



2011 Air Quality Progress Report for Richmondshire District Council

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

April 2011

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Report Reference number	KC/2011AQ PROGRESS REPORT
Date	30 th April 2011

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Executive Summary

This report is the 2011 Progress Report on the current state of air quality in the Richmondshire District Council area. It has been prepared using the guidance TG(09) issued by the Department for Environment, Food and Rural Affairs (DEFRA).

The National Air Quality Strategy sets a series of Air Quality Objectives for a range of pollutants against which the air quality in the District has been assessed.

The report outlines the conclusions of previous air quality assessments undertaken by the Council and specifically examines the results of ongoing nitrogen dioxide monitoring undertaken in Richmond town centre and along the A66 Trunk Road.

In addition consideration has been given to any new transport infrastructure or developments which have the potential to impact on air quality within the District.

It is concluded that there are no likely exceedences of any of the Air Quality Objectives for any of the key pollutants.

No significant new transport infrastructure or new developments have been identified since the 2009 Updating and Screening Assessment.

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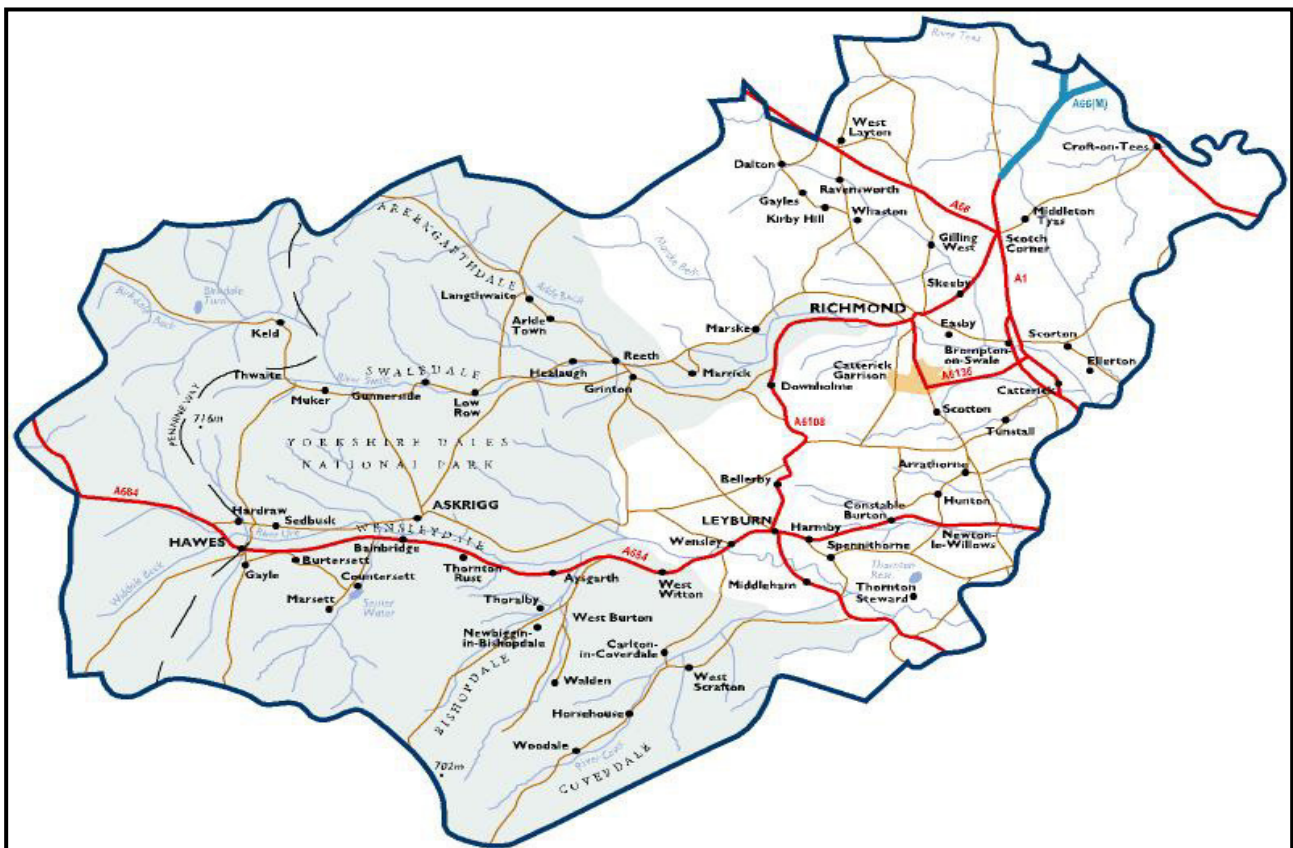
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1 Introduction

1.1 Description of Local Authority Area

The District of Richmondshire (Figure 1) is largely rural and incorporates Wensleydale and Swaledale within North Yorkshire. A large proportion of the District is located within the Yorkshire Dales National Park. It has a population of approximately 50,000 inhabitants, most of whom reside in the small towns of Richmond, Leyburn and Hawes. Industry is limited to quarry processes and light industrial activities. The main source of emissions to air is vehicles on the A1 and A66 trunk routes, which pass through the east of the District.

Figure 1 The District of Richmondshire



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 (LA) should

undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to 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 microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (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 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

Stage one of the Review and Assessment¹ undertaken in 1999 concluded that benzene, 1,3-butadiene, lead and sulphur dioxide were likely to meet the air quality standards throughout the District, but that carbon monoxide, nitrogen dioxide and PM₁₀ required further investigation.

The stage 2 report² included short-term monitoring data from a number of worst-case locations. These showed that exceedences of the carbon monoxide, nitrogen dioxide and PM₁₀ objectives were unlikely and therefore no further work was required for round one. The appraisal carried out on behalf of DEFRA, accepted the conclusions although it was noted that the approach taken was not in accordance with the LAQM Guidance. Reports from the first round Review and Assessment are summarised in Table 1.4.1.

The second round USA³ recommended that a Detailed Assessment be carried out for sulphur dioxide produced from domestic solid fuel burning in towns and villages without mains gas. The Detailed Assessment⁴ concluded that no further action was required for sulphur dioxide.

The 2005 progress report⁵ concluded that no action was required for any of the above pollutants. Reports from the second round Review and Assessment are summarised in Table 1.4.2.

The third round of Review and Assessment was undertaken in 2006 commencing with a further Updating and Screening Assessment (USA). The 2006 USA⁶ concluded that there was no likelihood of exceedences of any of the air quality objectives.

The 2007 Progress Report⁷ similarly concluded that there was no likelihood of the exceedence of any of the air quality objectives. However, following the upgrading of the A66 Trunk Road, as a precaution, nitrogen dioxide diffusion tubes were placed at strategic locations within the District to ascertain whether the carriageway upgrading had caused an exceedence of the nitrogen dioxide air quality objectives. The diffusion tubes were exposed monthly for a period of 12 months, however, it was concluded that there was no likelihood of exceedence of the annual mean nitrogen dioxide.

The 2008 Progress Report⁸ also confirmed that there was no likelihood of an exceedence of any of the air quality objectives but it was recognised that work to upgrade the A1 from a two lane to a three lane carriageway within the District was imminent, with an estimated completion date during 2010.

Reports from the third round Review and Assessment are summarised in Table 1.4.3.

The fourth round Updating and Screening Assessment (2009)⁹ included an assessment of the potential effect on air quality of the A1 carriageway improvements.

The Highways Agency's predictions (calculated using the Design Manual for Roads and Bridges; Vol 5) concluded that on completion of the scheme, the properties nearest to the carriageway within the Richmondshire District Council boundary would not be exposed to air pollution concentrations above the Air Quality Objectives for PM₁₀, nitrogen dioxide, carbon monoxide, benzene and 1,3-butadiene.

In addition to the A1 carriageway improvements, a source of pollution from a biomass combustion process (50kW to 20MW) was identified in the village of Ravensworth, 6 miles north of Richmond and within 750m of the A66 Trunk Road. The USA included a screening assessment for the effect of emissions from this plant (PM₁₀ and nitrogen dioxide) in accordance with the Technical Guidance TG(09).

The screening assessment included the emissions from the combustion process combined with other potential emission sources in the vicinity of the plant.

It was concluded that it was unnecessary to proceed to a Detailed Assessment for this process.

The overall conclusion of the 2009 USA was that there were no likely exceedences of any of the national Air Quality Strategy pollutant objectives but that the ongoing nitrogen dioxide diffusion tube monitoring should continue.

The 2010 progress report¹⁰ concluded that no action was required for any of the National Air Quality Strategy pollutants listed in table 1.1 above.

A summary of the fourth round Review and Assessment undertaken to date is presented in Table 1.4.4.

Table 1.4.1 Summary of the First Round of Review and Assessment

Stage 1	
Benzene	No significant industrial processes. No need for further consideration.
1,3 butadiene	No significant industrial processes. No need for further consideration
Carbon monoxide	No significant industrial processes. A1 greater than 50,000 vehicles per day. Stage 2 required.
Lead	No significant industrial processes. No need for further consideration
Nitrogen dioxide	No significant industrial processes. A1 greater than 20,000 vehicles per day. Stage 2 required.
PM ₁₀	Quarry processes at Redmire, Leyburn, Barton and Fawcett. A1 greater than 25,000 vehicles per day. Stage 2 required.
Sulphur dioxide	No significant industrial processes. No need for further consideration.
Appraisal Summary	Conclusions accepted for all pollutants other than SO ₂ . Coal or heavy fuel oil boilers > 5MWth were not considered. Exposure criteria have not been taken into account. Domestic sources of PM ₁₀ and SO ₂ not considered. Planned developments not considered.

Stage 2	
	December 1999
Carbon monoxide	3 months monitoring 6m from kerb of A1. Results well below the objective. No need for further consideration.
Nitrogen dioxide	Monitoring using diffusion tubes at 4 sites for a 3-month period, including a site 6m from the kerb of the A1. Results indicated that concentrations are below the objective. No need for further consideration.
PM ₁₀	Monitoring using a BAM at Brompton 6m from the A1 and near to quarries at Barton and Leyburn. Results indicated that concentrations are below the objectives. No need for further consideration.
Appraisal Summary	Conclusions accepted for all pollutants. Although, the approach taken is not in accordance with LAQM guidance.

Table 1.4.2 Summary of the Second Round of Review and Assessment

USA	July 2003
Sulphur Dioxide	Presence of densely populated villages without a mains gas supply requires a Detailed Assessment for emissions from domestic fuel use.
Appraisal Summary	Conclusions accepted for all pollutants.

Detailed Assessment	2004/2005
Sulphur Dioxide	Fuel use survey revealed Middleham to have over 100 properties within a 500m x 500m area that use solid fuel as primary heating source. 3 months monitoring between December 2004 and March 2005 revealed an AQMA was not necessary. As Middleham has the highest concentration of properties with solid fuel as their primary source of heating, no further action was required for other settlements.
Appraisal Summary	Conclusions accepted for sulphur dioxide.

Progress Report	April 2005
All pollutants	No exceedences of objectives expected. No further action required for all pollutants.
Appraisal Summary	Conclusions accepted for all pollutants.

Table 1.4.3 Summary of the Third Round of Review and Assessment

USA	April 2006
All pollutants	No exceedences of objectives expected. No further action required for all pollutants.
Appraisal Summary	Conclusions accepted for all pollutants.

Progress Report	April 2007
Nitrogen Dioxide	Upgrade of A66 to dual carriageway. A 12-month diffusion tube monitoring campaign along its length will determine whether there are any exceedences of the annual objective.
Appraisal Summary	Conclusions accepted for all pollutants.

Progress Report	April 2008
All pollutants	No exceedences of objectives expected (including interim results for the A66 monitoring campaign). No further action required for all pollutants except for continuation of monitoring campaign along A66.
Appraisal Summary	Conclusions accepted for all pollutants.

Table 1.4.4 Summary of the Fourth Round of Review and Assessment

USA	April 2009
All pollutants	Screening assessments undertaken for A1 carriageway improvements and a biomass combustion process. No exceedences of Air Quality Objectives expected. No further action required for all pollutants.
Appraisal Summary	Conclusions accepted for all pollutants.

Progress Report	April 2010
All pollutants	No exceedences of objectives expected (including interim results for the A66 monitoring campaign). No further action required for all pollutants except for continuation of monitoring campaign along A66.
Appraisal Summary	Conclusions accepted for all pollutants.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Richmondshire District Council does not currently operate an automatic monitoring station in the District.

2.1.2 Non-Automatic Monitoring

There are two distinct areas in which diffusion tube monitoring is undertaken for nitrogen dioxide, Richmond town centre and at properties located adjacent to the A66 Trunk Road.

Richmond Town Centre

Nitrogen dioxide has been measured using diffusion tubes at four locations in Richmond, originally as part of the now disbanded National Diffusion Tube Network. They continue to provide valuable information regarding NO₂ levels and assist with the process of local air quality management. Table 2.1 below summarises the location and exposure for the tubes in Richmond town centre. The location of these tubes is also shown in the map at Figure 2.1.

Table 2.1 Details of Non- Automatic Monitoring Sites in Richmond Town Centre

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 ?
R1	Roadside	X 416688 Y 501097	NO ₂	N	Y (0.5m)	2m	Y
R2	Roadside	X 417180 Y 501125	NO ₂	N	Y (8m)	2m	Y
R3	Roadside	X 418066 Y 501490	NO ₂	N	Y (22m)	1m	Y
R4	Urban Background	X 418504 Y 501455	NO ₂	N	Y (250m)	2m	Y

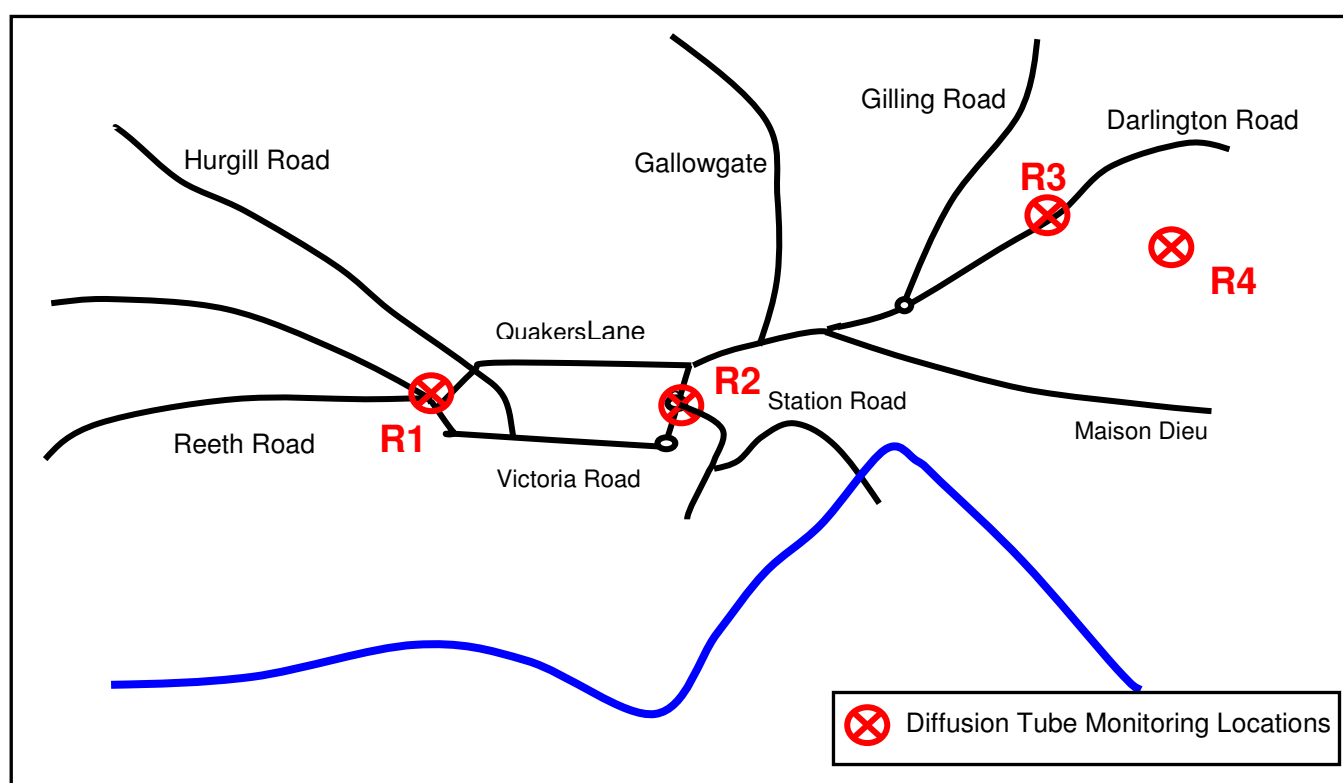
The tubes are positioned on lampposts adjacent to major roads running through Richmond. These locations were selected for the following reasons:

1. Richmond is the largest settlement in the District and therefore attracts the greatest volume of traffic;
2. Residential properties are located alongside these roads;
3. The route through Richmond is the main link from the A1 to Wensleydale and Swaledale.

Table 2.1 indicates the distances from the diffusion tube locations to the façade of the nearest residential dwelling. All have relevant exposure:

- R1 is located on a lamppost outside a property on the main road out of Richmond heading towards Wensleydale and Swaledale.
- R2 is located next to a roundabout at a junction in the centre of Richmond.
- R3 is located outside a children’s nursery on the main road into Richmond from the A1.
- R4 is located in a quiet estate 250m from the same road as the R3 location.

Figure 2.1 Map of Non-Automatic Monitoring Sites



A66 Trunk Road

The purpose of the nitrogen dioxide diffusion tube monitoring along the A66 Trunk Road is to re-assess the potential for an exceedance of the Air Quality Objective from the carriageway improvements undertaken in 2006 and 2007.

Diffusion tubes were exposed monthly at three locations from November 2007 to October 2008. Details of these locations are shown in Table 2.2. All are fixed at the facade of the buildings and are therefore relevant exposures.

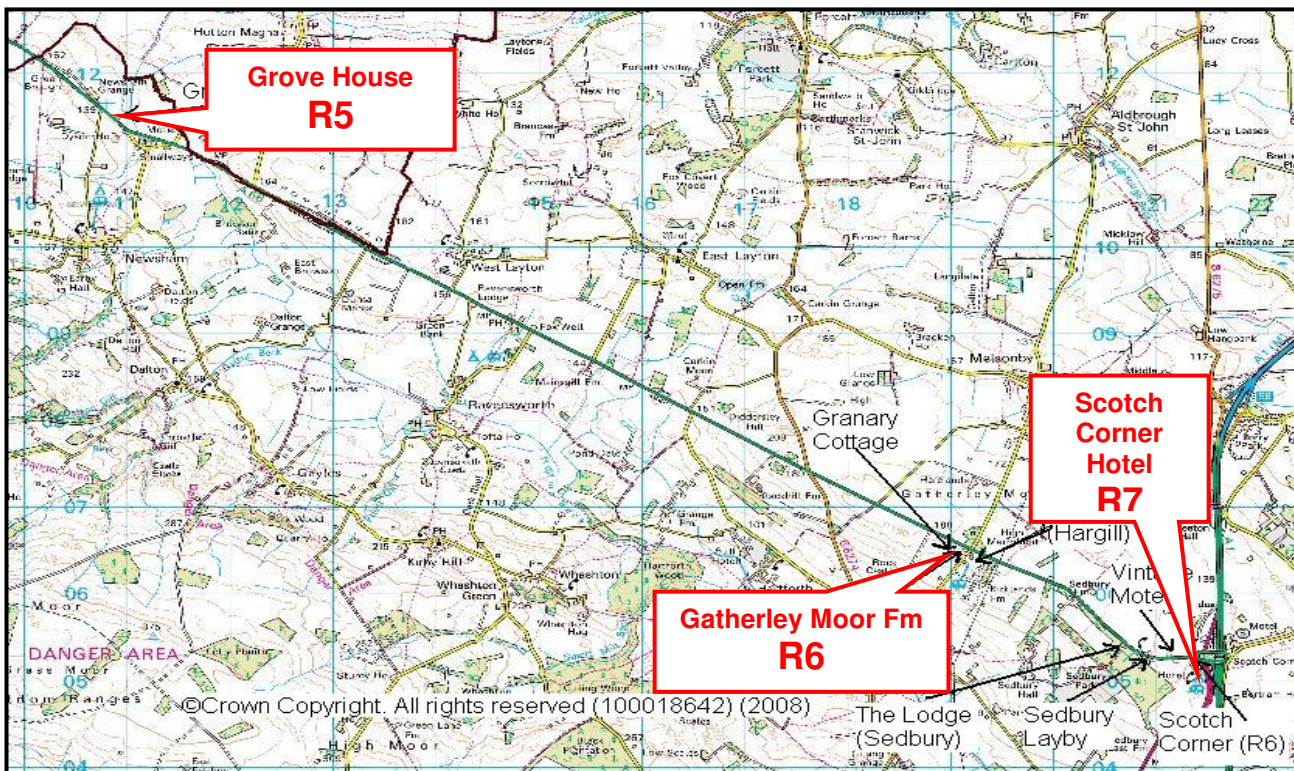
Following advice from the 2009 USA monitoring was continued from 30 Sept 2009.

A map of these locations is shown at Figure 2.2.

Table 2.2 Details of Non- Automatic Monitoring Sites Along the A66 Trunk Road

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 ?
R5 Grove House	Roadside	X 410902 Y 511462	NO ₂	N	Y (0m)	9m	Y
R6 Gatherley Moor Farm	Roadside	X 419207 Y 506509	NO ₂	N	Y (0m)	8m	Y
R7 Scotch Corner Hotel	Roadside	X 421366 Y 505261	NO ₂	N	Y (0m)	22m	Y

Figure 2.2 Location of Diffusion Tubes Along A66 Trunk Road



Not to scale

QA/QC Details of the Nitrogen Dioxide Diffusion Tube Survey

The diffusion tubes are supplied and analysed by Environmental Scientifics Group (ESG) - formerly Harwell Scientifics, Didcot, Oxfordshire, which is part of the WASP laboratory inter-comparison scheme. The tubes contain a mesh which is doped with 50% v/v triethanolamine (TEA) in acetone. They are exposed according to the monthly schedule supplied by AEA. Until the 31st March 2010 the diffusion tubes, although supplied by Harwell Scientifics, were analysed by Jesmond Dene Laboratory in Newcastle upon Tyne. The Jesmond Dene QA/QC arrangements are detailed in the 2010 Progress Report.¹⁰

A summary of the current QA/QC arrangements applied to the diffusion tubes is provided in Table 2.3.

Table 2.3 Nitrogen Dioxide Diffusion Tube Monitoring QA/QC

Supply	Environmental Scientifics Group (formerly Harwell Scientifics)
Analysis	Environmental Scientifics Group (formerly Harwell Scientifics)
Preparation Method	50% v/v TEA in acetone
Type of tube	Palmer tube
Type of absorbent	Doped triethanolamine mesh
Membership of inter-laboratory comparison scheme	WASP
Current Rating	Good
Method accreditation	UKAS
Conforms to Harmonisation Practical Guidance	Yes

The ESG laboratory conforms to the recent Harmonisation Practical Guidance “Diffusion Tubes Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users” AEA Energy and Environment (Feb 2008) and is rated “Good” under the new WASP performance criteria set by the Health and Safety Laboratory.¹¹

It is known that there are systematic differences in the performance of different laboratories and preparation methods of diffusion tubes. Figure 2.3 shows the studies that have been used to compare results from diffusion tubes (analysed by the same laboratory as used by Richmondshire District Council) to results of co-located automatic chemiluminescence monitors, where data has been collected for 9 months or more. The most recent data available for the Jesmond Dene Laboratory at the time of preparing this report is for the 2008 studies. Enquiries with the Air Quality Helpdesk confirmed that this bias adjustment factor should be used for the purpose of the 2010 assessment. As this figure is now two years out of date it has not been used for the 2011 Progress Report. The sole use of the current ESG bias adjustment factor for the whole year’s data errs on the side of caution by producing higher results than would have been calculated if the Jesmond Dene factor had been used (0.76 instead of 0.85) for the tubes analysed up to the end of March 2010.

From the ESG co-location studies it can be seen that the bias adjustment factor of 0.85 has therefore to be applied (multiplied) to the 2010 diffusion tube results (see Figure 2.3).

Figure 2.3 Environmental Scientifics Group (formerly Harwell Scientific Services) Bias Adjustment Factor

(source <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html> – 28th April 2011)

National Diffusion Tube Bias Adjustment Factor Spreadsheet Spreadsheet Version Number: 04/11

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

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory. Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1: Select the Laboratory that Analyses Your Tubes from the Drop-Down List
Step 2: Select a Preparation Method from the Drop-Down List
Step 3: Select a Year from the Drop-Down List
Step 4: Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor¹ shown in blue at the foot of the final column.

If a laboratory is not shown, we have no data for this laboratory.
 If a preparation method is not shown, we have no data for this method at this laboratory.
 If a year is not shown, we have no data.

If you have your own co-location study then see footnote¹. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@uk.bureauveritas.com or 0800 0327953

Analysed By ¹	Method ¹	Year ¹	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (0m) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ¹	Bias Adjustment Factor (A) (Cm/0m)
Harwell Scientific Services	50% TEA in Acetone	2010	R	Hambleton DC	11	26	18	46.6%	G	0.68
Harwell Scientific Services	50% TEA in Acetone	2010	R	Falkirk Council	11	37	31	18.6%	P	0.84
Harwell Scientific Services	50% TEA in Acetone	2010	UB	Falkirk Council	10	27	22	21.1%	P	0.83
Harwell Scientific Services	50% TEA in Acetone	2010	R	Swale BC	12	46	39	18.1%	G	0.85
Harwell Scientific Services	50% TEA in Acetone	2010	UC	Dover DC	12	44	42	5.2%	G	0.95
Harwell Scientific Services	50% TEA in Acetone	2010	B	Gravesham BC	10	36	27	31.8%	G	0.76
Harwell Scientific Services	50% TEA in Acetone	2010	I	Swale BC	10	25	30	-17.6%	G	1.21
Harwell Scientific Services	50% TEA in Acetone	2010	R	Tunbridge Wells BC	12	67	77	-13.5%	G	1.16
Harwell Scientific Services	50% TEA in Acetone	2010	B	Canterbury CC	12	21	18	15.4%	G	0.87
Harwell Scientific Services	50% TEA in Acetone	2010	R	Canterbury CC	12	48	34	41.7%	G	0.71
Harwell Scientific Services	50% TEA in Acetone	2010	R	Gravesham BC	11	42	36	16.5%	G	0.86
Harwell Scientific Services	50% TEA in Acetone	2010	UB	City of York Council	12	26	25	6.6%	G	0.94
Harwell Scientific Services	50% TEA in Acetone	2010	B	Gravesham BC	10	36	27	31.8%	G	0.76
Harwell Scientific Services	50% TEA in Acetone	2010	B	Stockton on Tees	12	30	27	10.5%	G	0.91
Harwell Scientific Services	50% TEA in Acetone	2010	R	Stockton on Tees	12	25	21	17.1%	G	0.85
Harwell Scientific Services	50% TEA in Acetone	2010	K	Marglebone Road Intercomparison	11	120	94	27.3%	G	0.79
Harwell Scientific Services	50% TEA in Acetone	2010	R	Yale of White Horse DC	12	39	32	23.6%	G	0.81
Harwell Scientific Services	50% TEA in Acetone	2010	R	Thanet DC	11	32	26	25.8%	G	0.79
Overall Factor¹ (18 studies)								Use		0.85

¹ For Casella Stanger/Bureau Veritas (NOT Bureau Veritas Labs) use Gradko 50% TEA in Acetone.
 For Casella Seal/GMSS/Casella CRE/Bureau Veritas Labs/Eurofins use Environmental Scientific Groups.
 For Staffordshire CC SS/Staffordshire County Analyst use Staffordshire Scientific Services.
 For Bodcote Health Sciences and Clyde Analytical Laboratories use Exova.
 For Rotherham MBC use South Yorkshire Labs.

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

The monitoring data for the seven nitrogen dioxide diffusion tubes is shown at Table 2.4.

Table 2.4 Nitrogen Dioxide Diffusion Tube Monitoring Data

Period		Nitrogen Dioxide Concentration $\mu\text{g}/\text{m}^3$ Tube Ref No						
Date On	Date Off	R1	R2	R3	R4	R5	R6	R7
02-Dec-09	08-Jan-10	27.4	33.6	23.8	16.5	34.9	26.4	29.2
08-Jan-10	03-Feb-10	32.1	36.9	26.5	18.6	34.2	21.9	29.6
03-Feb-10	05-Mar-10	33.0	38.8	25.6	16.9	38.8	19.2	30.3
05-Mar-10	31-Mar-10	17.0	10.1	14.3	9.3	22.8	13.3	17.5
31-Mar-10	28-Apr-10	21.4	28.9	15.7	6.9	29.7	15.0	22.9
28-Apr-10	02-Jun-10	12.7	21.0	missing	4.7	19.9	8.3	16.2
02-Jun-10	30-Jun-10	22.4	34.1	16.4	6.9	28.4	15.6	22.7
30-Jun-10	04-Aug-10	12.8	20.1	11.8	5.0	18.4	11.8	14.4
04-Aug-10	01-Sep-10	15.7	27.0	14.9	6.5	26.7	17.3	19.5
01-Sep-10	29-Sep-10	missing	30.9	76.8	9.1	26.5	15.3	21.3
29-Sep-10	03-Nov-10	19.2	27.5	18.7	8.8	27.9	13.0	20.4
03-Nov-10	01-Dec-10	21.3	32.8	23.9	12.9	30.4	18.4	16.8
01-Dec-10	05-Jan-11	26.0	25.8	27.5	16.3	34.1	20.5	22.3
Annual Mean		21.7	28.3	24.7	10.7	28.7	16.6	21.8

All concentrations corrected for bias adjustment factor = 0.85

The annual mean nitrogen dioxide concentration for 2006 to 2010 for the seven monitoring locations in Richmondshire are shown in Table 2.5.

Table 2.5 Annual Mean Nitrogen Dioxide Concentrations in Richmondshire 2006 – 2010

Site ID	Location	Within AQMA?	Annual mean concentrations($\mu\text{g}/\text{m}^3$) Adjusted for bias (Factor used shown under each year)				
			2006 (0.86)	2007 (0.79)	2008 (0.76)	2009 (0.76)	2010 (0.85)
R1	38 Victoria Road Richmond North Yorkshire DL10 4UA	No	22	21	20	19.0	21.7
R2	5 Queens Road Richmond North Yorkshire DL10 4AJ	No	27	27	23	24.6	28.3
R3	Ridgeway Nursery 47 Darlington Road Richmond North Yorkshire DL10 7BG	No	20	19	16	16.4	24.7
R4	1 White Rose Cres. Richmond North Yorkshire DL10 7DW	No	14	12	9	10.9	10.7
R5	Gatherley Moor Farm Gilling West Richmond North Yorkshire DL10 5LJ	No	No Data	No Data	24	18.3 [†]	28.7
R6	Grove House Newsham Richmond North Yorkshire DL11 7QR	No	No Data	No Data	17	15.7 [†]	16.6
R7	Scotch Corner Hotel Scotch Corner Middleton Tyas Richmond North Yorkshire DL10 6NR	No	No Data	No Data	21	21.4 [†]	21.8

[†] Annualised Means – see 2010 Progress Report.¹⁰

Table 2.5 indicates that the general trend of nitrogen dioxide concentrations within Richmond and along the A66 was falling, although 2010 saw a slight rise. This rise could potentially be explained by the change in analytical laboratory from April 2010 and the lack of a bias adjustment factor for the data provided by the Jesmond Dene laboratory up to the end of March 2010.

All concentrations are below the Annual Mean Air Quality Objective of $40\mu\text{g}/\text{m}^3$.

Research referred to in the technical guidance TG(09), issued by DEFRA, has shown that where the Annual Mean nitrogen dioxide concentration is less than $60 \mu\text{g}/\text{m}^3$ an exceedence of the 1-hour Air Quality Objective is unlikely, except for a few kerbside sites in London.

As all monitoring undertaken by Richmondshire District Council shows nitrogen dioxide concentrations to be well below this level, it is stated with some confidence that the **1-hour mean Air Quality Objective for nitrogen dioxide is unlikely to be exceeded.**

2.2.2 Summary of Compliance with AQS Objectives

Richmondshire District Council has examined the results from monitoring in the district. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

There have been no significant new local developments in the District since the publication of the 2009 Updating and Screening Assessment.

Richmondshire 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.

4 Local / Regional Air Quality Strategy

The monitoring undertaken to date has shown that there are no areas within the District that are close to exceeding any of the Air Quality Objectives. Richmondshire District Council has not currently prepared a Local Air Quality Strategy however with ongoing major improvements to the road network, this is being kept under review.

The Council has recently formed a formal partnership with Hambleton District Council for the delivery of its services. It is possible a new combined strategy may emerge following this, when the shared services regime is fully implemented.

5 Planning Applications

There have been no significant major planning application approved since the 2009 USA, however, we are aware of plans to further develop Catterick Garrison which could result in a significant increase in local traffic. This is being kept under review and air quality will be considered as part of the planning process and in future Air Quality Updating and Screening Assessments/Progress Reports if this is deemed necessary.

6 Air Quality Planning Policies

Work had commenced on the Draft Local Development Framework Core Strategy, however the Council has recently formed a formal partnership with Hambleton District Council for the delivery of its services which has caused a delay in the adoption of new policies.

7 Local Transport Plans and Strategies

In March 2008 the Richmondshire District Council Staff and Member Green Travel Plan was produced. The aim of the document is to encourage staff to reduce single occupancy car travel and consider alternative methods of travel to, from and during work. This is relevant to this report, as any reduction in car travel will reduce emissions associated with road transport, especially nitrogen dioxide and PM₁₀. The Travel Plan will be developed on an ongoing basis. The intention is that this plan should evolve to suit local needs and should be kept up-to-date. It is recommended that this travel plan is reviewed and updated annually and/or during periods of significant change to working practices and/or location. The Policy Officer (Sustainable Development) will monitor the progress of the Action Plan and will submit reports to Members as appropriate.

The Council has recently formed a formal partnership with Hambleton District Council for the delivery of its services. It is likely that new combined plans and strategies may emerge following this, when the shared services regime is fully implemented.

8 Climate Change Strategies

In February 2010 Richmondshire District Council adopted a *Climate Change Action Plan 2009-2014*.

The Action Plan details the Council's plans for tackling climate change in the following areas:

- Richmondshire District Council's own estate
- Transport
- Planning and Building Regulations
- Waste
- Business engagement

Delivery of the plan will have a beneficial effect on air quality in the district.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

Nitrogen dioxide monitoring in Richmond town centre and along the A66 trunk road has confirmed that there are no exceedences of the Air Quality Objectives for this pollutant.

9.2 Conclusions relating to New Local Developments

There have been no new developments since the publication of the previous Updating and Screening assessment.

9.3 Proposed Actions

As there is no need to continue to a Detailed Assessment for any of the pollutants covered by this report the next course of action for the Council in terms of air quality management will be to prepare the 2012 Updating and Screening Assessment.

10 References

- 1 Richmondshire District Council (1999) Stage 1 Air Quality Review and Assessment.
- 2 Laxen, D (December 1999) Air Quality Monitoring in Richmondshire
- 3 Richmondshire District Council (2003) Updating and Screening Assessment of Air Quality in the District of Richmondshire
- 4 Richmondshire District Council (2005) Detailed Assessment of Sulphur Dioxide Emissions from Domestic Solid Fuel Sources
- 5 Richmondshire District Council (2005) Air Quality in the District of Richmondshire Progress Report
- 6 Richmondshire District Council (2006) Updating and Screening Assessment of Air Quality in the District of Richmondshire.
- 7 Richmondshire District Council (2007) Air Quality in the District of Richmondshire – Progress Report.
- 8 Richmondshire District Council (2008) Air Quality in the District of Richmondshire – Progress Report.
- 9 Richmondshire District Council (2009) 2009 Updating and Screening Assessment of Air Quality for Richmondshire District Council
- 10 Richmondshire District Council (2010) Air Quality in the District of Richmondshire – Progress Report.
- 11 AEA (September 2010) WASP – Annual Performance Criteria for NO₂ Diffusion Tubes used in Local Air Quality

Appendix

List of Processes Regulated by an Environmental Permit

Part A1 Processes (Regulated by the Environment Agency)

None

Part A2 Processes (Regulated by the local authority)

None

Part B Processes (Regulated by the local authority for emissions to air)

As at 31st December 2010 there were 49 Part B processes regulated for emissions to air under the Environmental Permitting (England and Wales) Regulations 2007 comprising of 17 full Part B Permits (5 MEDIUM risk; 12 LOW risk) and 32 reduced fee processes, all of which were LOW risk.

The breakdown of processes by sector is as follows:

Process	Total permits
other mineral (including 18 mobile crushers)	23
bulk cement	7
di-isocyanate	2
Combustion	1
Timber	1
service station	9
WOB	4
dry cleaning	1
Vehicle refinishing	1
TOTAL	49

A summary of the Permitted Processes is shown below

Operator	Process	Permit Ref	Risk Rating
DSG Catterick	Vehicle refinishing	24/2006P	LOW
Banner Contracts (Halnaby) Ltd	17 No Mobile Crushers	Various	LOW
Barton Park	Petrol	30/2006P	LOW
Cemex UK Materials Ltd	Bulk Cement	7/2006P	LOW
Cemex UK Materials Ltd	Roadstone Coating/ Quarry	14/2004P	LOW
Cemex UK Materials Ltd	Bulk Cement	52/2007P	LOW
Chas Long	Bulk Cement	53/2007P	LOW
Dale Head Garage	Petrol	39/2006P	LOW
Darlington rd Garage	Petrol	40/2006P	LOW
Moto Services Scotch Corner	Petrol	31/2006P	LOW
Fast Fit (SG Petch)	WOB	44/2004P	LOW
Hansons Aggregates	Roadstone Coating/ Quarry	18/2006P	LOW
International Pipeline Products Ltd	Di-isocyanate	23/2006P	MED
Johnsons Cleaners Ltd	Dry Cleaning	51/2007P	LOW
Kenworth Ltd	Petrol	29/2006P	LOW
Leyburn Self Service	Petrol	26/2006P	LOW
Low Grange Quarry Ltd	Bulk Cement	45/2006P	LOW
Oakdale Contracts	Bulk Cement	13/2006P	MED
Pipeline Engineering Ltd	Di-isocyanate	50/2007P	LOW
Ravensworth Nurseries	Comb Solid Waste	47/2005P	MED
RDC Contracting Services	WOB	27/2004/P	LOW
Roadstone Ltd	Mobile crusher	41/2007P	MED
SG Petch Ltd	WOB	25/2006P	LOW
SG Petch Ltd	Petrol	27/2006P	LOW
Shell UK Ltd	Petrol	32/2006P	LOW
Sherburn Stone Ltd	Roadstone Coating	15/2006P	LOW
Sherburn Stone Ltd	Quarry (Mineral)	49/2006P	LOW
Tarmac	Quarry (Mineral)	16/2006P	LOW
Tarmac	Bulk Cement	54/2007P	LOW
Tesco Filling Station	Petrol	35/2010P	LOW
Thomas Armstrong Concrete Blocks Ltd	Bulk Cement	41/2009P	LOW
Weatherald Wood Components Ltd	Timber	6/2006P	LOW
Coates Garage	WOB	1/2004P	LOW