding a number of the tasks have slipped, primarily due to technical difficulties with the operation of Measure 1 (MOVA) – further detail provided below. The report states that '…until these have been rectified and adequate air quality monitoring carried out to demonstrate effectiveness, the highway authority is not willing to implement further measures. In the meantime work is progressing on feasibility studies and any other measures that could reasonably be progressed at this stage…' A formal Report on progress towards Measure 10 and any other outstanding cost effective measures for implementation will be prepared within the next six months.

Similarly, deadlines regarding a number of Suffolk Coastal District Council's (SCDC) tasks have also slipped due to staff shortages.

Below is further detail provided by both SCC and SCDC regarding each of the Action Plan measures:

Measure 1 - MOVA installation (SCC) – Has been in place for the majority of 2010, but a number of problems have been experienced with the software operating the system, which has resulted in it not currently being fully operational. These are random and are proving difficult to resolve, but will be addressed as soon as possible. We note that as a minimum, six months of air quality monitoring will be required once the MOVA system is operating properly and therefore will not be seeking to implement any additional traffic management measures until these results are available, although feasibility study and preliminary work will continue. Following receipt of the SCC update report, the MOVA system software problems appear to have been fixed (as of 26 June 2011). The system will be monitored to ensure that this is the case.

Measure 2 – Consideration of right hand turning lane (SCC) – A preliminary design has been prepared for feasibility study purposes, which moves the carriageway significantly closer to Suffolk Place on the opposite side of the road from the AQMA. Air quality impacts of this proposal will need to be quantified to ensure that any potential deterioration in air quality at Suffolk Place does not lead to a further exceedance of Objective levels. A bid to Defra for funding for traffic and air quality modelling and assessment will be submitted in June 2011. The residents of Suffolk Place have not been consulted on these preliminary proposals as it is important to ensure that the alterations would lead to an air quality improvement. As the proposals include construction of highway within private land full support is required from the residents of Suffolk Place. A further review of this design to identify any possible alternatives will also be carried out, although a preliminary investigation has not resulted in any other feasible options.

Measure 3 - Extension of the Thoroughfare restrictions - to be considered if 1 & 2 are not feasible or successful (SCC) – Early thoughts on this are that a Traffic Regulation Order would be required to implement this proposal. This has not been investigated in detail, since implementation of Measures 1 and 2 above would be carried out first and consequent air quality monitoring required to establish the need for any further traffic management measures.

Measure 4 - Remove the ability to turn right - to be considered if 1, 2 and 3 not feasible/successful (SCC) – Traffic Regulation Order would be required. Comment as for Measure 3.

Measure 5 - Relocate Parking (SCC) – Traffic Regulation Order would be required. Modelling of the impacts of this proposal will be carried out as an additional part of the feasibility study work for Measure 2. It is important to ensure that moving parking from one side of the road to the other would result in an improvement in air quality. Residents and Councillors are more

likely to support this change than Measure 6 below, which would result in all parking being removed.

Measure 6 - Remove parking - to be considered if 5 is not successful (SCC) – Traffic Regulation Order would be required. See comments for Measure 5. Modelling of this Option would also be included in the feasibility study work so that a full appreciation of the impact of the Options can be obtained before consulting residents. Consultation responses to the Action Plan suggest that this Option would not be supported.

Measure 7 - Investigate Satellite Navigation (SatNav) system routes around town (SCDC) – Four of the most popular SatNav systems and five of the most popular route-finder websites were trialled to determine whether routing (starting from a number of points on the Martlesham side of Woodbridge and finishing in Melton) will take you through Woodbridge, and therefore the AQMA, or via the bypass around the town. The results were mixed with the majority of routings taking you around the bypass and not through the town and AQMA. A number of SatNavs and websites however have options that can be programmed in such as shortest route or most aesthetic route which will take you via the town and through the AQMA. We will not be able to influence these choices.
Advice was obtained from the lorry routing team at SCC who have worked closely with a number of the SatNav companies, mainly regarding specific heavy goods vehicles systems. They advised that a number of SatNav companies are providing vehicle specific systems now (for heavy goods vehicles, cyclists etc.) The difficulty is that you can purchase any system that you wish and as the general systems are much cheaper than the vehicle specific ones these are still the most popular. The SatNav companies are not interested in altering their general SatNav systems as they are providing the vehicle specific ones as an alternative.
We have not therefore made contact with any of the SatNav companies directly due to receipt this information, the vast number of different manufacturers that exist, and the fact that most routes do not take you via the AQMA. We will not be undertaking any further investigations regarding this measure.
As an alternative option we have been liaising with SCC to investigate the possibility of producing a Small Town Delivery Map for Woodbridge. This would be aimed at businesses in Woodbridge to help direct deliveries correctly and hopefully to avoid unnecessary trips. SCC is preparing detailed proposals for which funding will be sought in the current and next financial years. Updates will be provided in future Action Plan Progress Reports.

Measure 8 - Bus operators to use cleanest fleet in Woodbridge (SCDC) – A list of 8 bus operators which run services through the Woodbridge junction has been compiled. Three of these have been contacted to date but none are willing to alter their fleet using the junction without financial incentive. The bus service operating through the Woodbridge junction is quite small when compared to those running in nearby Ipswich, and this is where the newer fleet is being directed. We are compiling information from each bus operator on the ages, Euro standards and service & maintenance schedules of the fleet that serve Woodbridge to see if there are any other suggestions we can make to the bus operators to reduce emissions. Findings of the investigation will be published once completed in the 2012 Action Plan Progress Report.

Measures 9 to 13 - Bus measures (SCC) - Suffolk County Council has set up a dedicated web-site called “Get on board!” which can be found at: http://www.suffolkonboard.com/ where details of public transport arrangements can be found. A more general web-page is available at http://www.suffolk.gov.uk/TransportAndStreets/PublicTransport where Passenger Transport, Demand Responsive Transport Services, Community Transport, Education Transport, Tendering and Contract Information and Further Information is available.

Measure 9 - Demand Responsive Transport (SCC) – Implementation is progressing, see weblink for further information http://www.suffolkonboard.com/ which identifies the Areas where the service is currently set up. This includes for the Alde Area, to the north of Woodbridge,

which may have some influence on Woodbridge traffic and also the Wilford Area which includes Woodbridge and villages to the east.

Measure 10 – Simplified Ticket Scheme (SCC) – A Working Group has been set up to investigate this Option. Results on the Trial Scheme will be reported at a later date. A formal Report on progress towards Measure 10 will be prepared within the next six months.

Measure 11 – Improve accessibility to bus timetable (SCC) – Bus timetables and additional leaflets are available on http://www.suffolk.gov.uk/TransportAndStreets/PublicTransport together with other timetables such as rail. Leaflets have been made more widely available across the county.

Measure 12 - Turban Centre new bus station/interchange (SCC) - Scheme funding for this project has been withdrawn. A number of design issues were identified and agreement between Suffolk County Council and Suffolk Coastal District Council could not be reached. Current funding cut-backs have resulted in existing facilities being reviewed and new bus shelters will be provided by way of improvement.

Measure 13 – Procurement of bus contracts to include fleet upgrade (SCC) – A Quality Assessment Procedure is in place and all operators seeking to be included on the list of suppliers are required to provide details of their fleet proposals as included on the Suffolk County Council web page; http://www.suffolk.gov.uk/TransportAndStreets/PublicTransport/PassengerTransport/ListOfApprovedSuppliers.htm and Application form; http://www.suffolk.gov.uk/NR/rdonlyres/6F4A35DA-4968-4703-B351-E60EA61FC4FA/0/SelectTenderApplicationQAS.pdf

Measure 14 - Car sharing scheme (SCDC) – Promotion of the SuffolkCarShare.com website has been undertaken in local magazines and papers and on the Council's website. The number of registered users of the scheme has increased from 1,599 on 1/9/10 to 1,831 on 20/7/11. Projections provided by the scheme state that for the number of current members there will be a saving of 1,930,657 miles and 920 grams of NOx over the next 12 months (20/7/11 – 20/1/12). This scheme however is county wide and we are looking at whether it will be possible to obtain individual statistics for the Woodbridge area which may help us to ascertain possible emissions reductions associated with this scheme for the AQMA.

Measure 15a - Business Travel Plans (SCDC and SCC) – A listing of local businesses with >20 employees has been prepared by SCDC. There are no larger businesses (+60 employees) in Woodbridge (with the exception of SCDC who already have a Travel Plan) which could make a significant difference should a Travel Plan be adopted, and so it may be difficult to provide the estimated emissions reductions suggested for this measure. SCC is developing a detailed proposal for taking this forward. A Work plan is being prepared and cost estimates are being developed to allow a cost benefit analysis to be carried out. Any Travel Plans adopted by local businesses will however have a positive effect in reducing emissions at the junction.

Measure 15b - School Travel Plans (SCDC and SCC) – All schools within Woodbridge and the surrounding area, with the exception of Woodbridge School (a private school), have Travel Plans in place now. We will write to each of the schools to ask them to promote their Travel Plan where possible in relation to our local air quality problem being experienced at the Woodbridge junction. Woodbridge School have been approached in the past with regard to adopting a Travel Plan but decided against it. We will approach them again to see if the local context may persuade them to reconsider.

Measure 15c - Travel Plan for the District Council offices (SCDC) – SCDC adopted a Travel Plan late 2009 which had nine key objectives. These were all completed in 2010. Unfortunately there are no indicators associated with the plan which could provide information regarding reduced car usage following the Travel Plan introduction. Staff mileage figures are

being looked at to obtain information regarding work mileage, but this does not provide information about use of vehicles by staff in general to and from work. Further investigations are being carried out to determine whether this information can be obtained.

Measure 16 - cycling and walking (SCC) – This authority (SCC) is in discussion with Woodbridge Town Council, the County Councillor, and Woodbridge Town Centre Management Ltd. about pedestrian improvements along Quay Street, Church Street, Market Hill and New Street. Ideally we would like to explore a shared space scheme which would be carried out in three or four phases. Funding streams are currently being investigated. There is a lot of local support for improving pedestrian routes along Quay Street and Church Street. Although this is unlikely to directly affect air quality within the AQMA, it would encourage greater pedestrian activity in Woodbridge. Suffolk County Council is reviewing previous walking and cycling studies carried out and will provide a formal Report on progress within the next six months taking cost benefit into account. Cost estimates are currently being prepared for additional signing specifically in connection with cycling and walking routes.

Measure 17 - Integration with Planning System (SCDC) – An Air Quality Supplementary Planning Document for Suffolk has been drafted and a full public Consultation exercise undertaken. The results of the Consultation are currently being collated and the document will be amended accordingly before being adopted by each of the Suffolk local authorities. This document will aid in the planning process to ensure that air quality assessments are undertaken by applicants where required.
Section 106 agreements will be made as and when a planning application requires them and will not necessarily relate to the AQMA at Woodbridge as they will depend upon where the application site is situated.

Measure 18 - Raise air quality awareness (SCDC) – This is on-going with articles published in local magazines and newspapers, Consultation undertaken on air quality in the district, and information updated on the Council's website as required.

Measure 19 - Monitor air quality (SCDC) – This is on-going at the junction using both a continuous NOx analyser and 13 diffusion tube sites in various locations around the junction, see section 2 of this report for detail regarding the monitoring.

Measure 20 - Undertake identified feasibility studies (SCDC) – The feasibility studies identified in the Action Plan are associated with Measures 2 and 5 but will also extend to other measures as time continues. Uptakes are provided on Measures 2 and 5 in the text above which advise that the feasibility studies have begun with a preliminary design drawn up for these measures.

Additional Action Plan Measures

A number of additional measures, not included in the original 20, are being investigated following the Consultation response suggestions received. Progress made for each is detailed below:

a) Through traffic reduction
A video cordon survey was undertaken on behalf of SCDC 30 June 2009 to look at the number of vehicles which are travelling along the B1438 between Ipswich Road and Melton crossroads via the Woodbridge junction and AQMA without stopping – which would therefore be classed as 'through traffic'. The survey revealed that 38% of all journeys undertaken South to North (Ipswich Road towards Melton crossroads) and 43% of all journeys undertaken North to South (Melton crossroads towards Ipswich Road) can be classed as 'through traffic'. This equated to approximately 800 journeys on the day of the survey and would be classed as significant. If even a small percentage of these vehicles could be re-routed along the bypass it may have a significant impact on traffic flows, and therefore emissions, within the AQMA.

SCC has been asked to look at options for reduction of through traffic along this route and report back. SCC advised that a formal report on the feasibility of options for re-routing of traffic, traffic calming and 20mph speed limits will be prepared with the next six months. Preliminary considerations suggest that traffic calming is unlikely to be feasible, since it would encourage rat-running and increase the likelihood of generating air quality problems elsewhere. Emergency vehicles would also still need to use this route.

b) Traffic Signing

A number of Consultation responses requested a review of traffic signing on the main routes into Woodbridge with a view to trying to reduce vehicles being directed through the town unnecessarily. SCC are in discussion with SCDC regarding this matter. SCC has reviewed traffic signing around the Woodbridge area. The findings have been presented in a report which is attached as Appendix H. A new sign has been ordered for the approach to the Melton Cross Roads from Wilford Bridge, to ensure that traffic gets in the correct lane to minimise unnecessary trips into Woodbridge, which should be installed shortly.

c) Weight Restrictions

Investigation of Options and a review of information currently held will be carried out. An origin and destination survey for heavy goods vehicles (HGVs) is likely to be required to establish whether vehicles are stopping in the town or driving through. This is a costly exercise and would require support from the police, assuming suitable locations can be found to pull HGVs off the carriageway. If most are making deliveries then there would be no benefit in implementing a Restriction and it may be difficult to enforce. Any enforcement would require the support of the police who are reluctant to devote resources to this type of activity. A report on findings will be prepared within the next twelve months by SCC.

Funding of SCC measures

SCC have advised that funding will be allocated for cost effective measures, taking into account the size and level of exceedance of the national NO_2 Objective in the Woodbridge AQMA. Funding for design and assessment work specifically in Woodbridge has been available for the financial year 2010/2011, not all of which has been spent. Additional funding to continue progressing the measures above is being investigated for 2011/12. A bid to Defra for feasibility study work associated with any junction alterations is being prepared to investigate traffic and air quality impacts of the limited options available.

At present, it is not possible to identify how Suffolk County Council will address measures in Woodbridge over the longer term as this will depend on implementation of the first stages of measures and their success or otherwise in improving air quality.

10 AQMA update - The Dooley Inn, Ferry Lane, Felixstowe

On 1 May 2009 an Air Quality Management Area Order was made by Suffolk Coastal District Council for the Dooley Inn, Ferry Lane, Felixstowe with regard to the annual mean NO_2 concentration. A copy of the AQMA Order is included as Appendix B.

External consultants Transport Research Laboratories (TRL) were commissioned to complete the Further Assessment and draft Action Plan required for the AQMA. A Further Assessment was produced in April 2010 and received Defra approval.

As part of the Further Assessment a source apportionment exercise was conducted to calculate the proportion of oxides of nitrogen (NOx) that are emitted from different sources and impact on the AQMA. The results are presented in table 10.1 below. The results show that container handling operations (including vehicles on roads within the Port boundary) are the largest contributor to the NOx concentrations at the AQMA, with emissions from heavy duty vehicles (HDVs) on roads outside the Port boundary being the second largest contributor. These findings will help us in identifying appropriate measures to try and reduce concentrations at the AQMA in the Action Plan.

Table 10.1 Percentage contribution to NOx concentrations at The Dooley Inn receptor by source type, 2008.

Source	Percentage contribution to NOx concentrations at the Dooley Inn receptor
External roads (heavy duty vehicles)	28.5%
External roads (light duty vehicles)	1.6%
Container handling	36.9%
Shipping	9.4%
Rail	1.1%
Background	22.6%

The Action Plan options for this site are currently being drawn up and finalised with the Port of Felixstowe. Suggestions received from members of the public to date have been investigated and included where relevant in the list of options. A full Public and Statutory Consultation on the options drawn up is due to be undertaken later this year.

11 Conclusions and Proposed Actions

This Progress Report has not identified the need to proceed to a Detailed Assessment for any pollutant at this time.

11.1 Conclusions from New Monitoring Data

Monitoring undertaken in 2010 by the automatic NO_X analyser situated within the AQMA at Woodbridge and the diffusion tubes situated within the AQMA at Felixstowe confirm that the annual mean NO_2 objective continues to be exceeded at both locations. The continuous analyser confirms that the 1–hour objective is not exceeded at Woodbridge.

The results of NO_2 monitoring undertaken across the district in 2010 using diffusion tubes show a number of sites within the district where the annual mean NO_2 objective is exceeded. All of these sites are within the declared AQMAs at Woodbridge or Felixstowe.

Due to the differing nature of each area monitored by diffusion tube, it is not easy to see any trends across the district as a whole over time. The background sites located in each area provide us with the best indicator, these show that concentrations of NO_2 have remained fairly stable over time.

11.2 Conclusions relating to New Local Developments

There are no new / newly identified road traffic sources or other transport sources within the Suffolk Coastal district since the 2010 Progress Report.

There are 3 new Part A1 industrial installations (regulated by the Environment Agency) permitted under the Environmental Permitting Regulations 2010 that have been authorised since the Progress Report in 2010. There are no significant emissions predicted from any of these installations and Detailed Assessment is not required.

With regard to existing industrial installations on the district, there are 2 which require further emission information to be collected to determine whether a Detailed Assessment is required. These are Eurovia Limited (formerly Ringway Infrastructure Services) and Novera Energy, both located in Brightwell. This information will be presented in the Updating and Screening Assessment report due for completion in 2012.

Assessment of commercial and domestic sources of pollutants has investigated 20 biomass combustion installations within the district and identified 4 for which additional information and investigation is needed; Snape Maltings and Aldeburgh Productions, Tunstall (located on the same site and requiring a combined impact assessment), Heveningham Hall in Heveningham and West End Nurseries in Leiston. We are currently working to obtain the information required in order to undertake a screening assessment of each installation identified and the findings will be presented in the next air quality report (Progress Report), due for production in April 2012.

11.3 Other Conclusions

There are 5 developments within the Suffolk Coastal district which have been recently approved or are currently waiting to be determined, and which may impact on air quality. Each has been, or is in the process of being, assessed for air quality impacts by this department.

The only major traffic scheme still proposed for the Suffolk Coastal district is the A12 Four Villages Bypass. A number of options have been investigated at Stratford St Andrew and Farnham due to difficulties experienced when two heavy goods vehicles (HGVs) travelling in opposite directions meet at the narrowest point of the sharp bend at Farnham. Following their investigations, Suffolk County Council have decided to implement a warning sign system so that should HGVs be approaching from both directions at the same time a warning sign will be activated to inform the vehicles of the approaching situation.

The Action Plan for the Woodbridge junction AQMA was accepted by Defra in May 2011. It consists of 20 measures (out of 79 potential ones) that could be undertaken at the junction to hopefully ease the congestion / reduce the overall traffic flows and therefore in turn reduce the elevated levels of nitrogen dioxide being experienced. The measures can be split into 2 types; 'on the ground works' (mainly to be undertaken by SCC with SCDC input) and more 'softer measures' to be undertaken mainly by SCDC. The 'on the ground works' have started with the installation of a new computerised system to the traffic lights which should reduce congestion and therefore queue lengths. If this option is not successful alone then installation of a straight on/right hand turning lane on Melton Hill and moving/removing the car parking currently opposite the Council Offices will be investigated. The 'softer measures' include contacting bus companies that use the junction to see whether they can use a cleaner fleet in Woodbridge, travel plans for schools and businesses and investigating improving cycling/walking links in the town and these have already begun to be actioned.

The Further Assessment for the AQMA at The Dooley Inn, Ferry Lane, Felixstowe received Defra approval in 2010. Source apportionment determined that container handling operations (including vehicles on roads within the Port boundary) are the largest contributor to the NOx concentrations at the AQMA, with emissions from heavy duty vehicles (HDVs) on roads outside the Port boundary being the second largest contributor. The Action Plan options for this site are currently being drawn up and finalised with the Port of Felixstowe. Suggestions received from members of the public to date have been investigated and included where relevant in the list of options. A full Public and Statutory Consultation on the options drawn up is due to be undertaken later this year.

11.4 Proposed Actions

- Additional emissions information will be collected for 2 existing industrial installations, Eurovia Limited and Novera Energy, in order to undertake a screening assessment.

- Additional information will be collected for the 4 remaining sites with biomass plant which require investigation (Snape Maltings, Aldeburgh Productions, Heveningham Hall and West End Nurseries). A screening assessment will be undertaken for each installation and presented in the next annual air quality report.

- Implementation of the Action Plan measures for the Woodbridge Junction will continue and additional investigations required will be undertaken.

- The Action Plan options for the AQMA at The Dooley Inn, Ferry Lane, Felixstowe will be finalised with the Port of Felixstowe, and a full Public Consultation on the options will be undertaken in order to produce the final Action Plan.

- Findings of the above actions will be presented in the next annual air quality report - the Updating and Screening Assessment Report, due for production in April 2012.

12 References

1. *Environment Act 1995*, Chapter 25. HMSO, 1997.

2. *Air Quality (England) Regulations 2000* – S.I 2000, No 928. HMSO, 2000.

3. *Air Quality (England) Amendment Regulations 2002* – S.I 2002, No. 3043. HMSO, 2002.

4. *The Environmental Permitting (England and Wales) Regulations 2010* – S.I 2010, No. 675. HMSO, 2010.

5. *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1 and 2)*. Report by the Department of Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh assembly Government and Department of the Environment Northern Ireland. DEFRA Publications, July 2007.

6. *Part IV of the Environment Act 1995, Local Air Quality Management, Technical Guidance. LAQM.TG(09).* Report by the Department of Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh assembly Government and Department of the Environment Northern Ireland. DEFRA Publications, February 2009.

7. *Part IV of the Environment Act 1995, Local Air Quality Management, Policy Guidance PG(09).* Report by the Department of Environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh assembly Government and Department of the Environment Northern Ireland. DEFRA Publications, February 2009.

8. *Technical Guidance: Screening Assessment for biomass boilers.* AEA Energy & Environment, July 2008.

9. *Air Quality Review and Assessment. Detailed Assessment for Adastral Close and Ferry Lane, Felixstowe.* Prepared by AEA Technology plc under contract to Suffolk Coastal District Council, May 2008 (Version 2).

10. *2009 Air Quality Updating and Screening Assessment for Suffolk Coastal District Council.* Produced by Suffolk Coastal District Council, August 2009.

11. *2010 Air Quality Progress Report for Suffolk Coastal District Council.* Produced by Suffolk Coastal District Council, July 2010.

12. *Suffolk Coastal District Council Air Quality Action Plan for Woodbridge – consultation draft*. Prepared by AEA Technology plc under contract to Suffolk Coastal District Council, August 2009.

13. *Suffolk Coastal District Council website* – all air quality reports produced by Suffolk Coastal District Council can be viewed at http://www.suffolkcoastal.gov.uk

14. *National Air Quality Information Archive – National Background Maps*. Information from which can be viewed at www.airquality.co.uk/archive/laqm/tools/php. Defra.

Appendices

Appendix A: AQMA Order - Woodbridge Junction

Appendix B: AQMA Order - Ferry Lane, Felixstowe

Appendix C: QA:QC Data

Appendix D: Maps showing NO_2 diffusion tube locations

Appendix E: NO_X analyser results summaries

Appendix F: NO_2 diffusion tube results 2010

Appendix G: Environmental Permitting Regulations 2010 – process list

Appendix H: Suffolk County Council Report on Traffic Signs in the Woodbridge Area for Air Quality Management Purposes.

Appendix A:
AQMA Order - Woodbridge Junction

Environment Protection Act 1995, Part IV section 83(1)

Suffolk Coastal District Council

Air Quality Management Area Order

THE SUFFOLK COASTAL DISTRICT COUNCIL AIR QUALITY MANAGEMENT AREA ORDER NO 1, 2006

Suffolk Coastal District Council, in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order

This Order may be referred to as '**The Suffolk Coastal District Council Air Quality Management Area Order No 1, 2006',** and shall come into effect on the **3rd April 2006**

The area shown on the attached map hatched in red is to be designated as an air quality management area (the designated area). **The designated area incorporates properties on the Western side of the Thoroughfare and Melton Hill arm of the junction with Lime Kiln Quay Road, in Woodbridge, Suffolk.**

The map may be viewed at the Council Offices, at Melton Hill, Woodbridge, between the hours of 08.45am to 5.15pm Mondays to Thursdays, and 08.45am to 4.45pm on Fridays.

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Regulations (England) (Wales) 2000.

This order shall remain in force until it is varied or revoked by a subsequent order.
Dated; this Third day of March 2006

The Common Seal of Suffolk Coastal District Council was affixed in the presence of;

Ian S de Prez

……..
Authorised Officer

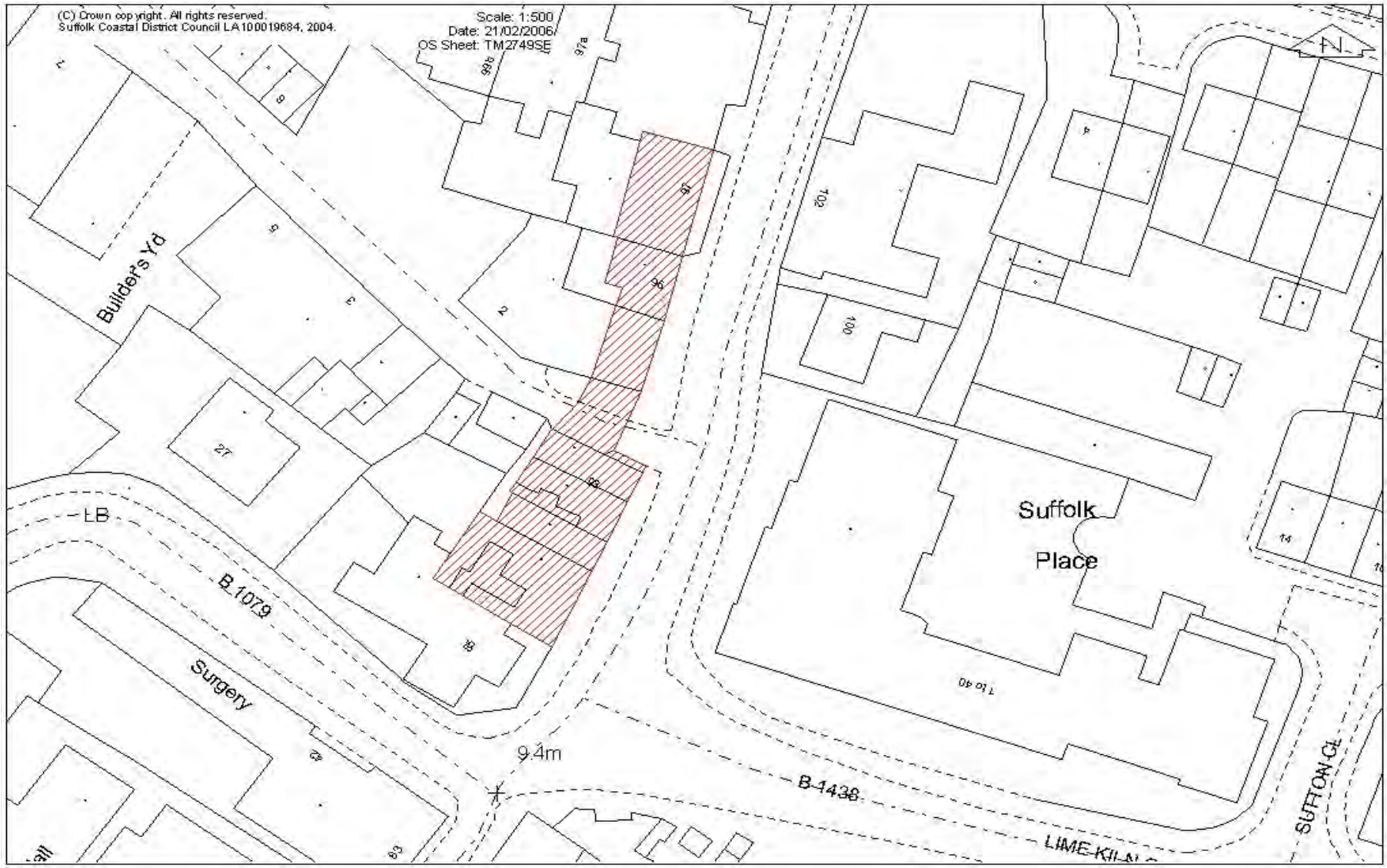
And

Simon Burridge

…… **CS** 9281
Authorised Officer

Dated: 3rd March 2006

THE SUFFOLK COASTAL DISTRICT COUNCIL AIR QUALITY MANAGEMENT AREA ORDER NO 1, 2006



Appendix B:
AQMA Order – Ferry Lane, Felixstowe

Environment Protection Act 1995, Part IV section 83(1)
Suffolk Coastal District Council

Air Quality Management Area Order

THE SUFFOLK COASTAL DISTRICT COUNCIL AIR QUALITY MANAGEMENT AREA ORDER NO 2, 2009

Suffolk Coastal District Council, in exercise of the powers conferred upon it by Section 83(1) of the
Environment Act 1995, hereby makes the following Order

This Order may be referred to as
'**The Suffolk Coastal District Council Air Quality Management Area Order No 2, 2009',**

and shall come into effect on the **1st May 2009**
The area shown on the attached map hatched in red is to be designated as an air quality management area (the designated area).

The designated area contains the property known as The Dooley Inn, situated at Ferry Lane, Felixstowe, Suffolk.

The map may be viewed at the Council Offices, at Melton Hill, Woodbridge, between the hours of
08.45am to 5.15pm Mondays to Thursdays and 08.45am to 4.45pm on Fridays.

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Regulations (England) (Wales) 2000.

This order shall remain in force until it is varied or revoked by a subsequent order.
Dated; this Twenty-third day of April 2009

The Common Seal of Suffolk Coastal District Council was affixed in the presence of;

Ian S de Prez
……..
Authorised Officer

And

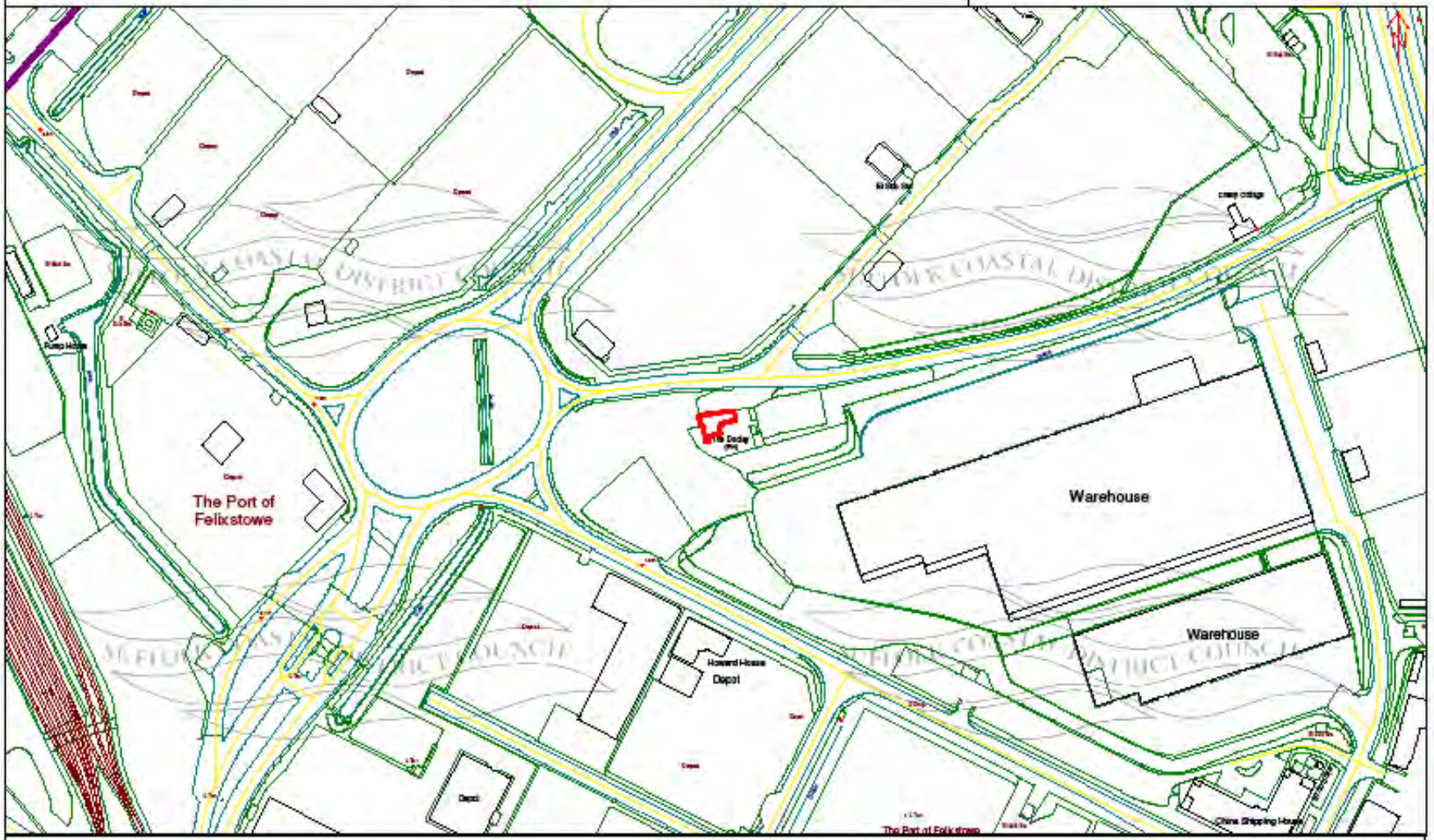
Simon Burridge
…… **CS** 9281
Authorised Officer

Dated 23rd April 2009

Dooley Inn, Ferry Lane, Felixstowe

Scale
0 25 50 75 100 125 m

Map produced on 29 April 2009 at 11:18



Suffolk Coastal District Council

Appendix C: QA:QC Data

Diffusion Tube Bias Adjustment Factors

The analytical laboratory used for supply and analysis of NO_2 diffusion tubes is Harwell Scientifics. The monitoring is undertaken using Palmes passive diffusion tubes exposed on a monthly basis. The tubes are prepared by spiking acetone:triethanloamine (TEA) (50:50) onto the grids prior to the tubes being assembled. The tubes are then desorbed with distilled water and the extract analysed using a segmented flow auto-analyser with ultraviolet detection. The laboratory is formally accredited under the United Kingdom Accreditation Scheme (UKAS).

Combined "national" bias adjustment factors for UK diffusion tube laboratories, based upon Local Authority co-location studies throughout the UK, are provided on behalf of Defra and the Devolved Administrations. A database of these bias adjustment factors is available at http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html. The national bias adjustment factor given for Harwell Scientifics in 2010, in the March 2011 edition of 'National Spreadsheet of Bias Adjustment Factors v.04/11' was **0.85**, using results from three different sites.

Factors from Local Co-location Studies (if available)

Woodbridge

Kerbside monitoring site recording NO_2 concentrations derived from road traffic emissions at the junction of Lime Kiln Quay Road, Thoroughfare, and St. John's Street in Woodbridge. The site is approximately 1 metre from the kerb and 14 metres from the traffic lights at the junction. This area of the junction is very narrow and enclosed by tall buildings, creating a canyon effect.

The bias adjustment factor was calculated using the Precision and Accuracy Spreadsheet available for download from http://laqm.defra.gov.uk/bias-adjustment-factors/local-bias.html .

Based on the 8 months for which there was a valid diffusion tube mean and a valid automatic mean -
Automatic analyser annual mean (2010) = 47 µg m^{-3} with 96% data capture.
Triplicate diffusion tube mean (2010) = 52 µg m^{-3} with a mean precision (expressed as the coefficient of variation) of 3%.
Bias adjustment factor (2010) = 0.89 based on 8 months' data. (Note, the annual mean for the automatic analyser using the full year's data was 45 µg m^{-3}.)

Felixstowe

Industrial / Roadside monitoring site recording NO_2 concentrations derived from activities on and associated with the Port of Felixstowe and Dock Gate 2 roundabout. Site is approximately 75m from Dock Gate 2 roundabout and 130m from the Port of Felixstowe boundary.

The site was out of operation between late march and early October 2010: only four months of the year had at least 75% data capture. Based on these four months, the bias adjustment factor (calculated as above using the Precision and Accuracy Spreadsheet available for download from http://laqm.defra.gov.uk/bias-adjustment-factors/local-bias.html) was

Automatic analyser annual mean (2010) = 52 µg m^{-3} with 44.4% data capture
Triplicate diffusion tube mean (2010) = 54 µg m^{-3} with a mean precision (expressed as the coefficient of variation) of 10%.
Bias adjustment factor (2010) = 0.95 based on 4 months data only.
Because of the limited data capture from the automatic analyser at this site, the decision was taken not to use this bias adjustment factor.

Discussion of Choice of Factor to Use

Historically, the local bias adjustment factor obtained from the Woodbridge co-location study has been used to adjust annual mean NO_2 concentration from diffusion tube sites within Woodbridge only. This location is unusual, being a street canyon: it is considered representative of the other diffusion tube monitoring sites within Woodbridge, but not of diffusion tube locations elsewhere within the district. The 2010 bias adjustment factor of 0.89 obtained at Woodbridge has been applied to the other sites within Woodbridge only.

In previous years, the local bias adjustment factor calculated for the Dooley Inn, Ferry Lane, Felixstowe site has only been applied to results from the Dooley Inn site itself, not to those from any other sites. In 2010, data capture from the automatic analyser was considered too low to allow calculation of a representative bias adjustment factor, so the co-location data from this site were not used at all.

All diffusion tube monitoring sites within Felixstowe, Kesgrave, Melton and Martlesham have been adjusted for bias using the combined or "national" bias adjustment factor of 0.85.

Bias adjustment of the annual mean diffusion tube result for all sites is shown in Appendix F.

Short-term to Long-term Data adjustment

Some diffusion tube sites failed to achieve full data capture, mainly due to stolen tubes.

LAQM.TG(09) provides a method of estimating the long term annual mean from short term monitoring data (box 3.2). This method has been applied to any diffusion tube sites with less than 11 months valid data (as, if more than one month's data is missing, data capture is less than the target of 90%). Nine sites required annualisation. The final annual means are presented in Appendix F.

The method is as follows:

- Identify 2-4 nearby, long term, continuous monitoring sites, ideally those forming part of the national network. These should be background sites to avoid any very local effects that may occur, and should wherever possible lie within a radius of about 50 miles.
  The two sites used here are St. Osyth (Rural) and Wicken Fen (Rural). Both sites are part of the UK Automatic Urban and Rural Network (AURN).
- Obtain the annual mean (Am) for the calendar year for these sites. As this calculation is to estimate the annual mean for a diffusion tube site, the diffusion tube calendar year for 2010 was based on the diffusion tube exposure periods rather than 1st Jan – 31st Dec 2010.
- Work out the period mean for the period of interest.
- Calculate the ratio of the annual mean to the period mean for each location, see table below.

- Calculate the average of these ratios (R_a). This is the adjustment factor, see table below.
- Multiply the measured period mean concentration (M) for the short term monitoring location by the adjustment factor (R_a) to give the estimate of the annual mean for 2010. For example, at FLX12 where the (unadjusted) measured period mean was 34.1 µg m^{-3}:

  34.1 µg m^{-3} (M) x 1.08 (R_a) = **36.8 µg m^{-3}**
- Rounding was done last, after annualisation and bias adjustment.

Table C.1 Annualisation of Diffusion Tube Data from Sites with More than One Missing Month

Site	Missing months	Annual mean NO_2, St Osyth µg m^{-3}	Annual mean NO_2, Wicken Fen µg m^{-3}	Period mean NO_2, St Osyth µg m^{-3}	Period mean NO_2, Wicken Fen µg m^{-3}	Ratio Annual: Period mean St Osyth	Ratio Annual: Period mean Wicken Fen	Average AM/PM R_a
FLX12	Jan & Nov	14.81	12.68	13.62	11.73	1.09	1.08	1.08
FLX27	Mar & Apr	14.83	12.67	15.67	12.91	0.95	0.98	0.96
MEL5	Mar, May, Jun, Jul	14.87	12.65	16.49	14.29	0.90	0.89	0.89
WBG1	Apr, Jul & Sep	14.87	12.63	15.87	13.60	0.94	0.93	0.93
WBG10	May & Jul	14.87	12.63	14.77	12.54	1.01	1.01	1.01
WBG13	May-Dec	14.87	12.63	14.98	14.13	0.99	0.89	0.94
WBG15	Jul-Nov	14.87	12.63	15.29	13.70	0.97	0.92	0.95
WBG20	Sep-Dec	14.87	12.63	12.96	11.05	1.15	1.14	1.15
WBG23	Mar, Jun, Jul	14.87	12.63	15.80	13.77	0.94	0.92	0.93

QA/QC of automatic monitoring

NO_2 concentrations were monitored at both continuous analyser sites by ozone chemiluminescence. Quality assurance of the data from the continuous monitoring stations was carried out by AEA Energy and Environment following the same procedures used for sites within the Government's Automatic Urban and Rural Network. Calibrations were undertaken fortnightly by a Council Officer, the procedures adopted for the calibrations were modelled on those developed by AEA Energy & Environment for use in the national monitoring networks. The calibrations were undertaken using certified calibration gas provided by Air Liquide UK Limited with traceability to National Metrology Standards obtained via regular UKAS Quality Control Audits carried out by AEA Energy & Environment. The audits provide a range of information that is utilised within the data management process for the data sets.

Audit tests undertaken include accredited audit zero and span calibrations, linearity, NO_x converter efficiency, flow and leak checks as well as checks of the instruments sampling system. Data presented in this report have been fully ratified by AEA Technology. The ratified data summary reports are included in Appendix E.

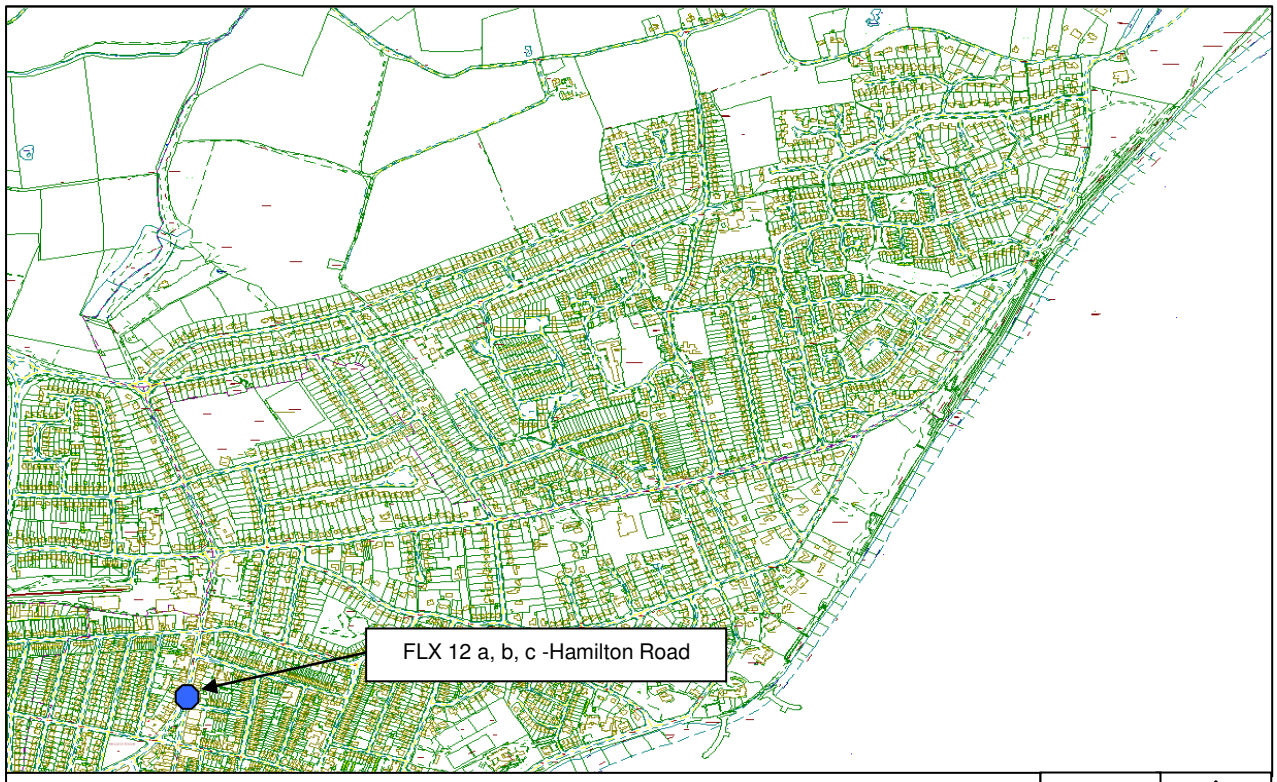
The data sets were screened, scaled and validated using all available routine site calibrations, audit results and service engineer records. This was an ongoing process with checks made daily to ensure high data capture is achieved. A final process of data ratification ensures that the data provide the most accurate record of the pollution concentrations across the measurement period. The data management process adopted is that evolved and implemented by AEA Energy & Environment within the data management programme of the AURN UK national monitoring network. This process is expected to deliver data sets that meet the EU Data Quality Objective of a measurement uncertainty of better than 15%.

QA/QC of diffusion tube monitoring

The analysis of NO_2 diffusion tubes by Harwell Scientifics meets the guidelines set out in Defra's 'Diffusion tubes for Ambient NO_2 Monitoring: Practical Guidance'. They participate in the Workplace Analysis Scheme for Proficiency (WASP) for analysis of diffusion tubes. This is an inter laboratory comparison study for analysing spiked NO_2 diffusion tubes and the results show that Harwell Scientifics was ranked as a **Category Good** laboratory in 2009/10.

Appendix D:
Maps showing NO_2 diffusion tube locations

NO_2 diffusion tube locations in Felixstowe

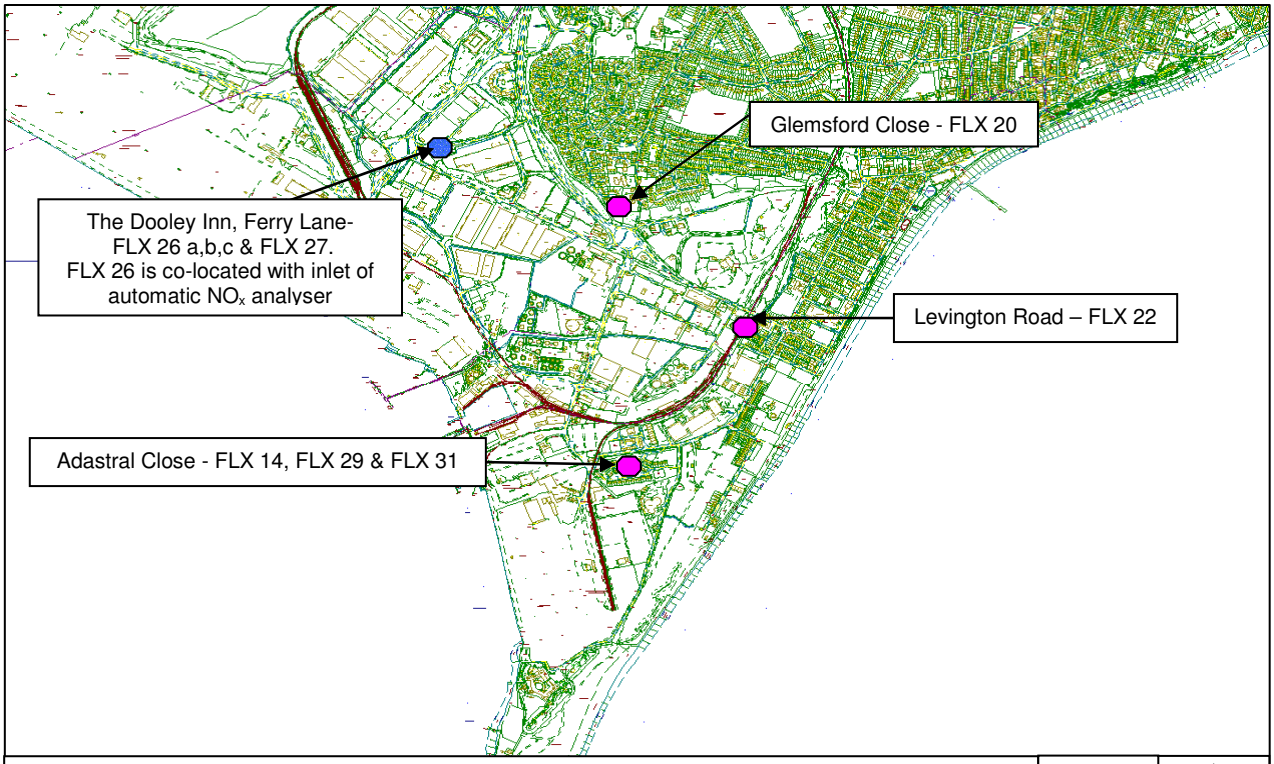


This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Single Diffusion tube site Triplicate diffusion tube site

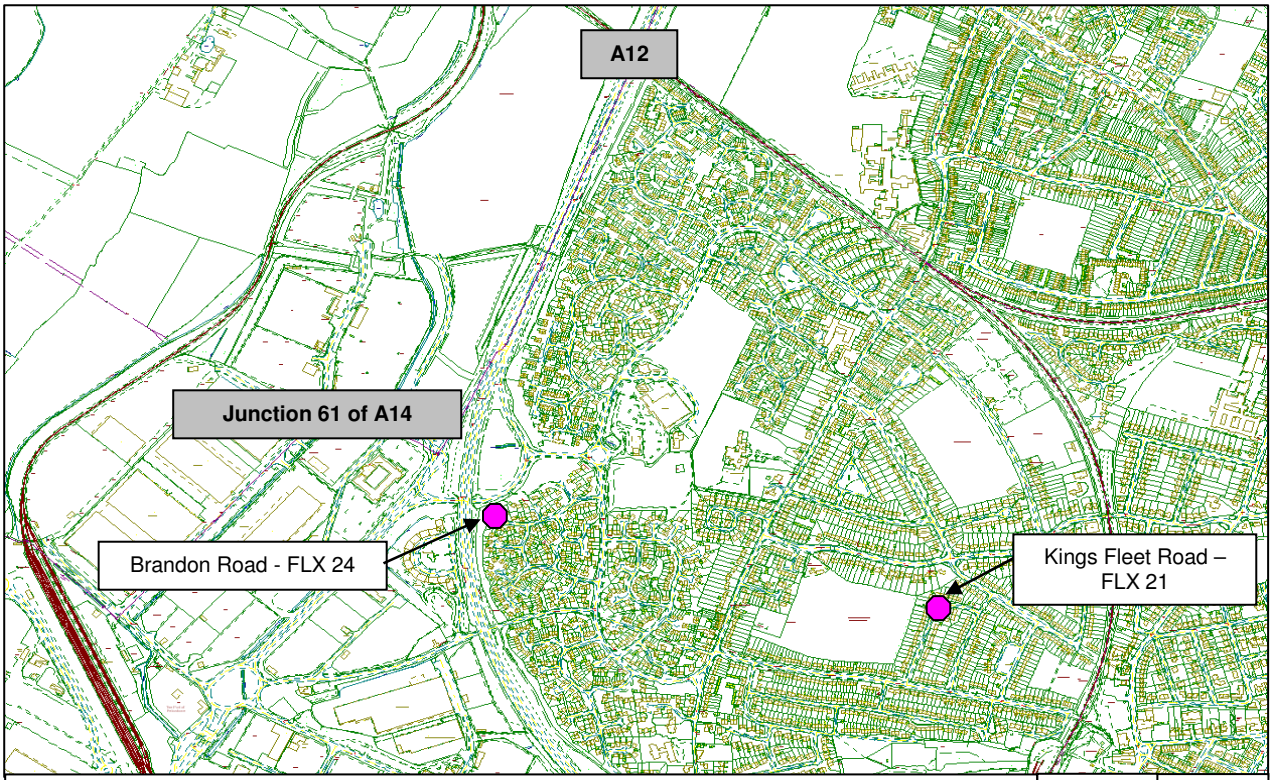


This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Single Diffusion tube site Triplicate diffusion tube site

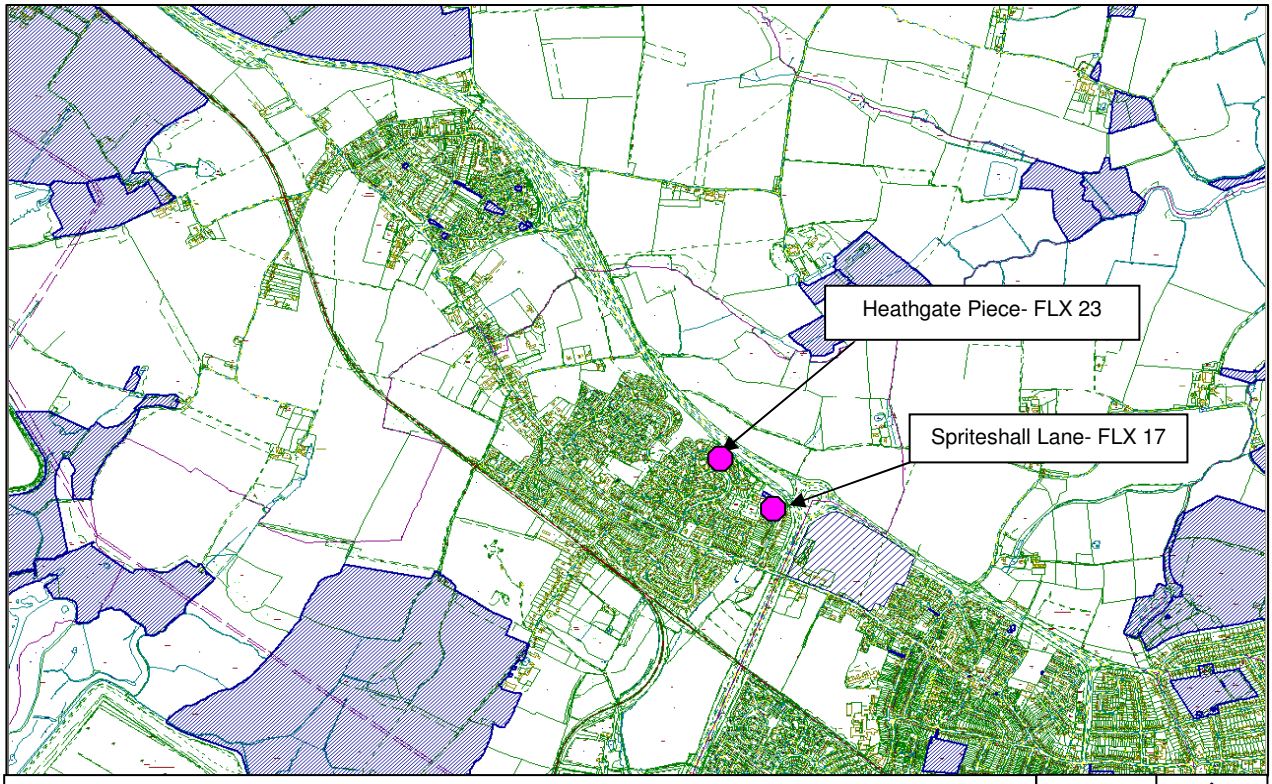


This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Single Diffusion tube site

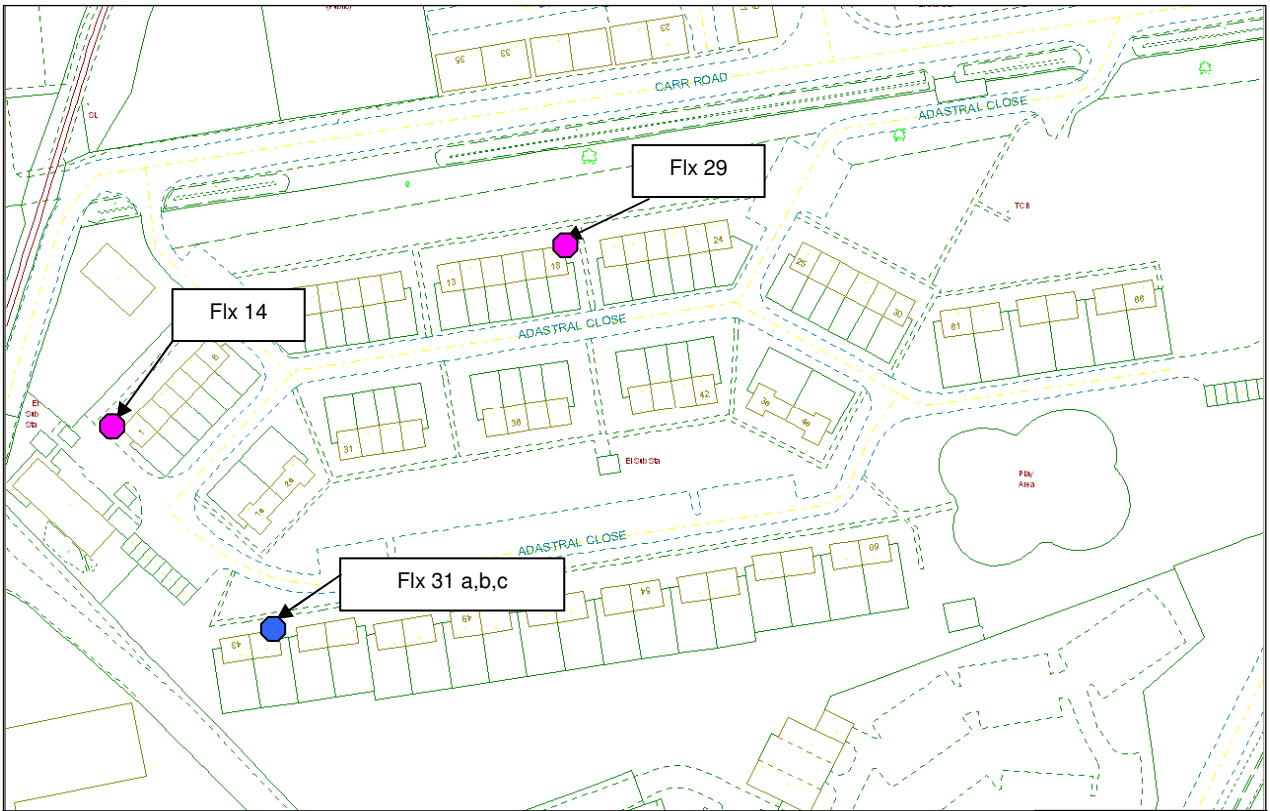


This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Single diffusion tube site



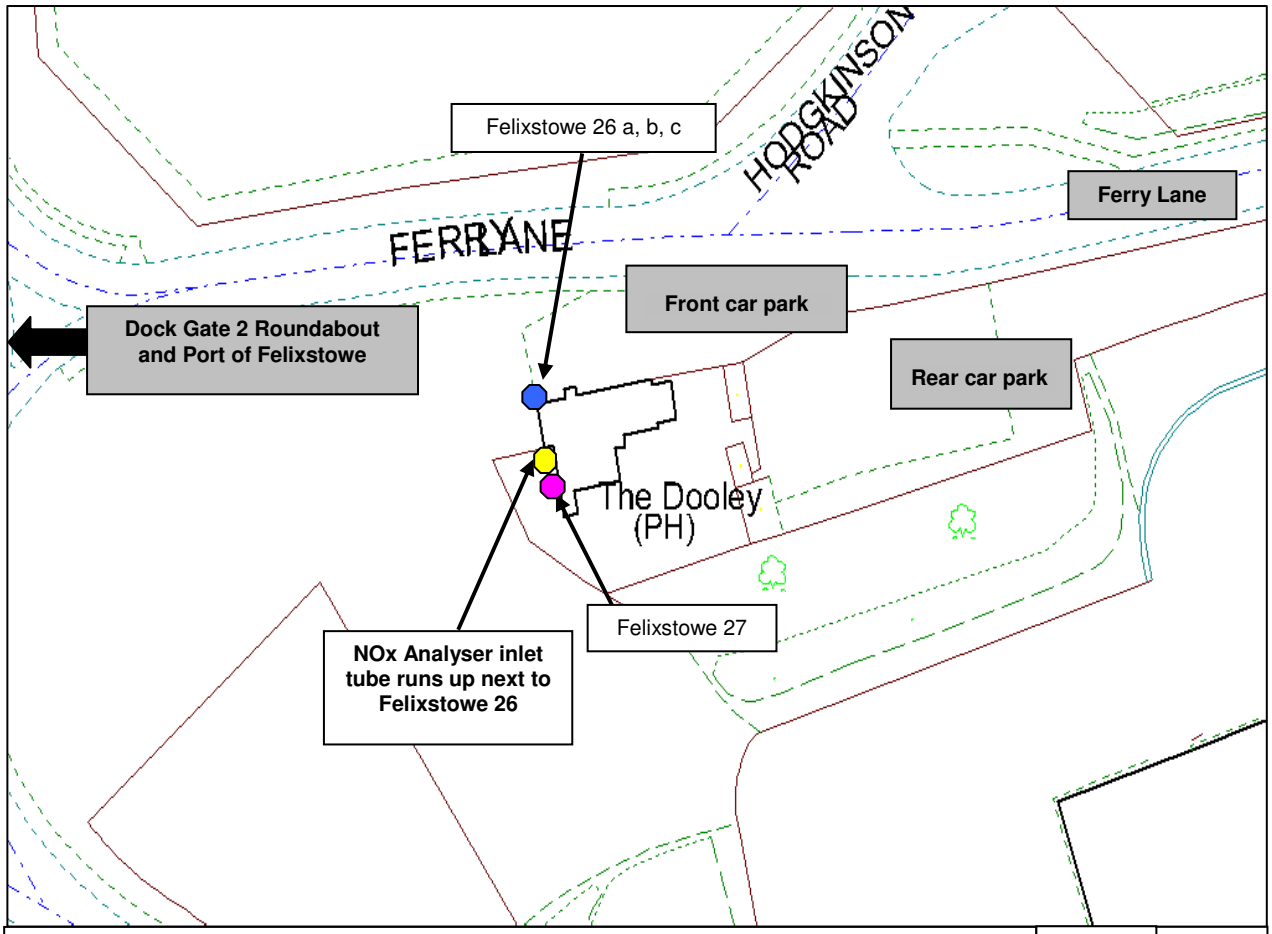
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

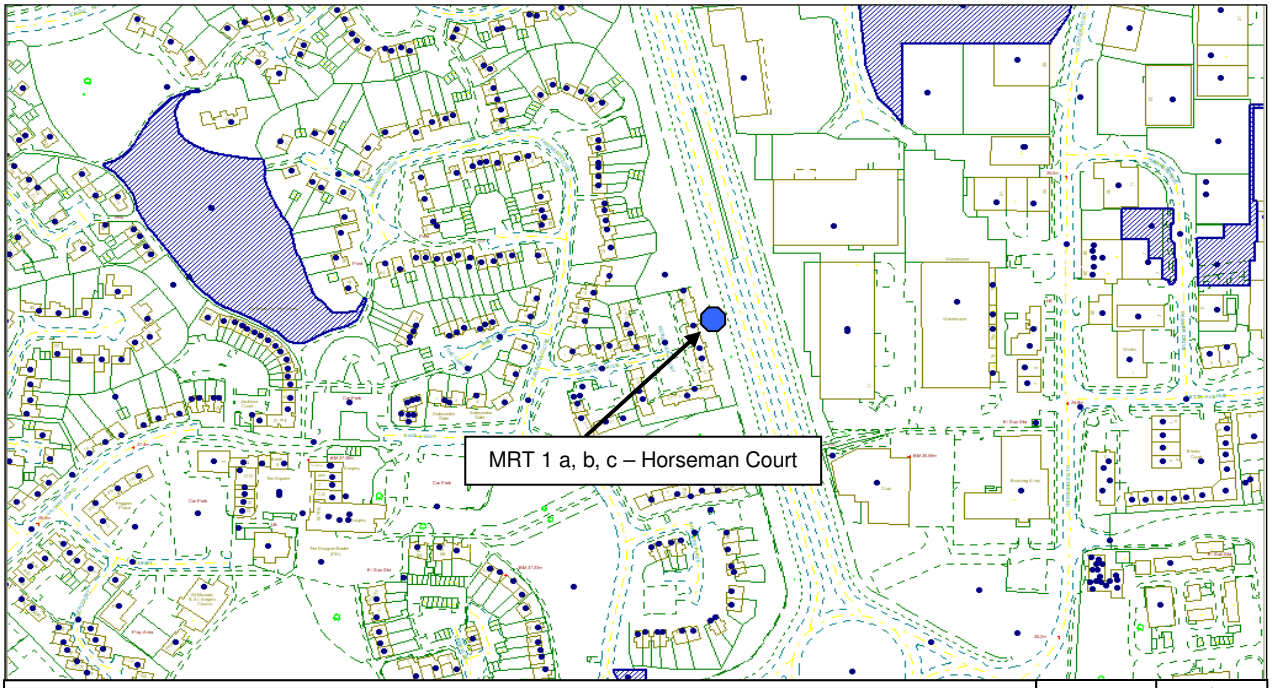
N

Single Diffusion tube site

Triplicate diffusion tube site


Felixstowe 26 a, b, c
HODGKINSON ROAD
FERRY LANE
Ferry Lane
Front car park
Dock Gate 2 Roundabout and Port of Felixstowe
Rear car park
The Dooley (PH)
Felixstowe 27
NOx Analyser inlet tube runs up next to Felixstowe 26
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.
Not to scale
N
Single Diffusion tube site
Triplicate diffusion tube site
NO_x Analyser

NO_2 diffusion tube location in Martlesham



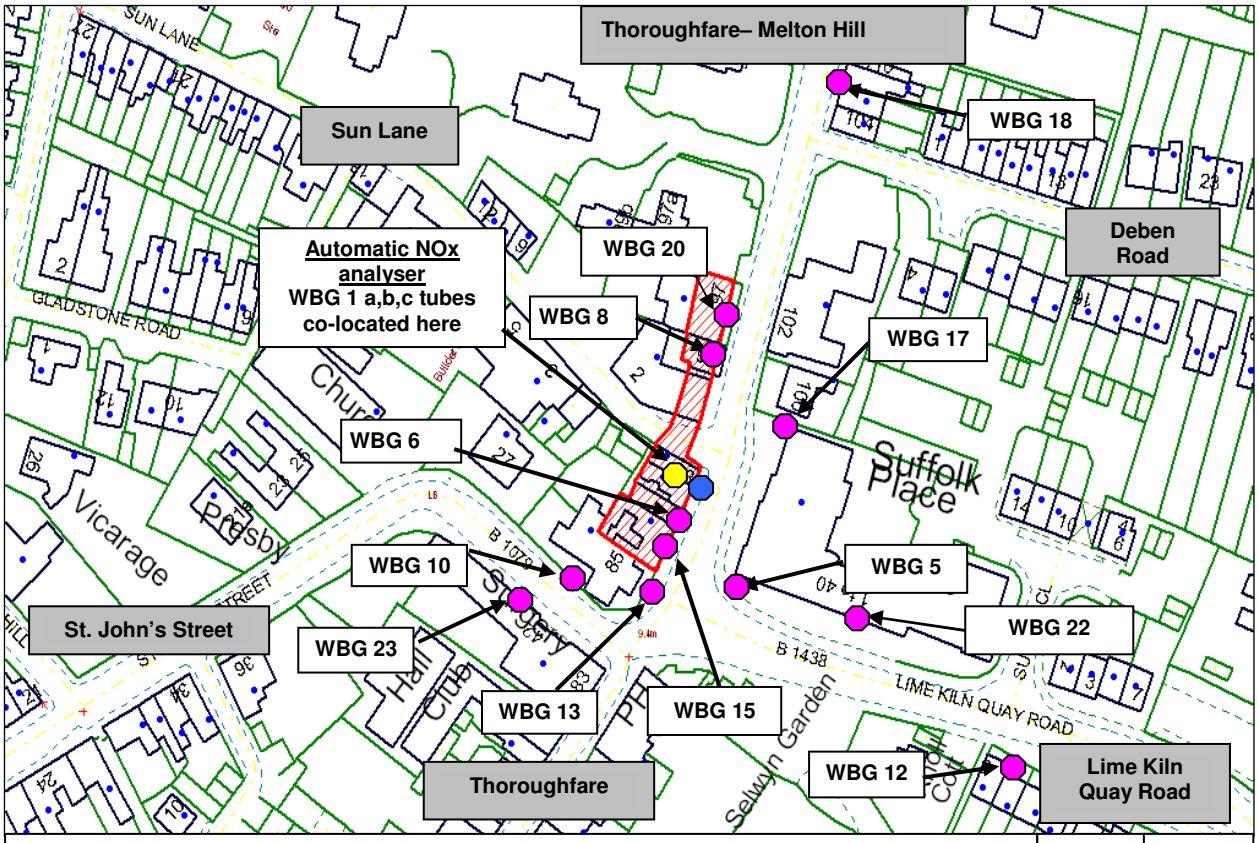
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Triplicate diffusion tube site

NO_2 diffusion tube locations in Woodbridge

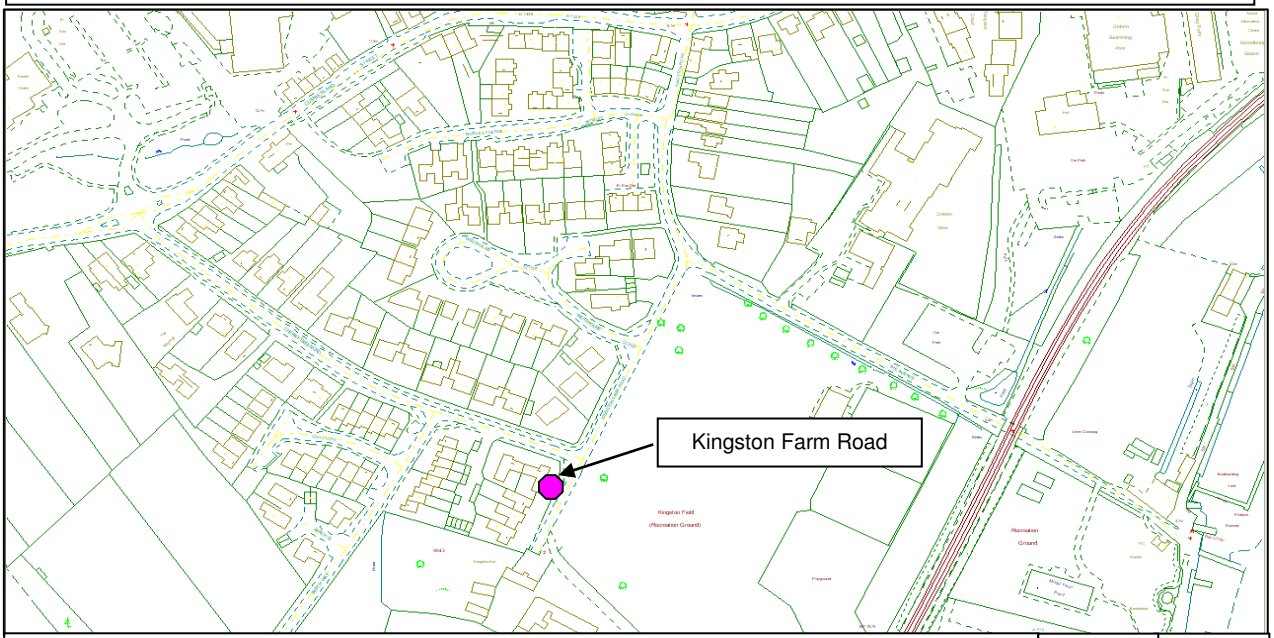


This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Single Diffusion tube site Triplicate diffusion tube site NO_x Analyser

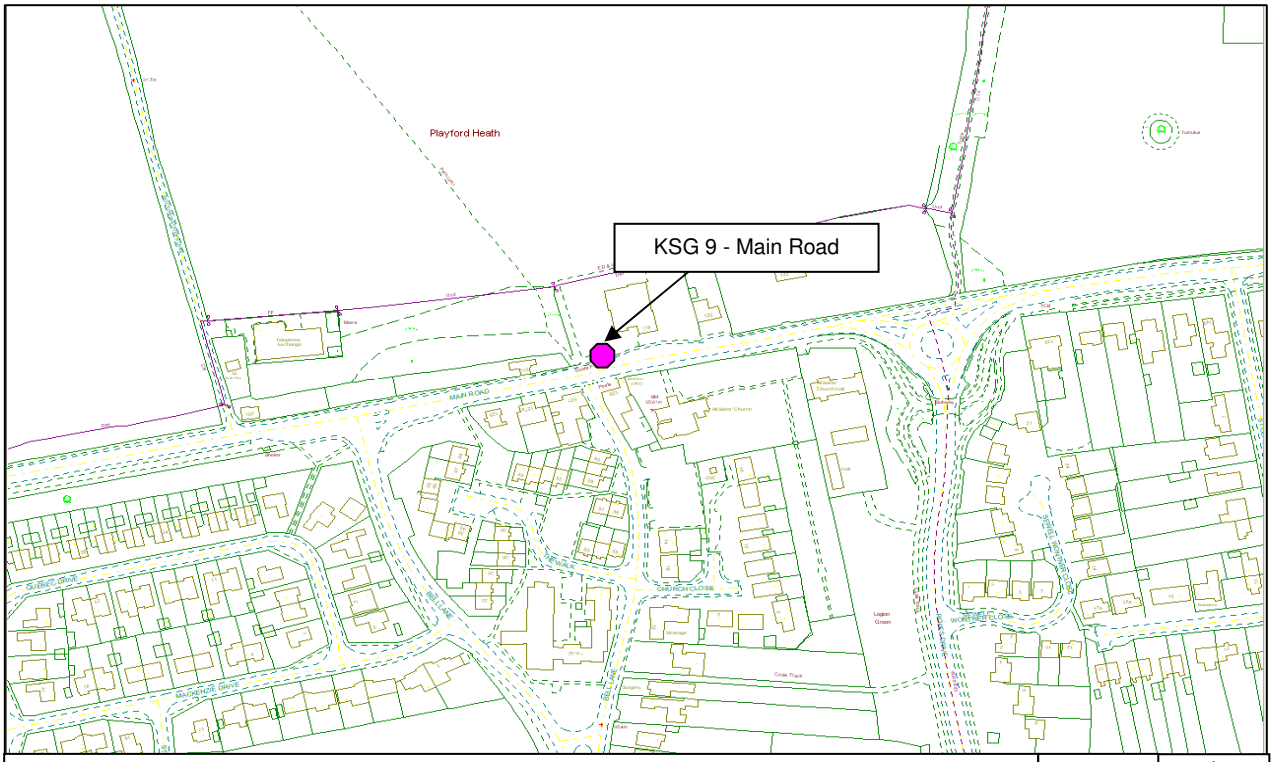


This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

NO_2 diffusion tube locations in Kesgrave



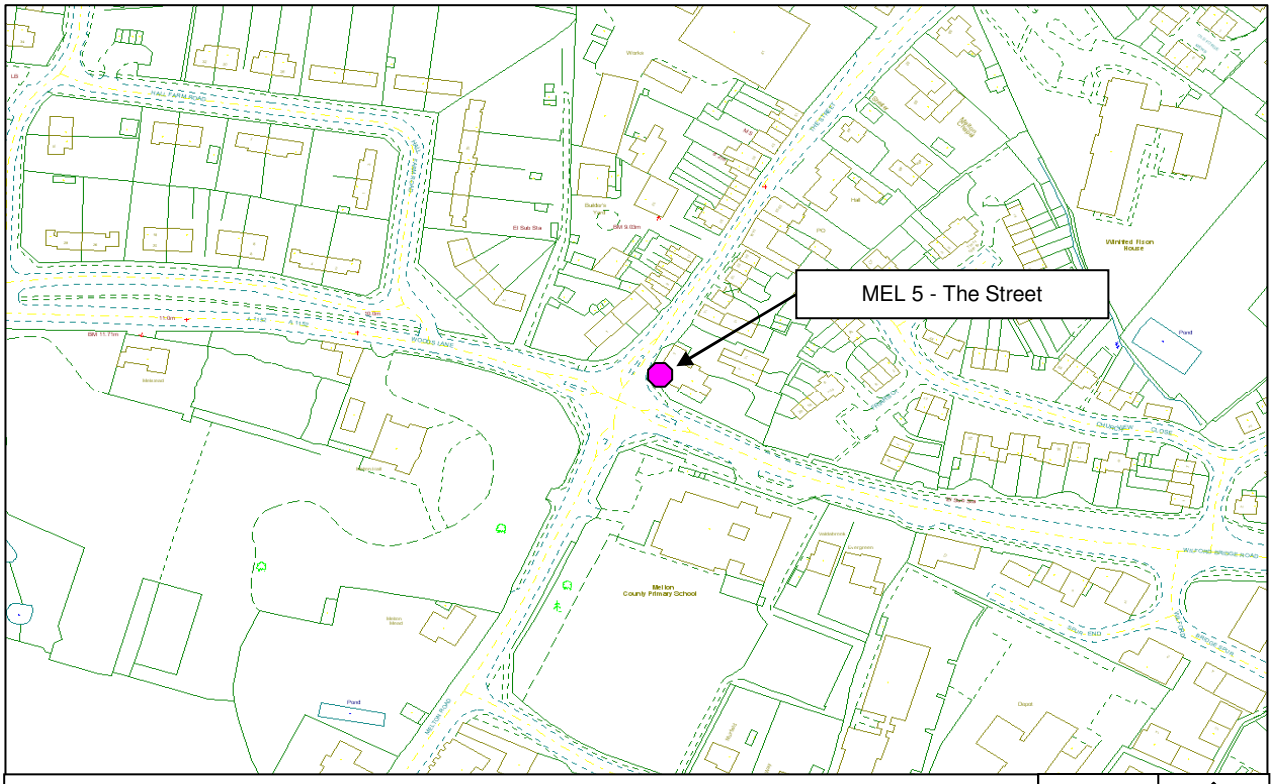
This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Single Diffusion tube site

NO_2 diffusion tube locations in Melton



This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Licence No. 100019684. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

Not to scale

N

Single Diffusion tube site

Appendix E:
NO_x Analyser results summaries

SUFFOLK COASTAL WOODBRIDGE 2
01 January to 31 December 2010

Produced by AEA on behalf of Suffolk Coastal District Council

These data have been fully ratified by AEA

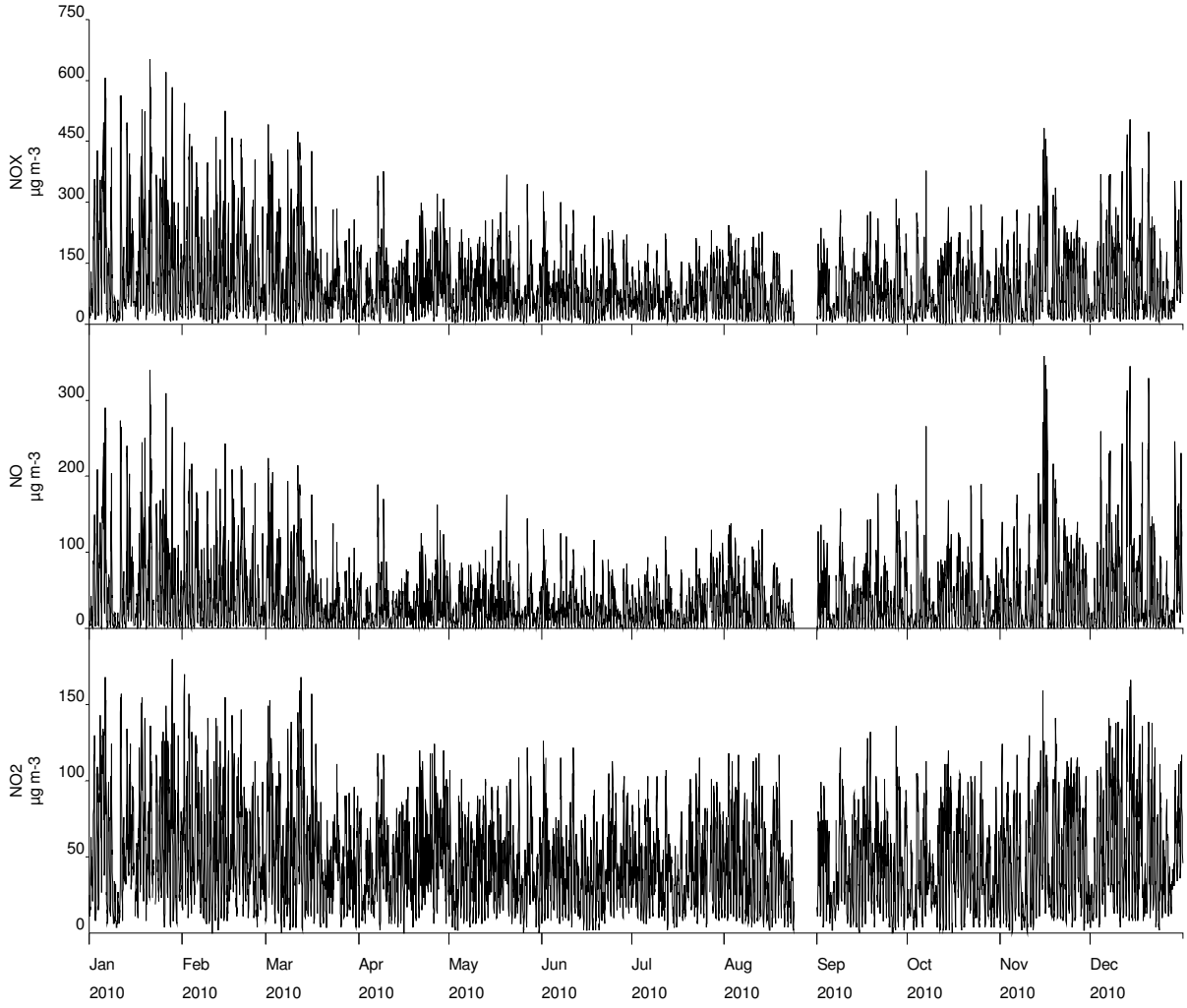
POLLUTANT	NO_X	NO	NO_2
Number Very High	-	-	0
Number High	-	-	0
Number Moderate	-	-	0
Number Low	-	-	8483
Maximum 15-minute mean	800 µg m^{-3}	442 µg m^{-3}	299 µg m^{-3}
Maximum hourly mean	653 µg m^{-3}	358 µg m^{-3}	180 µg m^{-3}
Maximum running 8-hour mean	509 µg m^{-3}	263 µg m^{-3}	144 µg m^{-3}
Maximum running 24-hour mean	331 µg m^{-3}	192 µg m^{-3}	98 µg m^{-3}
Maximum daily mean	270 µg m^{-3}	156 µg m^{-3}	89 µg m^{-3}
Average	91 µg m^{-3}	36 µg m^{-3}	45 µg m^{-3}
Data capture	96.8 %	96.8 %	96.8 %

All mass units are at 20'C and 1013mb
NO_X mass units are NO_X as NO_2 µg m-3

Pollutant	Air Quality (England) Regulations 2000 and (Amendment) Regulations 2002	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m^{-3}	1	-
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0	0

Suffolk Coastal Woodbridge 2
Hourly Mean Data for 01 January to 31 December 2010

Produced by AEA on behalf of Suffolk Coastal District Council



FELIXSTOWE DOOLEY
01 January to 31 December 2010

Produced by AEA on behalf of Suffolk Coastal District Council

These data have been fully ratified by AEA

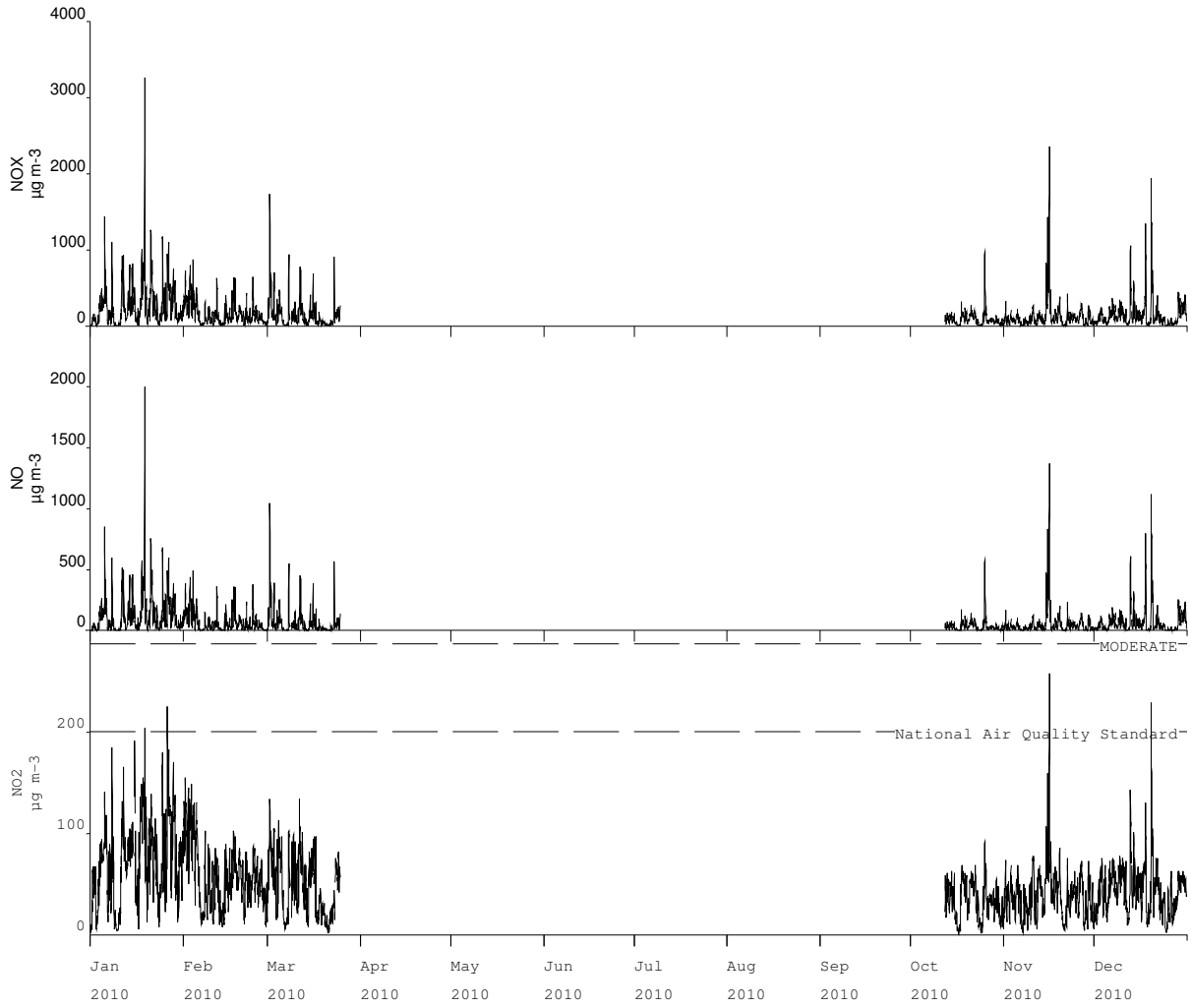
POLLUTANT	NO_X	NO	NO_2
Number Very High	-	-	0
Number High	-	-	0
Number Moderate	-	-	0
Number Low	-	-	3888
Maximum 15-minute mean	3696 µg m^{-3}	2293 µg m^{-3}	338 µg m^{-3}
Maximum hourly mean	3264 µg m^{-3}	2003 µg m^{-3}	258 µg m^{-3}
Maximum running 8-hour mean	1482 µg m^{-3}	883 µg m^{-3}	170 µg m^{-3}
Maximum running 24-hour mean	891 µg m^{-3}	498 µg m^{-3}	147 µg m^{-3}
Maximum daily mean	660 µg m^{-3}	369 µg m^{-3}	129 µg m^{-3}
99.8th percentile of hourly means	-	-	185 µg m^{-3}
Average	155 µg m^{-3}	69 µg m^{-3}	50 µg m^{-3}
Data capture	44.4 %	44.4 %	44.4 %

All mass units are at 20'C and 1013mb
NO_X mass units are NO_X as NO_2 µg m-3

Pollutant	Air Quality (England) Regulations 2000 and (Amendment) Regulations 2002	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m^{-3}	1	-
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	5	4

Felixstowe Dooley
Hourly Mean Data for 01 January to 31 December 2010

Produced by AEA on behalf of Suffolk Coastal District Council



Appendix F: NO_2 Diffusion Tube Results 2010

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Felixstowe and the Trimleys during 2010. Figures in micrograms per cubic metre ($\mu g/m^3$). Annual mean concentration corrected for bias where relevant.

Site	Time in months												Annual mean ($\mu g/m^3$)	Annualisation factor if applicable	Annual mean (annualised if applicable)	# Bias adjustment factor used	Bias adjusted annual mean ($\mu g/m^3$)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
FLX 12a	~	34.1	39.1	30.6	30.9	29.6	31.1	29	36.3	34.3	~	46.6	see FLX 12 mean	n/a	n/a	n/a	n/a
FLX 12b	~	~	~	30.7	30.4	31.3	34.8	26.3	36	33.4	~	45.8	see FLX 12 mean	n/a	n/a	n/a	n/a
FLX 12c	~	~	~	30.9	29.1	30.1	34	28.3	38.7	29.2	~	47.1	see FLX 12 mean	n/a	n/a	n/a	n/a
FLX 12 a,b,c-mean	~	34.1	39.1	30.7	30.1	30.5	33.3	27.9	37	32.3	~	46.5	**34.1**	**1.08**	**36.9**	**0.85**	**31.4**
FLX 14	39.7	34.1	38.7	28.6	23.5	25.2	27.7	24.2	34	34.3	23.3	43	**31.4**	n/a	**31.4**	**0.85**	**26.7**
FLX 17	19.4	36.8	36.5	33.9	25.1	31.3	28.2	19.3	32.8	33.4	32.6	35.7	**30.4**	n/a	**30.4**	**0.85**	**25.8**
FLX 20	24.2	32.5	33.3	24.4	19.2	21.7	29.5	27.6	30.4	29.2	30.5	33.6	**28.0**	n/a	**28.0**	**0.85**	**23.8**
FLX 21	49.2	32.3	30.4	25.6	19	20.9	17.0	20.7	29.4	29.2	32.1	37.9	**28.6**	n/a	**28.6**	**0.85**	**24.3**
FLX 22	40.2	30.2	32.7	24.9	20.8	23.4	26.0	26.8	24.1	28.1	34.8	39.6	**29.3**	n/a	**29.3**	**0.85**	**24.9**
FLX 23	34	45.2	44	41.5	40.3	35.7	30.4	23.4	33.4	39.9	35.8	36.8	**36.7**	n/a	**36.7**	**0.85**	**31.2**
FLX 24	44.7	41.2	40.6	32.7	25.4	27.2	31.9	33.9	38.4	40.1	~	42.6	**36.2**	n/a	**36.2**	**0.85**	**30.8**
FLX 26a	60.8	44.9	56.2	49.8	45.4	44.4	43.5	40.9	47.5	44.6	51.7	58.3	See FLX 26 Mean	n/a	n/a	n/a	n/a
FLX 26b	54.4	62.1	55.8	54.7	43.6	39.0	50.3	45.1	47.2	52.6	47	50.4	See FLX 26 Mean	n/a	n/a	n/a	n/a
FLX 26c	61.9	58.7	62.1	52.3	46.4	42.9	51.5	32.1	51.6	52.3	51.2	47.3	See FLX 26 Mean	n/a	n/a	n/a	n/a
FLX 26 a,b,c - mean	59.0	55.2	58.0	52.3	45.1	42.1	48.4	39.4	48.8	49.8	50.0	52.0	**50.0**	n/a	**50.0**	**0.85**	**42.5**
FLX 27	49.5	46.9	~	~	27.3	29.5	39.0	35.4	45.2	43.6	44.8	43.4	**40.5**	**0.96**	**38.8**	**0.85**	**33.0**
FLX 29	47.1	32.6	32.7	29.3	24	26.5	22.4	24	30.0	27.2	37	46.3	**31.6**	n/a	**31.6**	**0.85**	**26.9**
FLX 31	48.5	36.5	39.2	32.1	25.8	26.1	29.5	27.6	31.9	34.2	42.5	46	**35.0**	n/a	**35.0**	**0.85**	**29.8**

Key:

FLX 12	Roadside site, drainpipe at 119 Hamilton Road, 'Ford Bros. Bike Shop' Felixstowe
FLX 14	Industrial site, drainpipe on 1 Adastral Close, Felixstowe
FLX 17	Roadside site, drainpipe on 38 Spriteshall Lane, Trimley St. Mary.
FLX 20	Industrial/Roadside site, rear garden of 73 Glemsford Close, Felixstowe
FLX 21	Urban Background site, lampost at 4 Kings Fleet Road, Felixstowe
FLX 22	Industrial site, drainpipe on 13 Levington Road, Felixstowe
FLX 23	Roadside site, drainpipe on 23 Heathgate Piece, Trimley St. Mary.
FLX 24	Roadside site, rear garden of 22 Brandon Road, Felixstowe
FLX 26 a,b,c	Industrial/Roadside site, first floor window over front car park at The Dooley Inn, Ferry Lane, Felixstowe. **(Triplicate site co-located with analyser)**
FLX 27	Industrial/Roadside site, first floor front window facing the Docks at The Dooley Inn, Ferry Lane, Felixstowe
FLX 29	Industrial Site, 18 Adastral Close, Felixstowe
FLX 31	Industrial Site, 44 Adastral Close, Felixstowe

Diffusion tube annual mean data is ratified to improve accuracy. The bias adjustment factor for the diffusion tubes must either be a combined ("national") bias adjustment factor, or one calculated from a co-location study with a continuous analyser carried out by the authority themselves
The 2010 data from the Felixstowe sites were adjusted using a combined (national) bias adjustment factor of 0.85

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Kesgrave during 2010.
Figures in micrograms per cubic metre (µg/m^3). Annual mean concentration corrected for bias where relevant.

Site	Time in months												Annual mean (µg/m^3)	Annualisation factor if applicable	Annual mean (annualised if applicable)	# Bias adjustment factor used	Bias adjusted annual mean (µg/m^3)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
KSG 9	48.0	34.8	34.5	35.2	28.0	29	27.7	31.9	~	40.4	23.3	37.7	**33.7**	n/a	**33.7**	**0.85**	**28.6**

Key:

KSG 9 Roadside site, roadside lampost at 118 Main Road, Kesgrave

Diffusion tube annual mean data is ratified to improve accuracy. The bias adjustment factor for the diffusion tubes must either be a combined ("national") bias adjustment factor, or one calculated from a co-location study with a continuous analyser carried out by the authority themselves.
The 2010 data from the Kesgrave site was adjusted using a combined (national) bias adjustment factor of 0.85.

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Melton during 2010.
Figures in micrograms per cubic metre (µg/m^3). Annual mean concentration corrected for bias where relevant.

Site	Time in months												Annual mean (µg/m^3)	Annualisation factor if applicable	Annual mean (annualised if applicable)	# Bias adjustment factor used	Bias adjusted annual mean (µg/m^3)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
MEL 5	45.6	36.7	~	26.7	~	~	~	32.7	37.1	36.6	39.8	39.9	**36.9**	**0.89**	**33.0**	**0.85**	**28.1**

Key:

MEL 5 Roadside site, 6 The Street, Melton. **(Duplicate site)**

Diffusion tube annual mean data is ratified to improve accuracy. The bias adjustment factor for the diffusion tubes must either be a combined ("national") bias adjustment factor, or one calculated from a co-location study with a continuous analyser carried out by the authority themselves.
The 2010 data from the Melton site was adjusted using a combined (national) bias adjustment factor of 0.85.

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Woodbridge during 2010. Figures in micrograms per cubic metre (µg/m^3). Annual mean concentration corrected for bias where relevant.

Site	Time in months												Annual mean (µg/m^3)	Annualisation factor if applicable	Annual mean (annualised if applicable)	# Bias adjustment factor used	Bias adjusted annual mean (µg/m^3)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
WBG 1a	58.5	56.3	16.5	~	39.8	~	~	50.4	~	49.7	61.2	57	see WBG 1 mean	**n/a**	**n/a**	**n/a**	**n/a**
WBG 1b	56.4	51.7	50.4	~		~	~	49.5	~	51	62.3	56.1	see WBG 1 mean	**n/a**	**n/a**	**n/a**	**n/a**
WBG 1c	59.2	55.3	48.7	~	41.4	46.3	~	48.7	~	50.6	57.1	57.9	see WBG 1 mean	**n/a**	**n/a**	**n/a**	**n/a**
WBG 1 a,b,c - mean	58.0	54.4	38.5	~	40.6	46.3	~	49.5	~	50.4	60.2	57.0	**50.6**	**0.93**	**47.2**	**0.89**	**42.0**
WBG 3	30.3	24.7	20.9	34.4	11.0	13.8	12.3	10.9	18.9	19.7	18.3	24	**19.9**	**n/a**	**19.9**	**0.89**	**17.7**
WBG 5	41.5	38.3	32.5	43.9	28.2	27.5	23.2	20.5	~	30	32.1	35.1	**32.1**	**n/a**	**32.1**	**0.89**	**28.5**
WBG 6	53	54.8	45.9	42.9	42	45.3	42.4	~	44.1	41.1	52.6	45.7	**46.3**	**n/a**	**46.3**	**0.89**	**41.2**
WBG 8	53	48.9	43.7	37.4	39.5	40.3	46.7	40.4	52	46.7	53.7	54.2	**46.4**	**n/a**	**46.4**	**0.89**	**41.3**
WBG 10	48.5	45.3	38.3	26.1	~	37.2	~	24.1	39.1	37.9	40.6	~	**37.5**	**1.01**	**37.7**	**0.89**	**33.6**
WBG 12	36.3	33.3	30.8	41.1	20.5	20.4	27.0	20.3	28.7	29.7	32.3	33.6	**29.5**	**n/a**	**29.5**	**0.89**	**26.3**
WBG 13	44.4	44.4	41.3	43	~	~	~	~	~	~	~	~	**43.3**	**0.94**	**40.8**	**0.89**	**36.3**
WBG 15	52.4	53.9	34.7	36.2	40	43.2	~	~	~	~	~	57	**45.3**	**0.95**	**43.0**	**0.89**	**38.2**
WBG 17	39.4	37.9	34.8	45.0	28.1	32.6	31.6	22.7	34.7	32	34.5	36.9	**34.2**	**n/a**	**34.2**	**0.89**	**30.4**
WBG 18	48	48.2	42.8	38.8	40.7	44.4	37.4	32.8	44.2	40.7	41.7	48.2	**42.3**	**n/a**	**42.3**	**0.89**	**37.7**
WBG 20	47.1	47.2	44.6	37.9	35.8	36.6	42.9	41.4	removed				**41.7**	**1.15**	**47.7**	**0.89**	**42.5**
WBG 22	36.3	30	22.8	26.4	23	23.9	19.4	20.2	24.0	21.8	29.7	35.2	**26.1**	**n/a**	**26.1**	**0.89**	**23.2**
WBG 23	36.4	36.1	~	25.8	22.8	~	~	25.7	30.8	33.5	35	49.1	**32.8**	**0.93**	**30.5**	**0.89**	**27.1**

Key:

WBG 1a,b,c	Kerbside site, signpost outside 93 Thoroughfare, Woodbridge **(Triplicate site co-located with continuous analyser)**
WBG 3	Urban Background site, lampost outside 8 Kingston Farm Road, Woodbridge
WBG 5	Roadside site, drainpipe on corner of Suffolk Place, Lime Kiln Quay Road, Woodbridge
WBG 6	Roadside site, drainpipe on 87 Thoroughfare, Woodbridge
WBG 8	Roadside site, drainpipe on 95 Thoroughfare, Woodbridge
WBG 10	Roadside site, signpost in St. John's Street (opposite Surgery), Woodbridge
WBG 12	Roadside site, drainpipe on 8 Lime Kiln Quay Road, Woodbridge.
WBG 13	Roadside site, traffic lights at front of 85 Thoroughfare, Woodbridge
WBG 15	Roadside site, Top guttering in middle of 87 Thoroughfare, Woodbridge
WBG 17	Roadside site, drainpipe at front Northern end of Suffolk Place, Lime Kiln Quay Road, Woodbridge
WBG 18	Roadside site, drainpipe between 106 / 108 Thoroughfare, Woodbridge
WBG 20	Roadside site, drainpipe on 97 Thoroughfare, Woodbridge. **Site removed September 2010 at request of property owner**
WBG 22	Roadside Site, first floor balcony on Suffolk Place facing Lime Kiln Quay Road. **New Site from April 2008**
WBG 23	Roadside Site, lampost o/s new buildings (number 50), St Johns Street, Woodbridge. **New site from January 2009**

Diffusion tube annual mean data is ratified to improve accuracy. The bias adjustment factor for the diffusion tubes must either be obtained from the analyst laboratory or calculated from a co-location study with a continuous analyser by the authority themselves. In 2010 a co-location study was undertaken by SCDC using results from a continuous NOx analyser located at a site in Woodbridge. The bias adjustment factor for 2010 was calculated from this study and was 0.89. Annual mean diffusion tube concentrations were, therefore, multiplied by a factor of 0.89.

Monthly and annual mean nitrogen dioxide (NO_2) concentrations recorded at sites in Martlesham during 2010.
Figures in micrograms per cubic metre ($\mu g/m^3$). Annual mean concentration corrected for bias where relevant.

Site	Time in months												Annual mean ($\mu g/m^3$)	Annualisation factor if applicable	Annual mean (annualised if applicable)	# Bias adjustment factor used	Bias adjusted annual mean ($\mu g/m^3$)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
MRT 1a	39.7	36.3	32.7	31.2	25.1	27	19.6	16.9	29.7	27.7	30.7	30.4	see MRT 1 mean	-	-	~	~
MRT 1b	38.4	37.3	31.9	29.9	19.9	18.4	20	18.6	29.1	27	28.8	30.2	see MRT 1 mean	-	-	~	~
MRT 1c	35.5	37.5	29	31.4	25.9	25.2	16.8	17.1	27.4	26.8	28.6	34.2	see MRT 1 mean	-	-	~	~
MRT 1a,b, c- Mean	37.9	37.0	31.2	30.8	23.6	23.5	18.8	17.5	28.7	27.2	29.4	31.6	**28.1**	**n/a**	**28.1**	**0.85**	**23.9**

Key:

MRT 1a,b,c Site located on drainpipe behind Horseman court, off Eagle Way, Martlesham. **(Triplicate Site) New Site as of May 2009**

Diffusion tube annual mean data is ratified to improve accuracy. The bias adjustment factor for the diffusion tubes must either be a combined ("national") bias adjustment factor, or one calculated from a co-location study with a continuous analyser carried out by the authority themselves.
The 2010 data from the Martlesham site was adjusted using a combined (national) bias adjustment factor of 0.85

Appendix G: Environmental Permitting Regulations 2010 – process list

List of new processes within the Suffolk Coastal district regulated under the Environmental Permitting Regulations 2010 since the 2010 Progress Report.

Name and address of authorised process	Authority issuing authorisation (Public Register file reference – where applicable)	Grid reference for process	Installation Activity Section number and Process Guidance (PG) note under which process is authorised	Process description
Harrow Lane Farm (Leiston) Ltd Breakers Yard Moat Road Theberton Suffolk IP16 4RS	Suffolk Coastal District Council IPPC 31	4284 6504	Disposal of Waste Section 5.2	Part A1 Activity
Skipaway Leiston Transfer Station Master Lord Industrial Estate Station Road Leiston Suffolk IP16 4JD	Suffolk Coastal District Council IPPC 32	4416 6273	Disposal of Waste Section 5.2	Part A1 Activity

Appendix H: Suffolk County Council Report on Traffic Signs in the Woodbridge Area for Air Quality Management Purposes

Suffolk County Council

Report on Traffic Signs in the Woodbridge Area for Air Quality Management Purposes

Economy, Skills and Environment

_____

Highway Network Improvement
Endeavour House
8 Russell Road
IPSWICH
Suffolk IP1 2BX

Date: 6th June 2011

A review of traffic signing in the Woodbridge area has been carried out. The findings are summarised below. Please see Figure 1 for roundabout/junction locations.

1. Ipswich Road roundabout on A12

The large signs on the southern approach to the roundabout were changed as part of a recent Safety Engineering scheme. The idea was to only sign Woodbridge town centre off to the right as a lot of villages have 'Woodbridge' as part of their address. (The original belief was that people went into Woodbridge seeking the other villages rather than staying on the A12.) The new signing was to try and stop this.

The highway authority's original advice when this approach was re-signed was that no mention should be included of any villages on the signs as this may lead people to wonder about all the others with Woodbridge in their address for example Rendlesham and Ufford. It was suggested that the direction signs on the island should be changed to match what was on the other signs i.e. 'all routes', however, the Safety Engineers chose to leave this sign as it was.

For high speed roads the recommendation is for a maximum of four destinations to be shown on a single sign as drivers do not have the time to absorb more information. At the moment there are four destinations plus a sign to the pay and play golf course and a tourist sign to the windmill. These tourist signs could be removed however the highway authority would likely be criticised by the owners of the attractions. More destinations would make it more difficult for drivers to follow and there are at least five other villages that would each want to be added. At present the destinations shown refer to the main destinations reached off the' A' and 'B' roads directly off junctions with the A12. It would be better to remove all of them than to add any. The directional sign is very old, and appears to have been added to numerous times. Technically the sign does not meet current signing regulations, and would be amended if it were to be become damaged, however it is unlikely that additional destinations would be added.

2. Mini roundabout at junction of B1438 (Ipswich Road) and Top Street.

This sign was provided when the roundabout was built and was not touched as part of a subsequent safety scheme on the A12 roundabout. Melton is signed in two (opposite) directions on the roundabout. Vehicles approaching the roundabout from the A12 would have followed the 'Woodbridge town centre only' sign either correctly or incorrectly. Once drivers have left the A12 they would be unlikely to turn around and return to the A12 even if this sign stated town centre only. Melton and Ufford could be removed, but there would likely be minimal positive impact.

3. Wyevale B1079 roundabout on A12

In the highway authority's opinion, both signs should say the same. It is suggested that they should both say 'light vehicles only" as there is a height restriction on St Johns Street and the roads along this route are not suitable for larger vehicles because of their narrowness. The use of 'Local traffic only' does not mean much to motorists and is unlikely to have any effect - this phrase was used on the south roundabout but motorists continued to travel through Woodbridge when looking for Melton etc. as they thought this was 'local'.

4. Woods Lane roundabout on A12

Ideally to reduce sign clutter the Sutton Hoo sign on the southbound carriageway would be combined with the directional sign.

This authority does not believe it would be helpful to put additional traffic on the Ipswich Road route into Woodbridge. This has a lot more residential properties fronting it than Woods Lane and therefore a lot more pedestrians and cyclists. There is not a continuous footpath along

one side of the road (it switches from side to side). It is unlikely that a continuous path could be built without major cost due to the high banks on part of the west side of the road. Increasing traffic, especially heavy traffic would adversely affect vulnerable road users as well as impact on residents along this road.

The new Health Centre near Notcutts on the B1438 Ipswich Road has increased the number of pedestrians on this road as well as crossing movements associated with the adjacent bus stops and those using the Health Centre. There are plans for a zebra crossing to be built in this area but the planning requirement is that the funds do not have to be released until a higher proportion of the Notcutts development is complete - this may be some time. Even once this crossing is built, extra traffic along this road would not be helpful.

Woods Lane has very few residential properties and Melton Road, although having a lot of residential properties, is wider so the impact of traffic is less.

With respect to delivery vehicles, if they were routed via Ipswich Road, they would still have to go to the traffic lights to turn into the Thoroughfare but instead of starting from a level road if stopped by the lights, they would have to carry out a hill start, which would lead to more pollution at the junction.

5. Melton crossroads

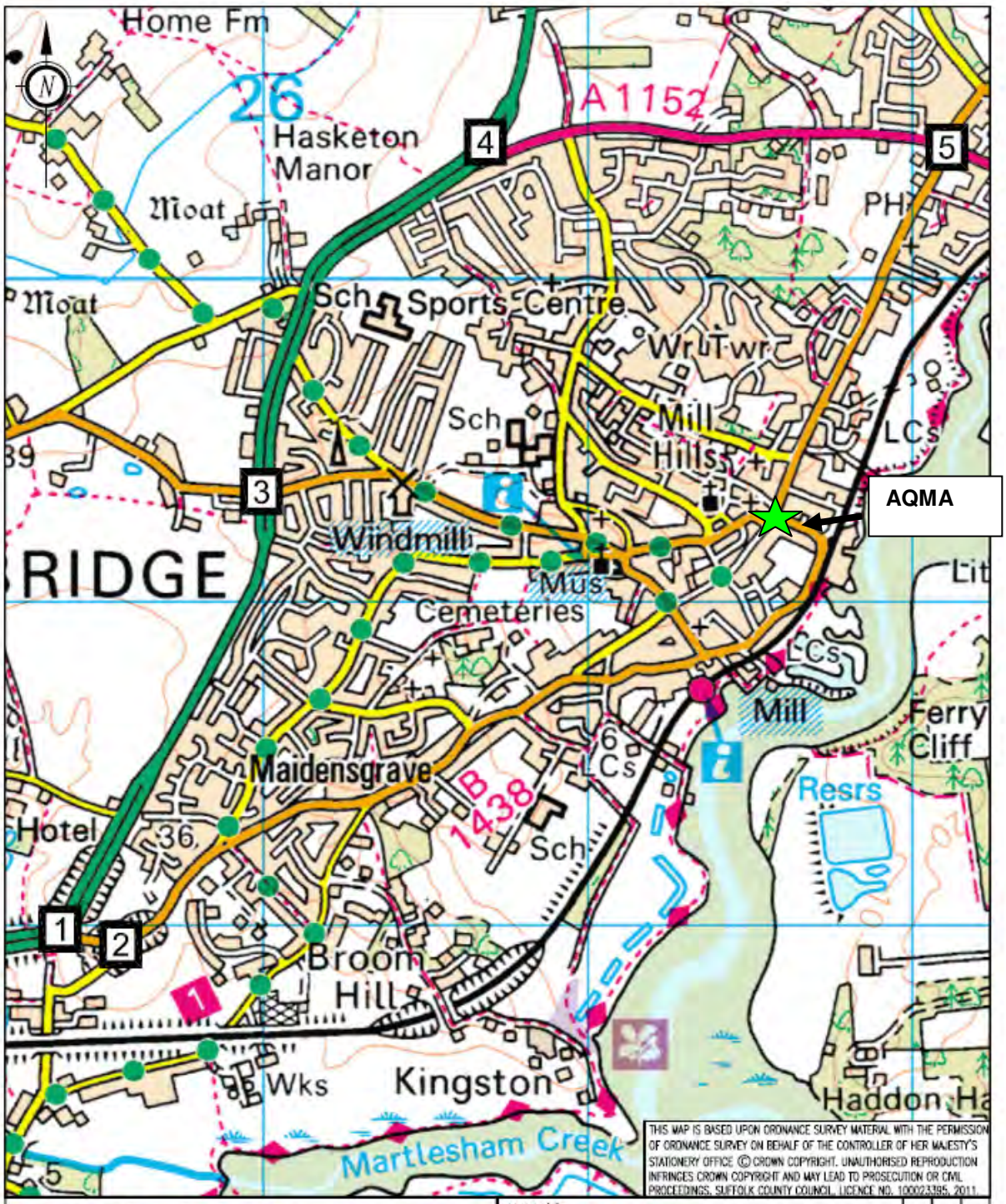
This authority cannot justify sending vehicles along the A12 and then onto Ipswich Road. This would add slightly less than 4 miles to each journey, which could have a greater total environmental impact than any air quality improvements seen at one point.

A new sign (identical to the existing Ipswich, Lowestoft, Grundisburgh sign) will be erected shortly on the approach to the junction. It is hoped that better signing of the approach lanes will encourage those travelling to Ipswich / Martlesham etc to use the A12 instead of cutting through Woodbridge. However it is unlikely to have an effect on those familiar with the route.

6. Conclusions

The above review has identified very little action that can be taken to improve routing around Woodbridge to avoid unnecessary travel through the AQMA. One additional sign is being installed at the Melton Crossroads junction, which would be expected to result in a small positive effect.

Figure 1 - Roundabout Location Plan



Suffolk County Council

Lucy Robinson, Director of Environment & Transport
Endeavour House, 8 Russell Road, Ipswich, Suffolk, IP1 2BX.

REVISION(S)			
DESCRIPTION	REV.	DATE	INT.

PROJECT TITLE	ORIGINATOR	CHECKER	DESIGNER	REVIEWER
AIR QUALITY WOODBRIDGE	TAO	PRELIM	TAO	PRELIM
	SCALE(S) NTS — ORIGINAL SIZE A4		DATE JUNE 2011	
DRAWING TITLE: SITE LOCATIONS	DRAWING NUMBER: ET03324–001			REVISION: –

Glossary of Terms and Abbreviations

A

Air Quality Action Plan (AQAP)	Plan required by the Government to be drawn up for an Air Quality Management Area (AQMA) to provide information on what action will be taken to try and reduce pollutant levels to within the set objectives.
Air Quality Action Plan (AQAP) Progress Report	Once an Action Plan has been developed for an Air Quality Management Area (AQMA) the Government require that an annual report be produced to provide an update on progress.
Air Quality Management Area (AQMA)	Each local authority in the UK is required to undertake a review and assessment of air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that the national air quality objectives will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment. If a local authority finds any places where the objectives are not likely to be achieved, it must declare an Air Quality Management Area there.
Air Quality Management Area (AQMA) Order	Air Quality Management Area Order – the official order which is made declaring an AQMA.
Air Quality Objectives	Policy targets generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedences, within a specified timescale. The Objectives are set out in the UK Government's Air Quality Strategy for the key air pollutants.
Air Quality Standards	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The Standards are based on assessment of the effects of each pollutant on human health, including the effects on sensitive sub-groups.
Air Quality Strategy	The Air Quality Strategy for England, Scotland, Wales and Northern Ireland describes the plans drawn up by the Government and the Devolved Administrations to improve and protect ambient air quality in the UK in the medium-term. The Strategy sets Objectives for the main air pollutants to protect health. Performance against these Objectives is monitored where people regularly spend time and might be exposed to air pollution.
Analytical laboratory	Laboratory used to analyse air pollution samples collected.
Annualised mean	Calculation of an annual mean concentration using a period of less than a year to produce a calculation for the whole year.

Annual mean concentration	The average concentration of a pollutant measured over one year.
Automatic analyser	Equipment used to undertake accurate and reliable detailed monitoring of an air pollutant. Equipment records air pollution levels continuously and produces real-time measurements of pollutant concentrations.
B	
Bias	The overall tendency of (diffusion tube) readings to depart from the true value, i.e to over or under read when compared to the reference method (automatic analyser)
Bias adjustment/correction factor	Diffusion tubes used to monitor air pollutants (mainly nitrogen dioxide) are affected by several sources of interference which can cause substantial under or overestimation (often referred to as "bias") compared to an automatic analyser. This is a problem where diffusion tube results are to be compared with air quality objectives. As a result, local authorities using diffusion tubes are required to quantify the "bias" of their diffusion tube measurements and apply an appropriate bias adjustment factor to the annual mean if required.
Biomass combustion	Biomass is a renewable energy source - biological material from living, or recently living organisms, such as wood, waste, (hydrogen) gas, and alcohol fuels. Biomass is commonly plant matter grown to generate electricity or produce heat, usually by direct incineration. Biomass combustion is therefore a means of converting biomass to usable energy (both heat and electricity) by burning.
C	
Co-location study	Study in which the accuracy of diffusion tubes is quantified by exposure alongside an automatic analyser, and the results used to calculate a bias adjustment factor.
D	
Data Capture	Term given to the percentage of measurements for a given period that were validly measured.
Defra	Department for the Environment, Food and Rural Affairs – government body who deal with air quality matters.
Detailed Assessment	Where an Updating and Screening Assessment identifies a risk that an air quality objective may be exceeded at a location then a Detailed Assessment of the site is required. The aim of a Detailed Assessment is to identify with reasonable certainty whether or not an exceedance will occur.
Diffusion tube	Low-cost method for indicative monitoring of ambient air pollutant concentrations, mainly used for measuring nitrogen dioxide. Collect pollutants by molecular diffusion along an inert tube to an efficient chemical absorbent. After exposure

	for a known time, the absorbent material is chemically analysed and the concentration calculated.
E	
Environment Act 1995 Part IV	The Parliamentary Act which sets out the requirements for Local Air Quality Management.
Environmental Impact Assessment	An assessment of the possible positive or negative impact that a proposed project may have on the environment, consisting of the natural, social and economic aspects. The purpose of the assessment is to ensure that decision makers consider the ensuing environmental impacts when deciding whether to proceed with a project.
Environmental Permitting Regulations 2010	Regulations under which certain types of industry are required to have a permit to operate The industrial premises must show compliance with their permit conditions. Includes discharge consenting, groundwater authorisations and radioactive substances regulation.
F	
Further Assessment	Where an Air Quality Management Area (AQMA) has been declared, a Further Assessment must be submitted to Defra within 12 months. This will supplement the information provided in the Detailed Assessment, confirm the objective exceedance, define what improvement in air quality and reduction in emissions is required to meet the objectives, and provide information on source contributions.
H	
Haven Gateway	Area incorporating the five Haven ports of Felixstowe, Harwich International, Harwich Navyard, Ipswich and Mistley.
HDV – Heavy Duty Vehicle	A motor vehicle rated at more than 3,856 kg - includes trucks/lorries, buses and coaches.
HGV – Heavy Goods Vehicle	Goods motor vehicles (i.e. trucks / lorries) capable of carrying heavy loads over 3.5 tonnes maximum permissible gross vehicle weight and requiring a special license to drive.
Hourly mean concentration (1-hour mean)	The average over a one hour period of an air pollutant concentration.
L	
Laboratory bias	There is considerable difference in the performance of diffusion tubes prepared by different laboratories, such that they may systematically over or under read when compared with an automatic analyser. The laboratory bias is the figure derived in order to correct the over/under read to the reference method – the automatic analyser results.

Local Air Quality Management (LAQM)	Each local authority in the UK is required to carry out a regular review and assessment of air quality in their area. This involves measuring air pollution and trying to predict how it will change in the next few years. The aim of the review is to make sure that national air quality objectives will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment.
LAQM.PG(09)	Local Air Quality Management Policy Guidance February 2009. Policy guidance issued by Defra to assist local authorities when carrying out review and assessment of air quality within their district.
LAQM.TG (09)	Local Air Quality Management Technical Guidance February 2009. Technical guidance issued by Defra to assist local authorities in reviewing and assessing air quality on their district.
LGV – Light Goods Vehicle	Goods vehicles, mainly vans (including car derived vans), not over 3.5 tonnes maximum permissible gross vehicle weight.

M

mg/m^3	Milligrams per cubic metre – unit for measurement of an air pollutant concentration. A measure of concentration in terms of mass per unit volume. A concentration of $1mg/m^3$ means that one cubic metre of air contains one milligram of pollutant.
$\mu g/m^3$	Micrograms per cubic metre – unit for measurement of an air pollutant concentration. A measure of concentration in terms of mass per unit volume. A concentration of $1\mu g/m^3$ means that one cubic metre of air contains one microgram of pollutant.

N

NO_2	Nitrogen Dioxide - a gas produced by the reaction of nitrogen and oxygen in combustion processes in air. Nitrogen Oxide (NO) is formed initially and this is subsequently oxidised to form NO_2.
NOx	Oxides of nitrogen – NOx is a generic term for the nitrogen oxides NO and NO_2 (nitric oxide and nitrogen dioxide). They are produced from the reaction of nitrogen and oxygen gases in the air during combustion, especially at high temperatures.

O

OS Grid Ref – Ordanance Survey Grid Reference	The British Grid Reference System which can be used to accurately pinpoint any location in Great Britain and it's outlying islands through the use of a unique Ordnance Survey map reference – a Grid Reference.

Outline Planning Application	An outline of the plans and other information that developers send to the local authority for decision on whether or not to grant planning permission. If outline planning permission is granted the developers are required to provide more information later, in advance of each works, to make sure that they are acceptable.
P	
Percentile	A value below which that percentage of data will either fall or equal. For instance the 98th percentile of values for a year is the value below which 98% of all the data in the year will fall or equal.
Progress Report	A report intended to maintain the continuity of the Local Air Quality Management process and fill in the gaps between the 3 yearly cycle of the review and assessment process. Required in all years when an Updating and Screening Assessment is not undertaken.
PM_{10}	Particulate Matter with a diameter of less than 10 microns – air pollutant of concern
Q	
QA:QC – Quality Assurance : Quality Control	Relates to the collection of air quality monitoring data - the systematic monitoring and evaluation of the various aspects to maximize the probability that the data collected is of good quality.
R	
Relevant exposure	Review and assessment of air quality must focus on locations where members of the public are likely to be regularly present and are likely to be exposed for a period of time appropriate to the averaging period of the specific objective, this is termed relevant exposure.
Review and Assessment process	Procedure put in place by Defra to ensure that all local authorities review and assess air quality within their district on a regular basis and take action for any location where the air quality objectives are exceeded.
Running mean	This is a mean - or series of means - calculated for overlapping time periods, and is used in the calculation of several of the National Air Quality Standards. For example, an 8-hour running mean is calculated every hour, and averages the values for eight hours. There are, therefore, 24 possible 8-hour running means in a day (calculated from hourly data)
S	
SCC	Suffolk County Council
SCDC	Suffolk Coastal District Council
SO_2	Sulphur dioxide – air pollutant of concern.

Source apportionment	This exercise is undertaken if a Further Assessment is required for a site. All potential emission sources for the pollutant and site of concern are identified and investigations undertaken to determine how much of the problem is attributed to each emission source.
U	
USA – Updating and Screening Assessment	The first step of the review and assessment process which must be undertaken by all local authorities every 3 years. Based on a checklist to identify those matters which have changed since the previous round of review and assessment was completed.
W	
Worst case exposure	Location where air pollution from a specific source will be the highest.
15-minute mean	The average over a 15 minute period of an air pollutant concentration.
24-hour mean	The average over a 24 hour period of an air pollutant concentration.