

Shropshire Local Air Quality Management Group

Progress Report 2008



Shrewsbury & Atcham
Borough Council
www.shrewsbury.gov.uk



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Abbreviations and Glossary

Abbreviations

BDC	Bridgnorth District Council
NSDC	North Shropshire District Council
OBC	Oswestry Borough Council
SSDC	South Shropshire District Council
SABC	Shrewsbury & Atcham Borough Council
SCC	Shropshire County Council
SCCSS	Staffordshire County Council Scientific Services
TWC	Telford & Wrekin Council
AQ	Air Quality
AQMA	Air Quality Management Area
AURN	Automatic Urban and Rural (air quality monitoring) Network
CO	Carbon Monoxide
Defra	Department for Environment, Food & Rural Affairs
EA	Environment Agency
IPPC	Integrated Pollution Prevention and Control
LAQM	Local Air Quality Management
LTA	Local Transport Authority
LTP	Local Transport Plan
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxide
Pb	Lead
PM ₁₀	Particulate matter with a (equivalent aerodynamic) diameter of ten microns (10 µm) or less
QA/QC	Quality Assessment/Quality Control
SO ₂	Sulphur dioxide
TEOM	Tapered Element Oscillating Microbalance
TPM	Total particulate matter
USA	Updating and Screening Assessment
UWE	University of the West of England

Glossary

Action Plan Where local authorities have designated any AQMAs, they have a duty to produce an action plan. This plan must set out what measures the authority intends to introduce in pursuit of the Air Quality Objectives.

Air Quality Objective 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 (see also air quality standard).

Air Quality Standard 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 (see also Air Quality Objective).

Annual mean The average of the concentrations measured for each pollutant for one year. In the case of the Air Quality Objectives this is for a calendar year.

AQMA Air Quality Management Area, an area which a local authority has designated for action, based upon predicted exceedences of Air Quality Objectives.

AURN Automatic Urban and Rural Network of air pollution measurement sites, managed by contractors on behalf of Defra and the Devolved Administrations.

Exceedence A period of time where the concentration of a pollutant is greater than the appropriate Air Quality Objective.

Fine particles, particulate matter, PM₁₀ Particles in air with an (equivalent aerodynamic) diameter of ten micrometres (10 µm, 10 micrometres) or less.

Micrometre (µm) (also referred to as a micron) one millionth of a metre.

mg/m³ (milligrammes per cubic metre of air) A unit for describing the concentration of air pollutants in the atmosphere, as a mass of pollutant per unit volume of clean air. This unit is one thousand times larger than the µg/m³ unit listed below.

µg/m³ (microgrammes per cubic metre of air) A measure of concentration in terms of mass per unit volume. A concentration of 1 µg/m³ means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.

Running mean 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 Objectives. For instance, an 8-hour running mean is calculated every hour, and averages the values for eight hours. The period of averaging is stepped forward by one hour for each value, so running mean values are given for the periods 00:00 – 07:59, 01:00 – 08:59 etc. By contrast a non-overlapping mean is calculated for consecutive time periods, giving values for the periods 00:00 – 07:59, 08:00 – 15:59 and so on. There are, therefore, 24 possible running 8-hour means in a day (calculated from hourly data) and 3 non-overlapping 8-hour means.

TEOM Tapering Element Oscillating Microbalance. Equipment used for measuring fine particulate matter such as PM₁₀.

1: Introduction

- 1.1: Part IV of the Environment Act 1995 places a duty on local authorities to periodically review and assess the quality of air within their area. This report takes account of the government policy¹ and technical² guidance for local authorities carrying out their Local Air Quality Management (LAQM) duties.
- 1.2: The overall aim of the progress report in line with government guidance is to:
- report progress on implementing local air quality management; and
 - report progress in achieving, or in many cases maintaining, concentrations below the air quality objectives.
- 1.3: This report contains information from the following six members of the Shropshire Local Air Quality Management group:
- a) Bridgnorth District Council (BDC)
 - b) North Shropshire District Council (NSDC)
 - c) Oswestry Borough Council (OBC)
 - d) Shrewsbury & Atcham Borough Council (SABC)
 - e) South Shropshire District Council (SSDC)
 - f) Telford & Wrekin Council (TWC)

2: Summary of Previous Reviews

- 2.1: The group published an Updating and Screening Assessment (USA) of local air quality in June 2006. This concluded the following:
- a) Bridgnorth District Council
 - No detailed assessment required for Carbon Monoxide, Benzene, 1-3 Butadiene, Lead, Sulphur Dioxide or PM₁₀.
 - Provisional annual PM₁₀ objectives for 2010 are predicted to be exceeded and therefore further assessment of PM₁₀ maybe required in the future if included in the Regulations.
 - A detailed assessment for Nitrogen Dioxide is required at two locations outside the AQMA, Whitburn Street and Lavington Court, where exceedences of the 2005 Objective have been measured.
 - It is recommended that the Council continue with its monitoring programme of nitrogen dioxide.

¹ Local Air Quality Management Policy Guidance LAQM.PG(03): Defra 2003

² Local Air Quality Management Technical Guidance LAQM.TG(03): Defra 2003

b) North Shropshire District Council

- No detailed assessment required for Carbon Monoxide, Benzene, 1-3 Butadiene, Lead, Nitrogen Dioxide, Sulphur Dioxide or PM₁₀.
- Provisional annual PM₁₀ objectives for 2010 are predicted to be exceeded and therefore further assessment of PM₁₀ maybe required in the future if included in the Regulations.
- It is recommended that the Council continue with its monitoring programme of nitrogen dioxide.

c) Oswestry Borough Council

- No detailed assessment required for Carbon Monoxide, Benzene, 1-3 Butadiene, Lead, Nitrogen Dioxide, Sulphur Dioxide or PM₁₀.
- Provisional annual PM₁₀ objectives for 2010 are predicted to be exceeded and therefore further assessment of PM₁₀ maybe required in the future if included in the Regulations.
- It is recommended that the Council continue with its monitoring programme of nitrogen dioxide.

d) Shrewsbury and Atcham Borough Council

- No detailed assessment required for Carbon Monoxide, Benzene, 1-3 Butadiene, Lead, Nitrogen Dioxide, Sulphur Dioxide or PM₁₀.
- Exceedences of objective limits of Nitrogen Dioxide are measured and predicted at a number of busy roads and junctions in the Borough, although all fall within the boundaries of the existing AQMA and therefore a detailed assessment of Nitrogen Dioxide is not required.
- Provisional annual PM₁₀ objectives for 2010 are predicted to be exceeded and therefore further assessment of PM₁₀ maybe required in the future if included in the Regulations.
- It is recommended that the Council continue with its monitoring programme of nitrogen dioxide.

e) South Shropshire District Council

- A detailed assessment required for Benzene at a residential property close to a petrol station
- A detailed assessment required for Nitrogen Dioxide from road traffic in Ludlow and Craven Arms
- No detailed assessment required for Carbon Monoxide, 1-3 Butadiene, Lead, Sulphur Dioxide or PM₁₀.

f) Telford and Wrekin Council

- No detailed assessment required for Carbon Monoxide, Benzene, 1-3 Butadiene, Lead, Nitrogen Dioxide, Sulphur Dioxide or PM₁₀.
- Provisional annual PM₁₀ objectives for 2010 are predicted to be exceeded and therefore further assessment of PM₁₀ maybe required in the future if included in the Regulations.
- It is recommended that the Council continue with its monitoring programme of nitrogen dioxide.

2.2: The full USA report can be viewed and downloaded at:

www.northshropshiredc.gov.uk/static/page249.htm

2.2: As a result of the USA Bridgnorth and South Shropshire District Councils undertook the following detailed assessments:-

a) Bridgnorth District Council

- A Further Assessment of the Air Quality Management Area was carried out in 2006. The Further Assessment revealed that the NO₂ levels in the AQMA are still likely to exceed the annual mean Air Quality Strategy Objective.
- A Detailed Assessment has been carried out for Underhill Street, Bridgnorth and this confirmed that the NO₂ annual average AQS objective was likely to be exceeded. It has been decided to install additional monitoring sites and a real time monitoring station in Underhill Street prior to declaring an AQMA. DEFRA approved the Detailed Assessment's conclusions in early 2008.
- The Draft Air Quality Action Plan was published in March 2008 and was published in its final form in October 2008

b) South Shropshire District Council

- A detailed assessment of Benzene in Ludlow concluded that the air quality objective was not being breached and that it was extremely unlikely that the 2010 objective would be breached.
- A detailed assessment of NO₂ in Ludlow concluded that modelling for NO₂ at one location was necessary due to the possibility of a future exceedence of the objective shown by the 2006 results. This work is ongoing.
- A detailed assessment of NO₂ in Craven Arms concluded that there is unlikely to be an exceedence of the air quality objective.

3: New Monitoring Results

3.1: Nitrogen dioxide (NO₂)

OBJECTIVE by 31 December 2005: 200 micrograms per cubic metre, when expressed as an hourly mean, not to be exceeded more than 18 times a year. 40 micrograms per cubic metre, when expressed as an annual mean.

All authorities in the group use diffusion tubes for passive monitoring of NO₂. The results of this diffusion tube monitoring are shown in the relevant appendices within this report; for maps showing the locations of the tubes, please refer to the previous Progress Report of 2005 which can be viewed and downloaded from:

www.northshropshiredc.gov.uk/static/page249.htm

SABC and OBC also undertake continuous monitoring of NO₂. Further details of this can be found in Appendices 3 and 4.

3.2: Fine Particulate Matter (PM₁₀)

OBJECTIVE by 31 December 2004: 50 micrograms per cubic metre, when expressed as a 24-hour mean, not to be exceeded more than 35 times per year. 40 micrograms per cubic metre, when expressed as an annual mean.

SABC has undertaken particulate monitoring at locations of public exposure for particulates from Bayston Hill Quarry. The results of the 2004 monitoring are tabulated in the detailed report that has been submitted to Defra³. There has been no deterioration in the operating regimes at the site since then, nor has there been a greater number of exceedences than permitted by the objective.

3.3: Sulphur dioxide (SO₂)

OBJECTIVE by 31 December 2004: 350 micrograms per cubic metre, when expressed as an hourly mean, not to be exceeded more than 24 times per year. 125 micrograms per cubic metre, when expressed as a daily mean, not to be exceeded more than 3 times per year.

OBJECTIVE by 31 December 2005: 266 micrograms per cubic metre, when expressed as a 15-minute mean, not to be exceeded more than 35 times per year.

³ SABC Detailed Assessment of Air Quality – Particulate Matter (PM₁₀) - Nov 2004

SABC and TWC use continuous monitoring data from two sites in Telford run by E.ON UK (the operators of Ironbridge Power Station) as a condition within the Environment Agency IPPC permit. The data is supplied as quarterly statistics via the Environment Agency. Information is contained in the detailed assessment that was submitted to Defra in May 2005⁴. There have been no changes in the operating regimes at the site since that date, nor have there been any reported exceedences.

4: Nitrogen Dioxide Diffusion Tube Bias.

4.1: Individual local authorities use different tube suppliers and laboratories to analyse their diffusion tubes. These are as follows:

Local Authority	Laboratory	Tube Preparation Method
BDC	Gradko	20% TEA in water
NSDC	Staffordshire County Council Scientific Services	50% TEA in water
OBC	Gradko	20%TEA in Water
SSDC	Gradko	20%TEA in Water
SABC	Gradko	20%TEA in Water
TWC	Gradko	50% TEA in Acetone

4.2: Diffusion tube measurements are subject to considerable variation and may significantly over or under read when compared to continuously monitored NO₂ concentrations; termed bias. Recent reviews show that the main factor affecting tube performance is the laboratory and it is recommended that results from diffusion tube analyses should be bias adjusted using the results from co-location studies carried out in the same year. The group uses NO₂ bias correction factors from the University of West of England (UWE) website:

www.uwe.ac.uk/aqm/review/diffusiontube300307.xls

4.3: SABC and OBC also co-locate diffusion tubes with continuous analysers to allow assessment of local bias factors and to feed into the UWE national network.

⁴ BDC, BTW and SABC Detailed Assessment of Air Quality – Sulphur Dioxide (SO₂) from Ironbridge Power Station – May 2005

5: Local Transport Plan

- 5.1: The group has worked with Shropshire County Council and TWC to feed local air quality information into the Local Transport Plan (LTP).
- 5.2: Local Transport Plans have to demonstrate four shared priorities:
- tackling congestion;
 - delivering accessibility;
 - safer roads; and
 - better air quality.
- 5.3: Road traffic accounts for over half the total emissions of nitrogen oxides and fine particulate matter in the country. Where transport is the primary factor in declaring an Air Quality Management Area, Local Transport Authorities should integrate Air Quality Action Plans into the LTP.
- 5.4: The LTP has now been finalised and money has been allocated by SCC and TWC for progressing Environmental and Air Quality objectives within each Council area.

6: Conclusions

- 6.1: Any existing or potential exceedences of the Air Quality Objectives within Shropshire are being examined and addressed as far as possible. Further monitoring is being carried out where necessary in order to gain a more detailed understanding of the results shown.
- 6.2: Future trends in levels of pollutants will be examined to determine if additional monitoring will be required.
- 6.3: The next Updating and Screening Assessment is due in April 2009.

APPENDIX 1: BRIDGNORTH

A1.1: Industrial Developments: Bridgnorth

Part A2 Installations

There are no new Part A2 installations within BDC

Part B Installations

The following Part B installations have opened or been granted a permit since the USA of 2006.

Company	Process	Pollutants	Easting	Northing
Elite Precast Limited	Blending, packing, loading and use of bulk cement	Particulates	359756	298236
Rutter's Garage	Unloading of petrol into stationary storage tanks	Petrol vapour / benzene	371274	293088
Faintree Garage	Waste Oil Burner <0.4MW rated thermal input	Particulates, lead and other metals	371617	292604

A1.2: New Major Developments: Bridgnorth

The following applications for housing and other developments that may have a significant effect on air quality have received planning approval since the last Progress Report of 2007.

Application No.	Location	Proposal	Decision Date
FUL/08/0068	Eudon Burnell, Bridgnorth WV16 6UD	Erection of a free-range unit	25/03/08
FUL/08/0002	The Countess Arms, Weston Heath, Shifnal TF11 8RY	Erection of a two storey block of hotel accommodation and alterations to existing block of staff accommodation	-
FUL/07/0951	Lady Forester Memorial Hospital, Farley Road, Much Wenlock TF13 6NB	Erection of 33 dwellings and construction of new vehicular access	Appeal in progress
FUL/07/0900	Land north of 20 Northgate,	Construction of part of relief road and	18/12/07

	Bridgnorth	Northgate junction – revised layout	
FUL/07/0547	Lady Forester Memorial Hospital, Farley Road, Much Wenlock TF13 6NB	Alterations and extensions to provide 21 elderly care apartments with associated community facilities	-
FUL/07/0776	Land off Avenue Road, Broseley, TF12 5DL	Erection of 14 dwellings and construction of new vehicular access	-
FUL/07/0681	Bridgnorth College Site, Stourbridge Road, Bridgnorth	Erection of 70 apartments, 36 dwellings, new access road and associated works	-
FUL/06/1000	Land in Much Wenlock road, Bridgnorth	Erection of 217 dwellings, 100 apartments, new access roads and associated works	28/11/07

A1.3: Diffusion Tubes in Bridgnorth

Bridgnorth District Council currently monitors NO₂ at 47 sites across the District, based on a network of diffusion tubes (40 are located in Bridgnorth). The diffusion tubes are supplied and analysed by Gradko International Limited utilising the 20% TEA in water preparation method.

NO₂ Diffusion tube concentrations

Tube ID	Location	Coordinates		Original Annual Mean NO ₂ Concentration (µg/m ³)						
		X	Y	2001	2002	2003	2004	2005	2006	2007
1	Whitburn Street	371548	293258	41.1	41.2	51.7	42.8	42.5	46.2	50.9
2	Church Street	371637	293297	24.1	22.4	29.1	23.2	25.4	23.4	24
3	Princess Drive	370789	294030	16.5	15.5	18.2	13.7	15.6	14.6	16.2
4	Morfe Road	372295	292999	18.8	17.9	23.4	15.5	15.8	15.7	16.5
5	Kidderminster Road	372161	292440	31.2	29.7	40.5	31.8	32.3	32.4	35.1
6	Woodlands Road	367238	302674			17.2	12.4	12.7	12.5	13.3
7	Admirals Park	375066	308813			24.7	20.2	20.4	19.3	20.3
8	Tong island M54	379880	306676			33.2	28.8	30	28.5	31.5
9	Town Hall	371624	293178				33.6	31.4	31	33.3
10	Moat Street	371569	293344				38.3	38.1	35.9	41.9
11	Whitburn Street 2	371429	293192				30.7	28.5	31.6	29.2
12	St Marys Street	371423	292440				26.1	24.7	23.6	27.1

Tube ID		Coordinates		Original Annual Mean NO ₂ Concentration (µg/m ³)						
	Location	X	Y	2001	2002	2003	2004	2005	2006	2007
13	Pound Street	371345	293081				46.2	45.5	45.8	54.3
14	West Castle Street	371636	292933				24.4	26.1	24.3	25.6
15	Ebenezer Row	371520	292885				31.8	33.2	32.9	35
16	Lavington Court	371790	292819				44.1	42.6	42.3	46.5
17	Underhill Street	371809	292969				30	29	28	30.4
18	Charles Fox	372155	292961				30.1	31	29.5	32.3
19	Mill St	372060	293129				38.6	39.9	36.7	41.6
20	Bryan & Knott	371580	293257					39.2	42.1	42.5
21	NAT WEST	371597	293214					26.7	27.4	29.5
22	Wetherspoon	371590	293288					33.8	33.7	37.2
23	Simply the Best	371507	293233					35.8	38	41
24	Travel Wallet	371492	293215					35.3	38.8	37.9
25	Citizens Advice Bureau	371355	293140					33	31.1	33.8
26	Majestic Cinema	371450	293188					29.4	31.8	31.3
27	Smithfield	371393	293189					29.4	32.3	33.2
28	50 Whitburn Street	371323	293132					53.5	56.6	70.7
29	Adj Rutters	371289	293106					34.6	36.3	41.3
30	10 Salop Street	371259	293123					28.9	28.2	31
34	Southalls Tobacconist	371614	293060					27.8	27.4	29.8
35	Trevor Phillips Opticians	371652	293069					28.3	28.7	29.9
36	WH SMITH	371634	293092					26.8	26.5	28.2
37	The Shakespeare	371652	293016					31.6	31.8	34.5
38	Old Post Office	371643	293028					25.6	25.9	27.4
39	Bridge 55	371638	293151					30.1	30.2	33.2
40	Market House	371590	293045					22.9	23.2	24.3
41	Elcock Reisen	371546	293365					32.9	34.6	34.3
42	Westgate House	371186	293161					25.2	25.2	29.9
43	Opposite Endowed School	371524	293430					35	36.5	37.4
44	Woodlands Road	367308	302705					12	12.5	15.02
45	Delphside	367486	301704					17.1	17.3	18.8
46	High Street- Club	367292	301902					20.1	21.1	21.1
47	Broseley C of E School	367788	302103					12.8	12.7	15.6
48	Library	371524	293017					28.1	29.1	28
49	45 Listley Street	371419	293020					26.5	24.5	27.4
50	30a Salop Street	371220	293124					37	37.8	41.4
51	Sheinton House	362190	300319							33.4
52	39 Sheinton Street	362233	300261							25
53	Gaskell Corner	362099	299775							33.1

Green = Sites now discontinued ; Blue = new sites in Much Wenlock ; Yellow = Results from within AQMA

A bias correction factor has been applied to the data as shown in the table A2:

Table A2: Table to show the bias factors used to correct the annual mean NO₂ measurement results.

Year	Bias Factor	Number of studies
2001*	1.00	14
2002	1.00	14
2003	0.96	12
2004	0.91	11
2005	0.97	14
2006	0.98	10
2007	0.89	17

*NB: No national bias factor exists for the year 2001 so the national bias factor for 2002 has also been applied to 2001.

The results of the monitoring for the years 2001 to 2007 are shown in Table A3.

Bias Corrected Annual Mean NO₂ Concentration (µg/m³)

Tube ID	Location	Coordinates		Bias Corrected Annual Mean NO ₂ Concentration (µg/m ³)						
		X	Y	2001	2002	2003	2004	2005	2006	2007
1	Whitburn Street	371548	293258	41.1	41.2	49.6	38.9	41.2	45.3	45.3
2	Church Street	371637	293297	24.1	22.4	27.9	21.1	24.6	22.9	21.4
3	Princess Drive	370789	294030	16.5	15.5	17.5	12.5	15.1	14.3	14.4
4	Morfe Road	372295	292999	18.8	17.9	22.5	14.1	15.3	15.4	14.7
5	Kidderminster Road	372161	292440	31.2	29.7	38.9	28.9	31.3	31.8	31.2
6	Woodlands Road	367238	302674			16.5	11.3	12.3	12.3	11.8
7	Admirals Park	375066	308813		-	23.7	18.4	19.8	18.9	18.1
8	Tong island M54	379880	306676		-	31.9	26.2	29.1	27.9	28.0
9	Town Hall	371624	293178				30.6	30.5	30.4	29.6
10	Moat Street	371569	293344				34.9	37.0	35.2	37.3
11	Whitburn Street 2	371429	293192				27.9	27.6	31.0	26.0
12	St Marys Street	371423	292440				23.8	24.0	23.1	24.1
13	Pound Street	371345	293081				42.0	44.1	44.9	48.3
14	West Castle Street	371636	292933				22.2	25.3	23.8	22.8
15	Ebenezer Row	371520	292885				28.9	32.2	32.2	31.2
16	Lavington Court	371790	292819				40.1	41.3	41.5	41.4
17	Underhill Street	371809	292969				27.3	28.1	27.4	27.1
18	Charles Fox	372155	292961				27.4	30.1	28.9	28.7
19	Mill St	372060	293129				35.1	38.7	36.0	37.0
20	Bryan & Knott	371580	293257					38.0	41.3	37.8
21	NAT WEST	371597	293214					25.9	26.9	26.3
22	Wetherspoon	371590	293288					32.8	33.0	33.1

Tube ID	Location	Coordinates		Bias Corrected Annual Mean NO ₂ Concentration (µg/m ³)						
		X	Y	2001	2002	2003	2004	2005	2006	2007
23	Simply the Best	371507	293233					34.7	37.2	36.5
24	Travel Wallet	371492	293215					34.2	38.0	33.7
25	Citizens Advice Bureau	371355	293140					32.0	30.5	30.1
26	Majestic Cinema	371450	293188					28.5	31.2	27.9
27	Smithfield	371393	293189					28.5	31.7	29.5
28	50 Whitburn Street	371323	293132					51.9	55.5	62.9
29	Adj Rutters	371289	293106					33.6	35.6	36.8
30	10 Salop Street	371259	293123					28.0	27.6	27.6
34	Southalls Tobacconist	371614	293060					27.0	26.9	26.5
35	Trevor Phillips Opticians	371652	293069					27.5	28.1	26.6
36	WH SMITH	371634	293092					26.0	26.0	25.1
37	The Shakespeare	371652	293016					30.7	31.2	30.7
38	Old Post Office	371643	293028					24.8	25.4	24.4
39	Bridge 55	371638	293151					29.2	29.6	29.5
40	Market House	371590	293045					22.2	22.7	21.6
41	Elcock Reisen	371546	293365					31.9	33.9	30.5
42	Westgate House	371186	293161					24.4	24.7	26.6
43	Opposite Endowed School	371524	293430					34.0	35.8	33.3
44	Woodlands Road	367308	302705					11.6	12.3	13.4
45	Delphside	367486	301704					16.6	17.0	16.7
46	High Street- Club	367292	301902					19.5	20.7	18.8
47	Broseley C of E School	367788	302103					12.4	12.4	13.9
48	Library	371524	293017					27.3	28.5	24.9
49	45 Listley Street	371419	293020					25.7	24.0	24.4
50	30a Salop Street	371220	293124					35.9	37.0	36.8
51	Sheinton House	362190	300319							29.7
52	39 Sheinton Street	362233	300261							22.3
53	Gaskell Corner	362099	299775							29.5

Green = Sites now discontinued ; Blue = new sites in Much Wenlock ; Yellow = Results from within AQMA

The NO₂ annual average AQS Objective of 40µg/m³ has been exceeded consistently over the last three years at four locations within Bridgnorth town centre,

Two of these locations are within the AQMA (ND13 Pound Street and ND28 Whitburn Street (outside no. 50)). The Air Quality Action Plan for the AQMA has recently been published (copy can be viewed at www.bridgnorth-dc.gov.uk/EnvironmentAndPlanning/Pollution/PollutionControl-AirQuality2). This Action Plan contains measures designed to reduce pollutant concentrations within this area.

Location ND1 Whitburn Street (east) also exceeds the Objective, with several other sites in this area having concentrations close to the Objective. Site ND1 was scrutinised in the Further Assessment 2006 and it was concluded that it did not represent relevant public exposure. (copy can be viewed at www.bridgnorth-dc.gov.uk/EnvironmentAndPlanning/Pollution/PollutionControl-AirQuality2)

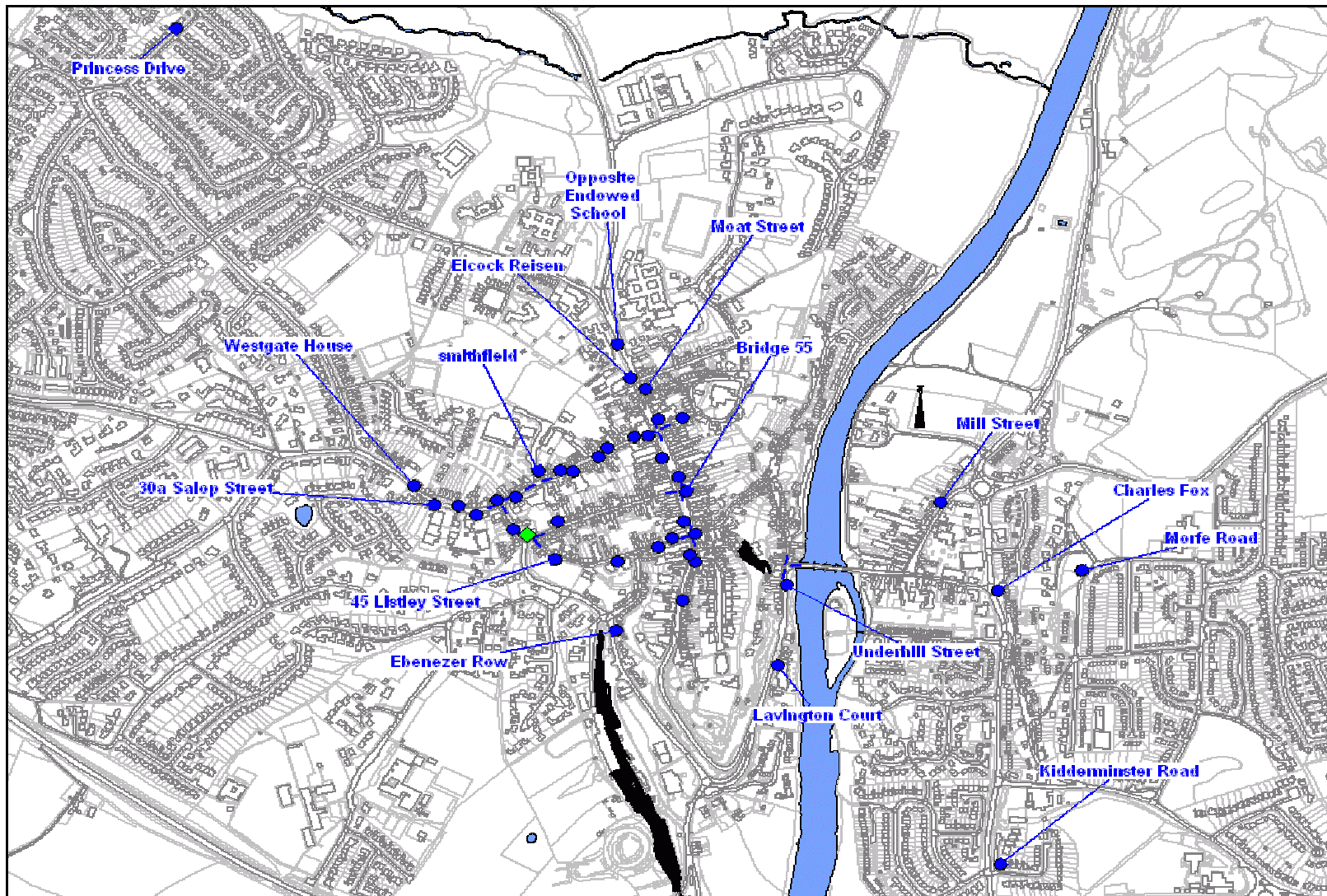
Tube ND16 in Lavington Court also exceeds the 40µg/m³ Objective. A Detailed Assessment has been undertaken of this area, which indicated exceedences are likely at residential properties. A continuous monitoring station has been purchased and will be installed in January 2009 to allow further data collection for NO₂ as well as NO and NO_x. Further diffusion tubes are also being installed along Underhill Street. This will provide a much greater data set and should the results confirm the modelling data from the Detailed Assessment, may lead to the declaration of a new Air Quality Management Area covering this locality.

Three of the locations in Broseley, ND44, ND45 and ND47, were discontinued, results from these 3 locations had consistently been well below the Objective, and unless some local significant change occurs, are expected to remain at these concentrations.

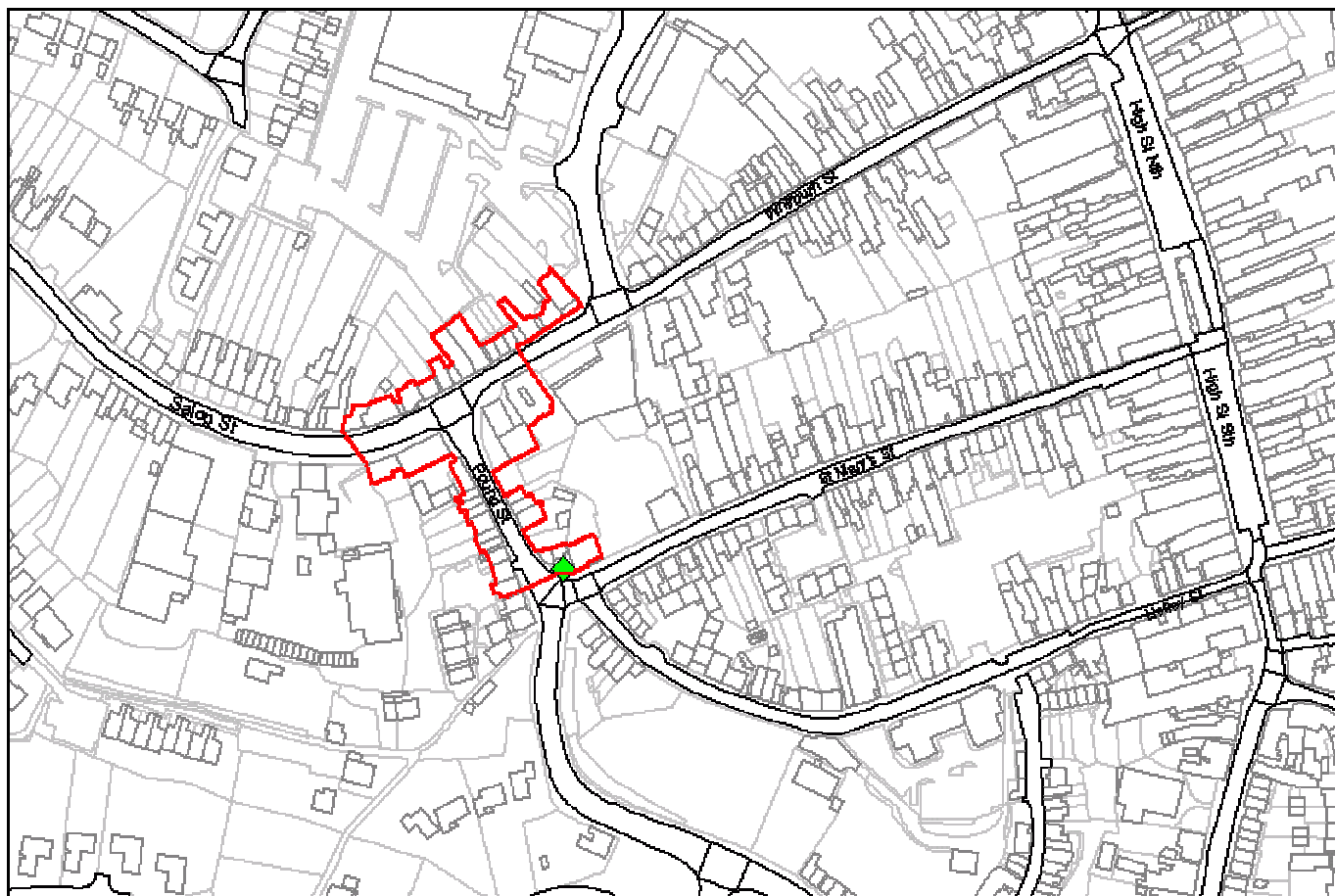
Three new monitoring locations were introduced during 2007 in Much Wenlock (using the equipment from the discontinued Broseley sites). Some residents of Much Wenlock have expressed concerns over traffic flows passing through the town, especially HGV's, congestion and the fact that the town is in a dip, which may reduce dispersion of pollutants. The monitoring has been introduced specifically to investigate these concerns. Results so far indicate concentrations below the annual mean Objective, but monitoring will continue to build up a greater data set.

Ironbridge Power Station although within Telford & Wrekin's borough, has a potential impact on the air quality of parts of the Bridgnorth district close to the edge of the district boundary. Telford & Wrekin Council closely monitors air quality in this area and any exceedences of air quality objectives would be notified to Bridgnorth District Council.

Another potential air quality issue within the district of Bridgnorth is the Severn Valley Railway. There is a residential property located next to Bridgnorth's steam railway station and monitoring was undertaken of sulphur dioxide levels potentially affecting the premises. However, the premises are no longer occupied so no further monitoring has been undertaken.



Location of diffusion tubes within Bridgnorth



Bridgnorth Air Quality Management Area

APPENDIX 2: NORTH SHROPSHIRE

A2.1: New and Altered Industrial Developments: North Shropshire

Part A1 Installations

The Environment Agency has granted permits for the following Part A1 processes since the last Progress Report of 2007:

Company	Process	Emissions to Air	Easting	Northing
Llynclys Farm Ltd, Heatherstone Farm	Intensive Farming	Particulates, Ammonia	3565	3356
Llynclys Farm Ltd, Stoke Heath Farm	Intensive Farming	Particulates, Ammonia	3652	3288
LW Gough & Son	Intensive Farming	Particulates, Ammonia	3456	3225
JA & O Griffiths & Sons	Intensive Farming	Particulates, Ammonia	5406	2969
RG & KM Price & Son	Intensive Farming	Particulates, Ammonia	5194	3274
Partons Poulets Limited	Intensive Farming	Particulates, Ammonia	6887	4009
Heal Eggs Ltd	Intensive Farming	Particulates, Ammonia	5838 5836	2358 2272
Alan Simpson Farming	Intensive Farming	Particulates, Ammonia	5788	3258
David Davies & Co	Intensive Farming	Particulates, Ammonia	5771	1922

The Environment Agency is currently processing applications for the following installations:

Company	Process	Emissions to Air	Easting	Northing
Highbury Poultry Farm Produce Ltd	Treatment of Animal and Vegetable Matter and Food Industries	Particulates, Ammonia	5603	3527
J & E Ford	Intensive Farming	Particulates, Ammonia	3515	3362
Oakland Farm Eggs Ltd	Intensive Farming	Particulates, Ammonia	3511	3327

Part A2 Installations

There are no A2 permitted installations within NSDC

Part B Installations

The following Part B Processes have opened since the last Progress Report of 2007:

Company	Process	Pollutants	Easting	Northing
Quality Cleaners, Whitchurch	Dry Cleaning	VOCs	5424	4136
Wem Dry Cleaners	Dry Cleaning	VOCs	5136	2887

A2.2: New Major Developments: North Shropshire

The following applications for housing and other developments that may affect air quality have received planning approval since the last Progress Report of 2007.

App No.	Location	Proposal	Decision Date
07/00225/FUL	Land Off Chapel Road Hadnall Shropshire	Residential development of 30no. dwellings to include affordable housing; formation of estate roads and pedestrian access and including diversion of public right of way; formation of recreational space with access off A49	12.04.07

App No.	Location	Proposal	Decision Date
07/00460/FUL	Phoenix Garage Great Hales Street Market Drayton Shropshire TF9 1JW	Erection of 14no. dwellings comprising mixed development of 2 and 3 storey mews houses and apartments; alterations to existing vehicular access; creation of estate roads, parking and amenity areas	31.05.07
07/00582/OUT	Land Adjacent St Mary's Croft Berrisford Road Market Drayton Shropshire	Outline application for residential development comprising of 6no dwelling; alterations to existing vehicular access and construction of new estate roads	09.05.07
07/00594/FUL	Alford Farm Myddle Shropshire SY4 3RP	Erection of 14no dwellings; formation of estate roads with alterations to existing vehicular access	30.05.07
07/00739/DET	Land At Shrewsbury Road Cockshutt Shropshire	Approval of Reserved Matters, (siting, design, external appearance and landscaping) for the proposed development at Shrewsbury Road, Cockshutt, N/05/1054/CO/259outline, granted 01.12.2006.	05.07.07
07/00826/FUL	Marley Grove 48 Belton Road Whitchurch Shropshire SY13 1JA	Mixed residential development of 13no. detached and terraced dwellings; formation of parking areas and estate road	05.07.07
07/00851/OUT	Manor Farm Crow Lane Childs Ercall Shropshire TF9 2DG	Outline application for the erection of 20 dwellings, to include 8 affordable units and erection of village shop and formation of formal village green and associated access	05.07.07
07/00933/FUL	3 Stafford Street Market Drayton Shropshire TF9 1HX	Erection of building comprising 12no. apartments; conversion of existing dwelling to form 2no. apartments and conversion of outbuilding to form 1no.apartment; alterations to existing vehicular access; provision of car parking and amenity areas	03.08.07
07/01083/FUL	The Wharf Mill Street Whitchurch Shropshire SY13 1SA	Erection of building comprising 60no. category II type sheltered apartments for the elderly; separate block of 12no. affordable flats; landscaped gardens/amenity areas; car parking areas; formation of vehicular/pedestrian accesses	31.07.07

App No.	Location	Proposal	Decision Date
07/01145/FUL	Market Drayton Cricket Hockey & Squash Club Betton Road Market Drayton Shropshire TF9 1HH	Residential development comprising 47 apartments in 5no. blocks; erection of club pavilion to include changing facilities, function room, bar and kitchen; provision of squash court; formation of new vehicular accesses, estate roads; associated parking areas and amenity areas; landscaping scheme	28.08.07
07/01210/FUL	Land To Rear Of Sheraton House St Johns Hill In Birch Road Ellesmere Shropshire	Erection of 12 dwellings with associated access and drainage works	20.09.07
07/01470/FUL	General Whitebrook Meadow Prees Shropshire	Proposed residential development of 25 dwellings to include 10 affordable units	15.02.08
07/01637/OUT	Land At Heath Road Whitchurch Shropshire	Outline application (vehicular access) for the creation of business park to include B1 Offices, Research and Development Use (Phase 1)	5.10.07
07/01624/DET	Land Off Harris Croft Wem Shropshire	Approval of Reserved Matters (Layout, Scale, Appearance and Access) for the proposed residential development (N/06/443/WU/1313 Outline) granted 24.07.2007	15.11.07
07/01816/DET	Former Site Of Phoenix Rubber Ltd Pipe Gate Market Drayton Shropshire TF9 4HY	Approval of Reserved Matters (siting, design, means of access, landscaping) for the mixed development of 25no. dwellings (N/06/25/WO/39 OUTLINE)	10.12.07
07/01996/FUL	Amos Liverpool Road Whitchurch Shropshire SY13 1SW	Mixed residential development of 14no. houses; formation of estate road with alterations to existing vehicular access; erection of entrance walls and piers, boundary fencing and walls	15.01.08
07/02031/FUL	The Lodge 67 Alexandra Road Market Drayton Shropshire TF9 3HU	Proposed erection of 2no detached dwellings with garaging, erection of 10no apartments with alterations to vehicular access following demolition of existing dwelling House	10.01.08

App No.	Location	Proposal	Decision Date
07/02141/FUL	Pet Market Shrewsbury Road Market Drayton Shropshire TF9 3EG	Proposed residential development comprising of 6 town houses, 4 apartments and 1 detached three bed dwelling and formation of parking areas	20.12.07
07/02377/FUL	Wytheford House Wytheford Shawbury Shrewsbury Shropshire SY4 4JJ	Replacement of 3 poultry buildings with two new poultry buildings	11.03.08
08/00221/FUL	Hawkstone Abbey Farm Weston Under Redcastle Shrewsbury Shropshire SY4 5LN	Erection of cattle housing building	28.03.08
07/02420/OUT	Tern Valley Business Park Shrewsbury Road Market Drayton Shropshire	Outline application (vehicular access) for the development of an extension (Phase 2) of the Tern Valley Business Park for employment uses (B1,B2 and B8 uses); provision of a landscaped community recreation area; re-alignment of public footpath; landscaping scheme	06.03.08

A2.3: Diffusion Tubes in North Shropshire

The Council monitors NO₂ by diffusion tubes at 13 sites across the district. Two of these sites were installed in September 2005 near to properties close to busy roundabouts so as to represent the worst-case locations near to trunk roads in the area.

NO₂ Diffusion tube concentrations

Tube ID	Location	Coordinates		Original Annual Mean NO ₂ Concentration (µg/m ³)				
		X	Y	2003	2004	2005	2006	2007
1	Coton	352949	334866	9.7	7.9	9.37	8.31	7.10
2	Brownlow St, W'ch	354340	334148	28.8	26.2	30.90	27.55	26.02
3	Prees Heath	355720	337966	29.3	28.1	28.21	29.13	26.22
4	Tern Hill	363579	332212	33.5	38.9	31.36	36.13	40.43
5	Frogmore Rd, M/D	367373	334404	21.0	23.0	24.00	19.93	33.92
6	Cheshire St, M/D	367523	334163		24.6	24.59	28.13	22.21
7	Shropshire St, M/D	367462	334095		25.6	26.62	30.05	27.23
8	High St, W'ch	354158	341550		20.1	18.76	21.72	29.57
9	Green End, W'ch	354315	341541		21.8	20.81	20.14	20.23
10	Watergate, W'ch	354233	341364		20.9	21.32	20.27	20.14
11	Tilstock r'bout	354372	340077			27.83	33.38	33.23
12	Tern Hill r'bout*	363599	332194			35.88	41.22	39.02
12T	Tern Hill r'bout triplicate mean**	363599	332194					40.71
13	Tern Hill Farmhouse**	363603	332195					31.49

* 2007 Data collected Jan – May only

** 2007 Data collected June - December

The data in the table above has been corrected by a bias adjustment factor to take account of inherent differences between results from diffusion tube and reference method (chemiluminescence) analysis.

Bias adjustment factors determined from co-location studies throughout the UK have been collated by the Review & Assessment Helpdesk for Defra. This information has been used to derive the most appropriate bias correction factor for NSDC. NSDC have been using diffusion tubes supplied and analysed by Staffordshire County Council Scientific Services (SCCSS) using a 50% TEA in water preparation method. Data on bias correction factors for this laboratory and preparation have been used for the 2002 – 2006 data.

Year	Supplier	Preparation	Bias factor	Number of Studies
2002	SCCSS	50% TEA/water	1.00	N/K

2003	SCCSS	50% TEA/water	1.11	N/K
2004	SCCSS	50% TEA/water	1.00	N/K
2005	SCCSS	50% TEA/water	1.08	N/K
2006	SCCSS	50% TEA/water	1.03	4
2007	SCCSS	50% TEA/water	0.98	3

NO₂ concentrations for 2010 have also been projected from the various annual averages based upon the guidance in LAQM.TG(03). The revised figures are detailed in the following table.

Bias Corrected Annual Mean NO₂ Concentration (µg/m³)

Tube ID	Location	Bias Corrected					Project 2010				
		2003	2004	2005	2006	2007	From 2003	From 2004	From 2005	From 2006	From 2007
1	Coton	10.7	7.9	10.1	8.5	7.0	8.35	6.34	8.31	7.23	6.26
2	Brownlow St, W'ch	32.0	26.2	33.4	28.4	25.5	24.96	21.02	27.48	24.15	22.82
3	Prees Heath	32.5	28.1	30.5	30.0	25.7	25.35	22.54	25.10	25.52	22.99
4	Tern Hill roundabout	37.2	38.9	33.9	37.2	39.6	29.02	31.21	27.90	31.64	35.43
5	Frogmore Rd, M/D	23.3	23.0	28.2	20.5	33.2	18.17	18.45	23.20	17.44	29.70
6	Cheshire St, M/D		24.6	26.6	29.0	21.8		19.73	21.89	24.67	19.50
7	Shropshire St, M/D		25.6	31.4	31.0	26.7		20.54	25.84	26.37	23.89
8	High St, W'ch		20.1	20.3	22.4	29.0		16.12	16.70	19.05	25.95
9	Green End, W'ch		21.8	22.5	20.7	19.8		17.49	18.51	17.61	17.72
10	Watergate, W'ch		20.9	23.0	20.9	19.7		16.77	18.93	17.78	17.63
11	Tilstock roundabout			26.3	34.4	32.6			21.64	29.26	29.17
12	Tern Hill roundabout*			33.9	42.5	38.2			27.90	36.15	34.18
12T	T.H. r'bout triplicate mean**					39.9					35.70
13	Tern Hill Farmhouse**					30.9					27.65

* 2007 Data collected Jan – May only

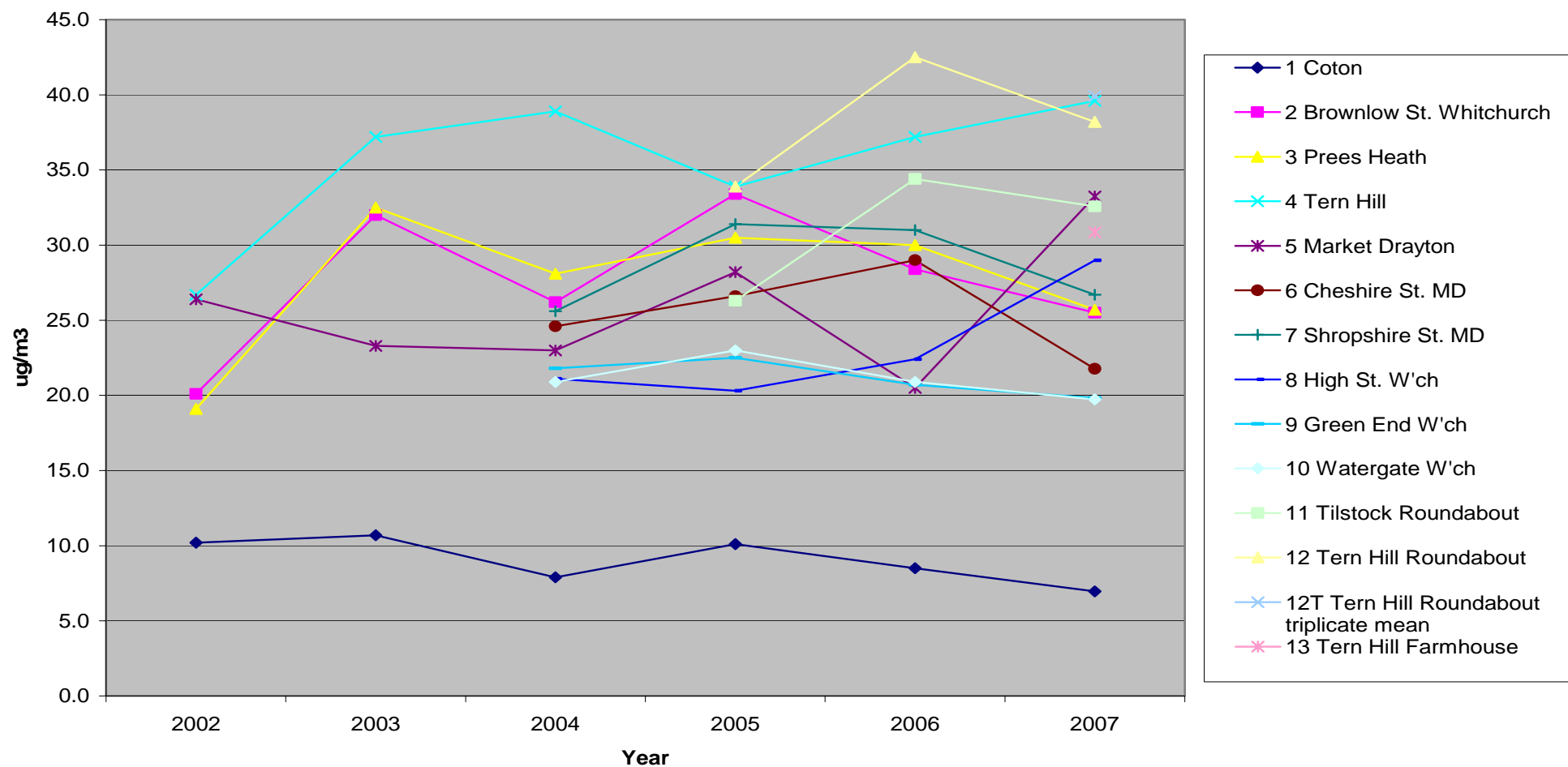
** 2007 Data collected June - December

The 2010 projections from 2007 data indicate no exceedences of the annual average NO₂ objective of 40µg/m³. As reported in the 2007 Progress Report, in 2006 the bias corrected figure for Tern Hill roundabout (site 12) showed a slight exceedence of the annual average NO₂ objective. For this reason, from June 2007 onwards, an additional two diffusion tubes were located at this site

(tube ID 12T) and a single tube was located at the façade of the closest property (tube ID 13), in order to further assess the NO₂ levels at these sites.

The bias corrected results from the triplicate tubes at 12T show levels approaching the annual objective, although the projections for 2010 are reduced. However, the tube located at the property façade shows considerably reduced levels, indicating that the drop off in NO₂ levels from roadside to façade is significant. The average ratio between the two figures is 0.76; this figure ties in with the ratio suggested by the Air Quality Review and Assessment Helpdesk to estimate roadside values from kerbside results where the distance from the road is 10-20m. Due to the fact that the façade results are so much lower than the roadside figures, NSDC does not consider that it needs to designate an Air Quality Management Area at this location at the current time. Monitoring at these locations will continue and the results considered further when a full year's exposure data has been collated.

NO2 Diffusion Tube Concentrations



APPENDIX 3: OSWESTRY

A3.1: New and Altered Industrial Developments: Oswestry

Part A1 Installations

The Environment Agency has granted permits for the following Part A1 processes since the last Progress Report of 2007:

Company	Process	Emissions to Air	Easting	Northing
Llynclys Farm Ltd, Llynclys	Intensive Farming	Particulates, Ammonia	328109	324311
Grampian Country Chickens (Rearing) Ltd., Wigmarsh	Intensive Farming	Particulates, Ammonia	337896	325003
J D Ward & Son, Perry Farm, Whittington	Intensive Farming	Particulates, Ammonia	334892	330250
Knockin Egg Farm Limited, Knockin	Intensive Farming	Particulates, Ammonia	332277	321646
JB & TS Williams, Ty-Issa Farm, Llanyblodwell	Intensive Farming	Particulates, Ammonia	323766	323623

In addition the Environment Agency has granted a permit for the following process which has transferred from Part B control:

Company	Process	Emissions to Air	Easting	Northing
Lloyds Animal Feeds Limited, Morton Mill, Morton	Animal feed processing	Particulates	328109	324311

In addition the Environment Agency have received an application for a Part A1 permit for the following process but has yet to issue the permit.

Company	Process	Emissions to Air	Easting	Northing
SA & DE Dixon Ltd, Vownog Farm, Porth-y-waen	Intensive Farming	Particulates, Ammonia	326036	323436

Part A2 Installations

There are two outstanding applications for A2 permitted installations within OBC.

Company	Process	Emissions to Air	Easting	Northing
Shropshire Galvanisers Limited	Galvanising	PM ₁₀ , Pb, NO _x , SO ₂	330605	328270
Jones of Oswestry	Galvanising	PM ₁₀ , Pb, NO _x , SO ₂	329990	330586

Part B Installations

The following Part B Processes have opened since the last Progress Report of 2007:

Company	Process	Pollutants	Easting	Northing
Johnson Dry Cleaners, Oswestry	Dry Cleaning	VOCs	329069	329629

A3.2: New Major Developments: Oswestry

The following applications for housing and other developments that may affect air quality have received planning approval since the last Progress Report of 2007.

Ref	Site	Development	Date	East	North
15121	Land Adj To Ambulance Station, Morda Bank	Erection of 3 no. two storey detached dwellings and 1 no. bungalow	18/10/2007	328832	328321
15164	Old Nursery Site, High Street, Weston Rhyn	Erection of 3 no detached bungalows and alterations to access	14/11/2007	328310	335844
15162	Land Adjoining Garden Village, Overton Road St Martins	Residential development (75 dwellings), new estate road and vehicular access	14/11/2007	332139	336615
15248	Avalon, 83 Coopers Lane St Martins	Proposed redevelopment of Avalon and development on adjoining land to comprise 3 no detached two storey dwellings with garages, re-routing of existing private driveway and associated works	19/12/2007	332969	336904

15120	Land Adj The Croft, Bronygarth Road, Weston Rhyn	Proposed construction of 3 no. dwellings, formation of new access and private drive with associated works	14/11/2007	328131	335861
14818	Dovaston Bank Farm Dovaston	Erection of three detached dwellings on unused garden and farm yard, including new access	03/04/2007	334804	321269
15291	Quabbs Cottage, Argoed Kinnerley	Retrospective application for change of use of part of redundant outbuilding for the purposes of bacon curing , packaging and freezing for distribution to applicants own retail premises.	23/01/2008	332192	320588
15086	Bryn-Y-Plentyn, Middleton	Proposed extension to existing free range poultry building	19/09/2007	332745	329202
14878	Former Brickwork Site Ifton Colliery, St Martins	Alterations to building design on part of proposed commercial/industrial development	30/05/2007	332469	337430
14958	Haulfryn, 4 Lloyd Street Oswestry	Erection of 5 blocks of 4 one-bed flats and 1 three-bed block	31/05/2007	329237	330145
15062	The Downs, Victoria Street, Oswestry	Proposed erection of three dwellings, entrance to dwellings to be through adjacent Queens Park House development.	18/10/2007	329050	329076
14815	Gledrid A5 Services Gledrid, Weston Rhyn	Erection of two restaurant units and associated works	31/05/2007	330019	336207
14820	Perrymoor Farm, Berghill Lane, Whittington	Change of use and alterations to 2 no. agricultural buildings to 4 no. small business units and 4 no. garages	30/05/2007	334246	330097
14786	Hall Farm, Church Street Ruyton XI Towns	Erection of 7 detached dwellings with double garages and new adopted road access	04/04/2007	339175	322228
15059	Cambrian Works, Gobowen Road	Conversion of Grade II Listed former railway sheds to form new primary care centre and residential units including associated access works, external landscaping and car parking	19/09/2007	329557	329995
14823	Old Nursery Site, High Street, Weston Rhyn	Proposed construction of three, two bedroom bungalows with private drive and alterations to existing access	28/02/2007	328310	335844

A3.3: Diffusion Tubes in Oswestry

The Council monitors NO₂ by diffusion tubes at 14 sites across the district. Two of these sites were installed in September 2005 near to properties close to busy roundabouts so as to represent the worst-case locations near to trunk roads in the area.

NO₂ Diffusion tube concentrations

Tube ID	Location	Coordinates		Original Annual Mean NO ₂ Concentration (µg/m ³)				
		X	Y	2003	2004	2005	2006	2007
1	Church Street	329126	329634	36.1	26.1	26.8	27.7	29.3
2	Council Depot	328871	330172	16.9	10.1	11.2	10.9	11.0
3	Beech Grove School	329893	329503	17.1	13.8	13.6	13.5	14.1
4	Willowgate	328899	329813	33.5	29.6	30.4	32.1	29.5
5	Heatherdene	328804	329329	47.0				
6	78 Welsh Walls	328683	329525	21.7				
7	74 Castle Street	328974	329883	33.3	33.4	34.1	33.3	38.0
8	Plough Inn	329205	329846					
9	AQMA - 1	328922	325981	36.2	34.3	40.1	40.4	41.1
10	AQMA – 2	328922	325981	37.7	36.6	39.6	36.9	38.7
11	AQMA – 3	328922	325981	36.0	36.0	40.3	39.0	40.9
	AQMA – average	328922	325981	36.7	35.6	40.0	38.8	40.2
12	CM*							38.8
13	CM2*							36.8
14	CM3*							35.4
	CM average							37.0

* 2007 Data collected May - Dec only

Green = Sites now discontinued ; Yellow = Results from within AQMA

The data in the table above has been corrected by a bias adjustment factor to take account of inherent differences between results from diffusion tube and reference method (chemiluminescence) analysis. Recent reviews carried out on behalf of Defra have examined variations between diffusion tube and co-located automated monitors. These reviews show that the main factor affecting tube performance is the laboratory. Although the studies suggest that there may be residual uncertainty due largely to some aspect of the tube exposure, it has been recommended that diffusion tubes should be bias adjusted using the results from co-location studies carried out in the same year.

Bias adjustment factors determined from co-location studies throughout the UK have been collated by the Review & Assessment Helpdesk for Defra. This information has been used to derive the most appropriate bias correction factor for OBC. OBC have been using diffusion tubes supplied and analysed by Gradko using a 20% TEA in water preparation since 2001. Data on bias correction factors for this laboratory and preparation have been used for the 2003 – 2007 data. The table below summarises the bias factors used and the number of studies from which the average has been derived.

Year	Supplier	Preparation	Bias factor	No of studies
2003	Gradko	20% TEA/water	0.96	12
2004	Gradko	20% TEA/water	0.91	11
2005	Gradko	20% TEA/water	0.97	14
2006	Gradko	20% TEA/water	0.98	10
2007	Gradko	20% TEA/water	0.89	22

The uncorrected data has been bias corrected and also 2010 concentrations have been projected from the various annual averages based upon the guidance in LAQM.TG(03) (Defra 2003). The revised figures are detailed in the following table and are illustrated graphically below.

Bias Corrected Annual Mean NO₂ Concentration (µg/m³)

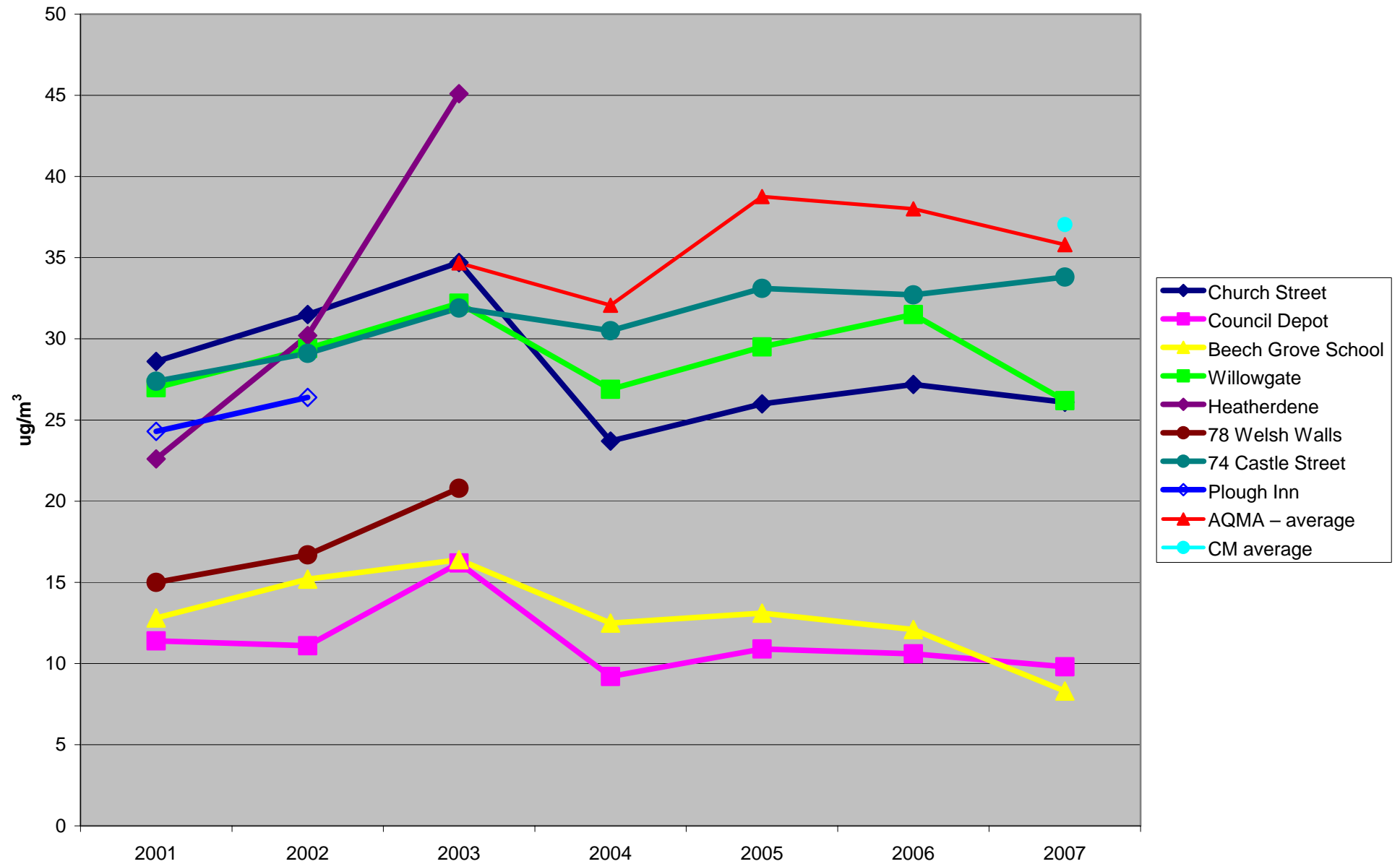
Tube ID	Location	Bias Corrected					Project 2010				
		2003	2004	2005	2006	2007	From 2003	From 2004	From 2005	From 2006	From 2007
1	Church Street	34.7	23.7	26	27.2	26.1	27.1	19.0	21.4	23.1	23.0
2	Council Depot	16.3	9.2	10.9	10.6	9.8	12.7	7.4	9.0	9.0	8.68
3	Beech Grove School	16.4	12.5	13.1	12.1	12.5	12.8	10.0	10.8	10.3	11.0
4	Willowgate	32.2	26.9	29.5	31.5	26.2	25.1	21.6	24.2	26.8	23.1
5	Heatherdene	45.1					35.2				
6	78 Welsh Walls	20.8					16.2				
7	74 Castle Street	31.9	30.4	33.1	32.7	33.8	34.9	34.4	27.2	27.8	29.8
8	Plough Inn										
9	AQMA - 1	34.8	31.2	38.9	39.6	36.5	27.1	25.0	32.0	33.7	32.2
10	AQMA – 2	35.5	32.3	38.4	36.2	34.5	27.7	26.7	31.6	30.8	30.4
11	AQMA – 3	33.7	32.7	39	38.2	36.4	26.3	26.2	32.1	32.5	32.1
	AQMA – average	34.7	32.1	38.8	38.0	35.8	27.0	26.0	31.9	32.3	31.6
12	CM1*					34.5					30.4
13	CM2*					32.8					28.9
14	CM3*					31.5					27.8
	CM average					32.9					29.0

* 2007 Data collected May - Dec only

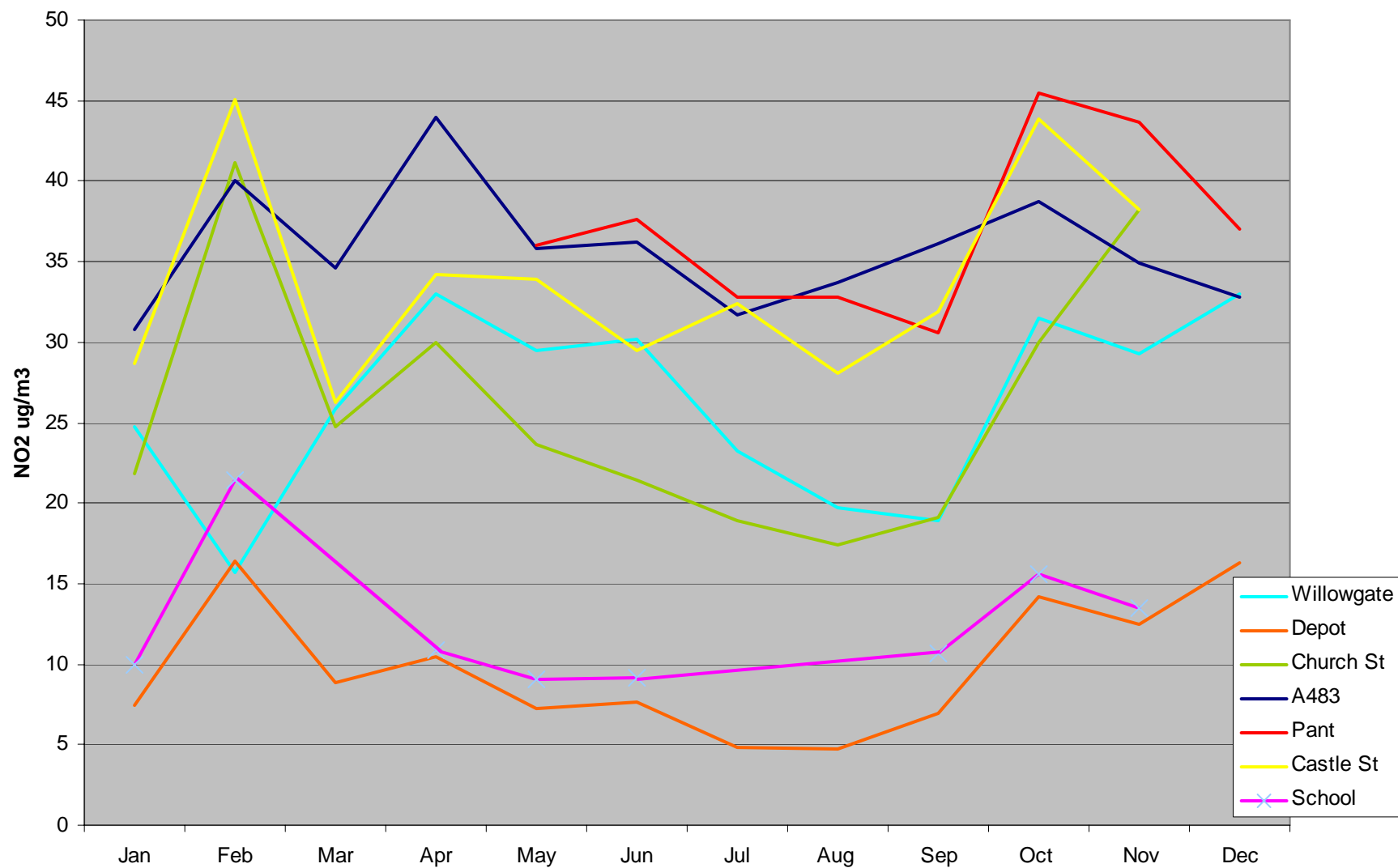
Green = Sites now discontinued ; Yellow = Results from within AQMA

The 2010 projections from 2007 data indicate no exceedences of the annual average NO₂ objective of 40µg/m³.

Nitrogen Dioxide Concentrations - Oswestry



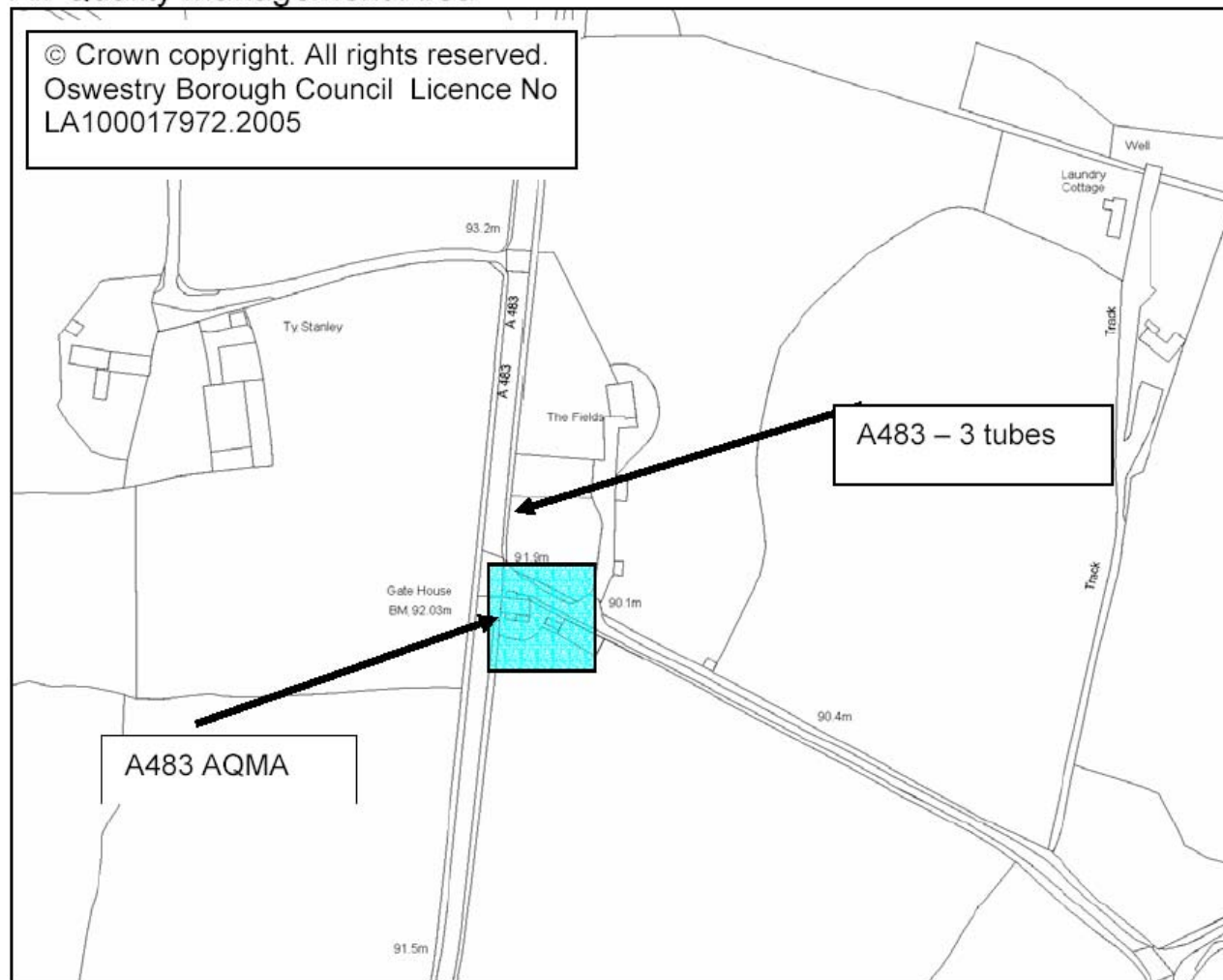
OSWESTRY BC - NO2 2007



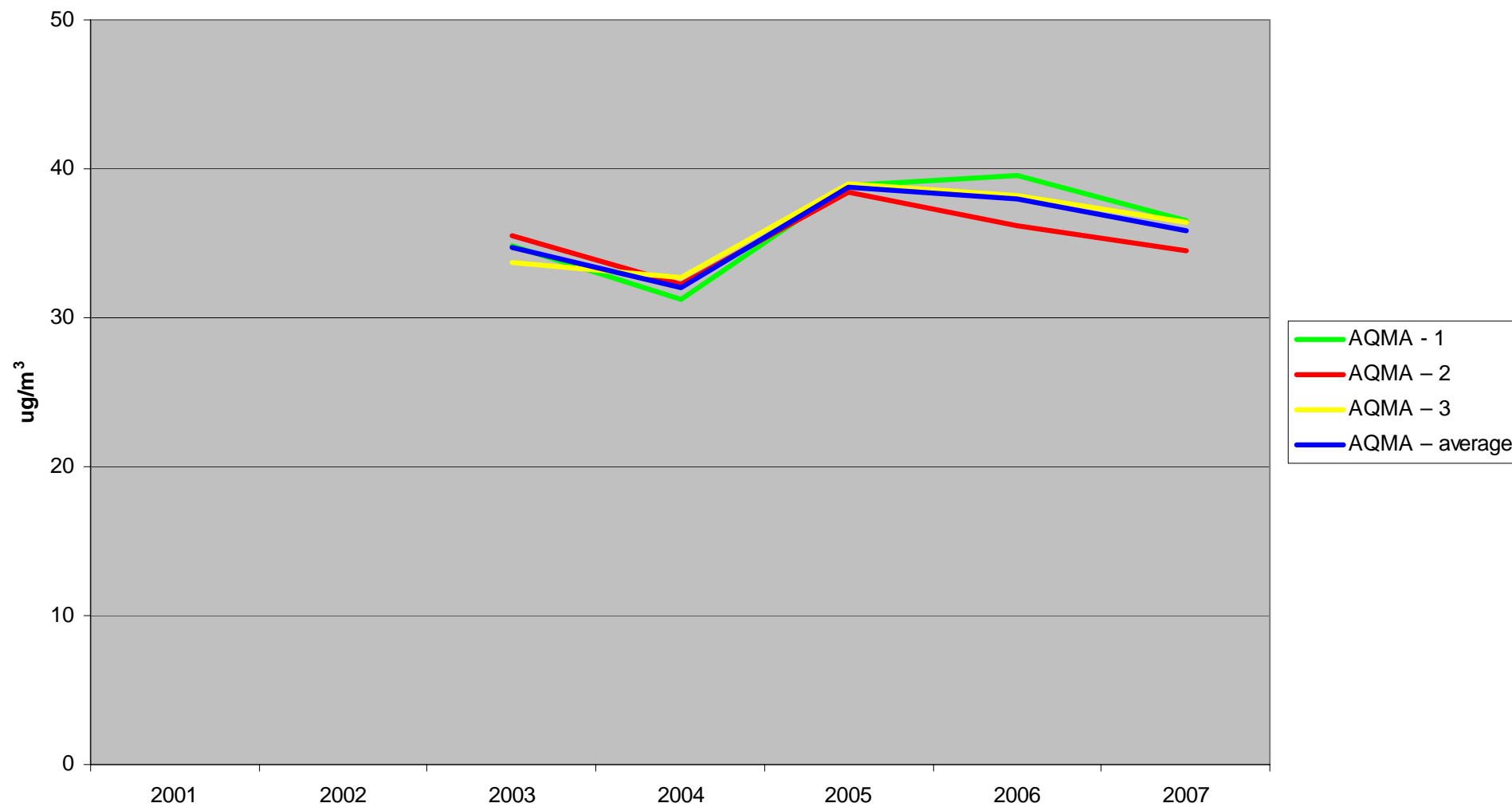
A3.4: Additional Information: Oswestry

Oswestry declared an AQMA including a single property.

Air Quality Management Area



Oswestry AQMA NO₂ Concentrations



AQMA – Data Quality Assessment for 3 Co-located Tubes



Diffusion Tubes Measurements										Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Average	Standard Deviation	CV	95% CI mean	Diffusion Tubes Precision Check	
1	04/01/2007	29/01/2007	35.7	33.55	34.44	34.6	1.08	3.13	2.68	Good	
2	29/01/2007	27/02/2007	46.47	43.75	44.75	45.0	1.38	3.06	3.42	Good	
3	27/02/2007	12/04/2007	39.88	34.85	42.09	38.9	3.71	9.53	9.22	Good	
4	12/04/2007	07/05/2007	51.3	46.4	50.64	49.4	2.66	5.38	6.61	Good	
5	07/05/2007	31/05/2007	38.13	43.05	39.46	40.2	2.55	6.33	6.32	Good	
6	31/05/2007	05/07/2007	43.69	37.3	41.12	40.7	3.22	7.90	7.99	Good	
7	05/07/2007	31/07/2007	34.35	34.35	37.99	35.6	2.10	5.91	5.22	Good	
8	31/07/2007	29/08/2007	38.99	38.94	35.76	37.9	1.85	4.88	4.60	Good	
9	29/08/2007	03/10/2007	44.05	36.06	41.78	40.6	4.12	10.13	10.23	Good	
10	03/10/2007	31/10/2007	42.8	44.51	43.37	43.6	0.87	2.00	2.16	Good	
11	31/10/2007	28/11/2007	40.53	38.86	38.4	39.3	1.12	2.85	2.78	Good	
12	28/11/2007	02/01/2008	36.84	33.31	40.37	36.8	3.53	9.58	8.77	Good	
13											

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Jaume Targa

Site Name/ ID:	AQMA Co-location	
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Adjusted measurement				(95% confidence level)
Without periods with CV larger than 20%				
Bias calculated using 0 periods of data				
		Tube Precision:		
		Bias factor A:		
		Bias B:		
Information about tubes to be adjusted				
		Diffusion Tube average:	40	µgm ⁻³
		Average Precision (CV):	6	
		Adjusted Tube average:		µgm ⁻³

								(95% confidence level)	
Adjusted measurement									
with all data									
Bias calculated using 0 periods of data									
				Tube Precision:					
				Bias factor A:					
				Bias B:					
<i>Information about tubes to be adjusted</i>									
				Diffusion Tube average:		40		µgm ⁻³	
				Average Precision (CV):		6			
				Adjusted Tube average:				µgm ⁻³	

Following the receipt of capital funding from Defra a real time air quality monitoring station was introduced by OBC during late the summer of 2007 at Pant. The location is shown at Figure 1. This equipment, supplied by Signal Ambirak, measures a range of pollutants including PM₁₀ using an R and P TEOM instrument and oxides of nitrogen, including NO₂.



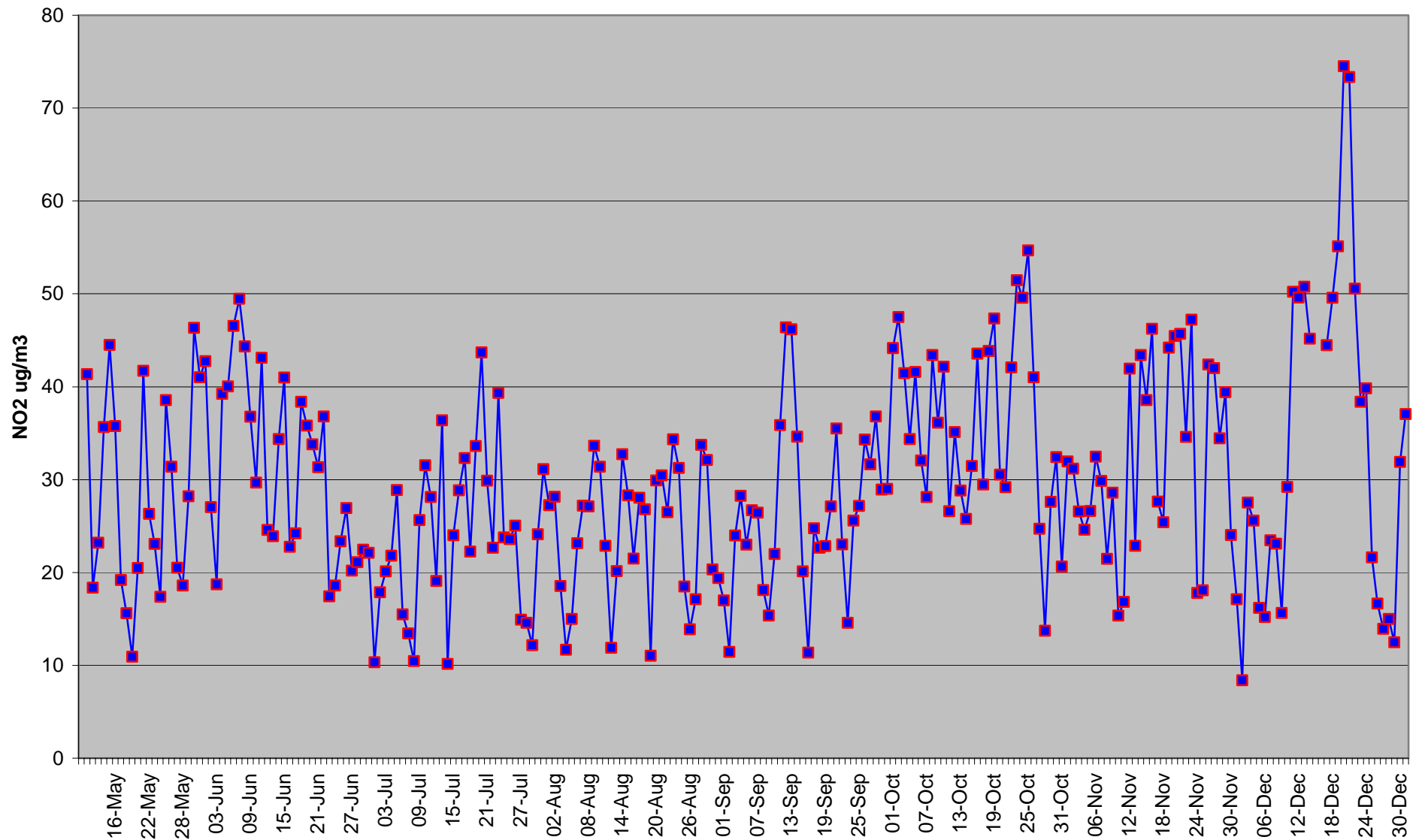
Figure 1: Location of Air Quality Monitoring Station at Pant

The rationale behind choosing this monitoring position was twofold:-

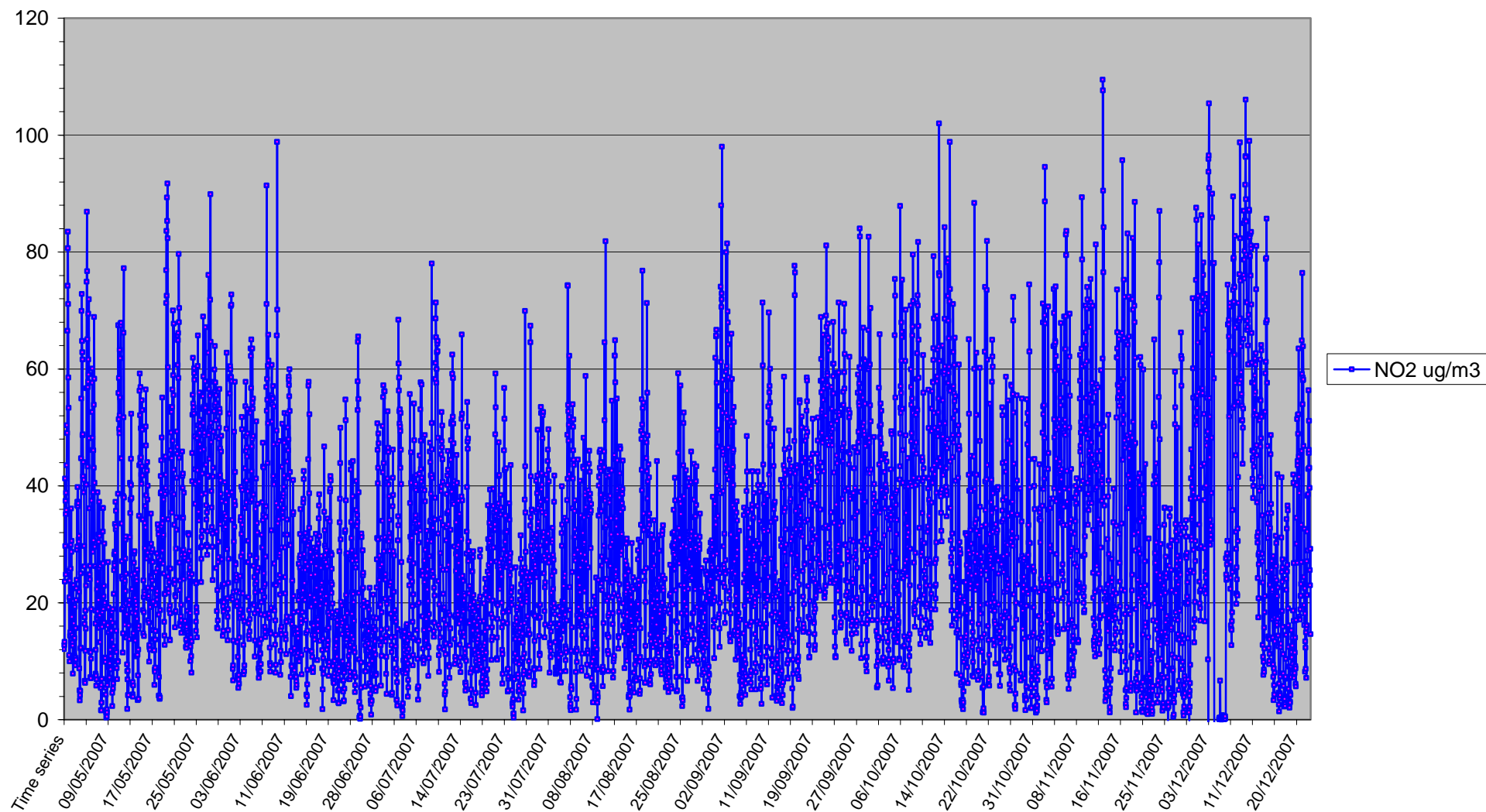
- a) to review the monitoring data for NO₂ from within the AQMA – it was not possible to locate the monitoring equipment within the area of the declared AQMA due to restricted power supply and the absence of a suitable location
- b) given the continued elevated NO₂ concentrations within the AQMA, to extrapolate the data to a location nearby the declared AQMA with the same traffic flow and many more dwellings and buildings adjacent to the roadside to review potential health impact.

This station will measure oxides of nitrogen, including NO₂ and PM₁₀ although data quality and retrieval for PM₁₀ was not adequate to permit reporting of data. Three diffusion tubes have been co-located (attached to the sampling mast) at the continuous monitoring equipment to allow data validation. The following charts summarise the NO₂ monitoring showing no hourly averages exceed the AQO along with a quality assurance assessment carried out using the co-located tube data. The bias calculations below have not been used to correct any local data as the monitoring was only for a sixth month period - however the calculated bias correction was period was 0.805 +/- 0.056 which is comparable to the reported data (0.89) from the Review & Assessment Helpdesk used for correction of the diffusion tube data..

2007 - Pant Continuous AQ Daily Mean NO2 ug/m3



Pant Continuous Monitoring 2007 Hourly Averages NO2 ug/m3



Pant – Continuous Emission Monitoring comparison with 3 co-located tubes

Diffusion Tubes Measurements											
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Average	Standard Deviation	CV	95% CI mean		Diffusion Tubes Precision Check
1	07/05/2007	31/05/2007	38.28	36.29	33.42	36.0	2.44	6.79	6.07		Good
2	31/05/2007	05/07/2007	36.8	38.51	37.43	37.6	0.86	2.30	2.15		Good
3	05/07/2007	31/07/2007	34.03	33.06	31.3	32.8	1.38	4.22	3.44		Good
4	31/07/2007	29/08/2007	33.76	33.11	31.61	32.8	1.10	3.36	2.74		Good
5	29/08/2007	03/10/2007	35.27	32.54	24.09	30.6	5.83	19.03	14.48		Good
6	03/10/2007	31/10/2007	48.76	44.1	43.58	45.5	2.85	6.27	7.09		Good
7	31/10/2007	28/11/2007	43.01	43.81	44.16	43.7	0.59	1.35	1.46		Good
8	28/11/2007	02/01/2008	40.78	32.99	37.29	37.0	3.90	10.54	9.69		Good
Site Name/ ID:		Pant CAQM Station									

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Precision 8 out of 8 periods have a CV smaller than 20%

Diffusion Tubes Measurements									
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy			Period Mean	Data Capture (DC)			Automatic Data Precision Check
1	07/05/2007	31/05/2007			28.48	99			Good
2	31/05/2007	05/07/2007			29.62	95			Good
3	05/07/2007	31/07/2007			24.64	95			Good
4	31/07/2007	29/08/2007			24.63	99			Good
5	29/08/2007	03/10/2007			28	95			Good
6	03/10/2007	31/10/2007			35	95			Good
7	31/10/2007	28/11/2007			32	92			Good
8	28/11/2007	02/01/2008			33	90			Good
Site Name/ ID:		Pant CAQM Station				jaume.targa@aeat.co.uk			

Accuracy		(with 95% confidence)
without periods with CV larger than 20%		
Bias calculated using 8 periods of data		
Bias factor A		0.804 +/- 0.056
Bias B		26 +/- 6 %
Diffusion Tubes Mean:	37	μgm^{-3}
Mean CV (Precision):	7	
Automatic Mean:	29	μgm^{-3}
Data Capture for periods used: 95		
Adjusted Tubes Mean:	30 +/- 2	μgm^{-3}

Accuracy		(with 95% confidence)
with all the data		
Bias calculated using 8 periods of data		
Bias factor A		0.804 +/- 0.056
Bias B		26 +/- 6 %
Diffusion Tubes Mean:	37	μgm^{-3}
Mean CV (Precision):	7	
Automatic Mean:	29	μgm^{-3}
Data Capture for periods used: 95		
Adjusted Tubes Mean:	30 +/- 2	μgm^{-3}

APPENDIX 4: SHREWSBURY & ATCHAM BOROUGH COUNCIL

A4.1: New and Altered Industrial Developments: Shrewsbury & Atcham

New and Altered Industrial Developments Shrewsbury & Atcham

Part A1 Installations

The Environment Agency has issued permits for the following installations:

Company	District	Chapter	Eastings	Northings
James Home and Partners, Forge Farm,	Upton Magna, Shrewsbury, SY4 4UD	DP4342 UR	3563	3115
C.D. and P.A. Holloway, The Hayes Farm	Bomere Heath, Shrewsbury, SY5 9PQ	PP3339 UR	3459	3212

The above relate to existing intensive livestock installations

Part A2 Installations.

The Council has not issued any permits for these installations:

Part B Processes

The following Part B Processes have opened since the USA

Company	Process	Pollutants	Eastings	Northings
Doncasters Aerospace Ltd, Whitchurch Road, Shrewsbury, SY1 4DP	Surface degreasing	Trichloroethylene, and Particulate Matter	3505	3147
Inchcape Volkswagen Paint & Body Centre, Levens Drive, Harlescott, Shrewsbury, SY1 3TQ	Preparation, repair and re-spraying of road vehicles	Volatile Organic Compounds and Particulate Matter	3503	3153

Inchcape Retail Ltd has relocated.

The following Part B Processes have closed or no longer need Permitting since the last Progress Report:

Company	Process	Pollutants	Eastings	Northings
Inchcape Retail Ltd , Featherbed Lane Harlescott, Shrewsbury, SY1 4NW	Preparation, repair and re- spraying of road vehicles	Volatile Organic Compounds and Particulate Matter	3513	3157

A4.2: New Major Developments: Shrewsbury & Atcham

The following major applications for housing and other developments that may affect air quality have received planning approval since the USA.

APP NO.	LOCATION	PROPOSAL	DECISION DATE
06/0636/F	Land off Ellesmere Road, Shrewsbury,	Erection of 128 2, 2 and a half, 3 and 4 storey dwellings (to include 45 affordable dwellings), erection of new bowling/social club, car park and bowling green, electricity sub-station, estate roads	04/09/2007
06/1667/DD	Land at Montgomery Way, Shrewsbury	Erection of 20 affordable dwellings and construction of new estate roads and pedestrian and vehicular accesses	29/05/2007
07/0024/F	Former Leoni premises, off Arlington Way, Shrewsbury	Change of use from industrial (Class B2) to non-food retail (Class A1) and formation of new vehicular access (resubmission of 06/0050/F refused on 10th March 2006)	31/05/2007
07/0056/F	Nobold Business Park, Longden Road, , Shrewsbury	Erection of 16 office units and construction of new vehicular access	24/04/2007
07/0080/F	Knights Way, Battlefield Enterprise Park, , Shrewsbury	Erection of 3 commercial/industrial units (Use Classes B1, B2 and B8) with associated parking and formation of new vehicular and pedestrian accesses	22/01/2007
07/0133/F	Former builders yard, Copthorne Road, Shrewsbury	Erection of 2.5 storey building to provide 11 apartments and 2 storey building to provide 2 apartments with associated parking	10/05/2007
07/0142/F	9-12 Glenburn Gardens, Shrewsbury,	Erection of 10 semi-detached dwellings and 1 detached bungalow to include construction of new vehicular access following demolition of existing dwellings	15/05/2007
07/0256/F	Former New Street Nursery, New Street, Shrewsbury	Erection of 14 detached 2 and 1/2 storey dwellings with garages and provision of car parking spaces following demolition of existing buildings	23/05/2007
07/0266/F	Land adj. to 63 The Leasowes, Ford	Erection of 10 affordable dwellings and construction of new estate road off The Leasowes	05/09/2007
07/0522/F	Leoni House, Henley Way, Harlescott, Shrewsbury	Change of use from B2 to B8, insertion of a roller shutter and erection of perimeter fencing	20/06/2007
07/0542/F	J Bibby Agriculture Ltd, Ennerdale Road, Shrewsbury	Change of use of general industrial unit into builders/plumbers merchants	20/06/2007
07/0551/O	Land to the west of Ellesmere Road,	Outline application for residential development (35% of which will be affordable) to include means of access	18/07/2007

	Shrewsbury		
07/0573/O	Royal Shrewsbury Hospital, Mytton Oak Road, Shrewsbury	Outline application for residential development to provide 122 units (consisting of 65 open market units including 10 affordable dwellings, 57 key worker units in association with the Royal Shrewsbury Hospital)	08/02/2008
07/0590/F	Plots 2 - 8 Vanguard Way, Battlefield	Erection of a car dealership building to include showroom and workshop, erection of body shop building and separate valeting bays and formation of new vehicular access	20/07/2007
07/0648/F	Plot 1, Longden Road Depot Longden Road, Shrewsbury	Erection of a two storey office building (Use Class B1) and warehouse building (Use Class B8)	17/08/2007
07/0757/RM	Plot 28 Vanguard Two Vanguard Way, Battlefield, Shrewsbury	Reserved matters (pursuant to outline planning permission ref. 04/0328/O dated 30/06/04) to include siting, design, external appearance, means of access and landscaping of a commercial unit with associated parking	03/08/2007
07/0760/RM	Plots 3 & 5 Vanguard 'one', Vanguard Way, Battlefield, Shrewsbury	Reserved matters pursuant to outline permission ref: 04/0330/O dated 30/06/04 for the siting, design, external appearance, means of access and landscaping for the development of two buildings for B1, B2, B8 and mixed uses including vehicle sales/repairs and trade counter/warehousing/builders merchants and to include new vehicular/pedestrian access. (1350 sqm)	17/07/2007
07/0795/RM	Plot, 6-7 Vanguard Way, Battlefield, Shrewsbury	Reserved matters pursuant to outline permission ref: 04/0330/O dated 30/06/04 for the siting, design external appearance, means of access and landscaping for the development of two buildings for B1, B2, B8 and mixed uses including vehicle sales/repairs and trade counter/warehousing/builders merchants and to include new vehicular/pedestrian access	03/08/2007
07/0867/RM	Plot 30 'Vanguard Two', Vanguard Way, Battlefield, Shrewsbury	Reserved matters pursuant to outline permission ref: 04/0328/O dated 30th June 2004 for the erection of one building (1132 sq. m) for B1, B2, B8 and mixed uses including vehicle sales and repairs, trade counter/warehousing and builders merchants to include means of access, siting, design, external appearance and landscaping	20/08/2007
07/0889/RM	Plot 38 'Vanguard Two', Vanguard Way, Battlefield, Shrewsbury	Reserved matters pursuant to outline permission ref: 04/0328/O dated 30th June 2004 for the erection of one building (1115.2 sq.m) for B1, B2, B8 and mixed uses including vehicle sales and repairs, trade counter/warehousing and builders merchants to include means of access, siting, design, external appearance and landscaping	03/08/2007
07/0922/RM	Plots 34 & 36 Vanguard Two, Vanguard Way, Battlefield, Shrewsbury	Reserved matters pursuant to outline permission ref: 04/0328/O dated 30th June 2004 for the erection of 6 units (3,100.2 square metres) for B1, B2, B8 and mixed uses including vehicle sales & repairs, trade counter/warehousing and builders merchants to include means of access, siting, design, external appearance and landscaping	03/08/2007
07/0952/RM	Land at Spring Gardens, Ditherington, Shrewsbury	Reserved matters pursuant to outline permission ref: 01/1176/O dated 10th August 2005 for the erection of 189 dwellings (comprising 51 apartments and 138 houses of which 57 are affordable), construction of roundabout and spur road and provision of open space	21/09/2007
07/1042/F	Sundorne Trade Park, Featherbed Lane, Shrewsbury	Erection of a car dealership building to include showroom, workshop and associated office and parts showroom, workshop and associated office and parts storage to include formation of new vehicular access	12/10/2007
07/1087/F	Former Builders Yard, Copthorne Road, Shrewsbury	Alterations to include a further ground floor apartment making a total of 14 units (amendment to previously approved application ref: 07/0133/F)	18/10/2007
07/1183/F	Former Taylor Bros Premises, New Park Close, Shrewsbury	Erection of 13 two-storey dwellings and alterations to existing vehicular and pedestrian accesses (amended description)	12/10/2007
07/1223/O	Field No. 3227, Lower Wigmore Wigmore Lane, Wattlesborough	Outline application for the erection of a free range egg production unit to include siting and means of access	01/11/2007

	Heath		
07/1224/O	Lower Wigmore Farm, Wigmore Lane, Wattlesborough Heath	Outline application for the erection of a free range egg production unit to include siting and means of access	01/11/2007
07/1264/F	Bromley House, 96 Copthorne Road, Shrewsbury	Erection of 44 apartments (consisting of 15 affordable units and 29 open market units), together with the construction of an underground car park, new vehicular and pedestrian accesses and landscaping following demolition of existing nursing care home (amended resubmission of application ref. 07/0678/F refused on the 3rd August 2007 for 47 apartments)	19/11/2007
07/1287/F	Land at rear of Column House, Preston Street, Shrewsbury	Erection of 10, 3 storey town houses and associated parking and gardens with access off Preston Street	22/11/2007
07/1355/F	New House Farm, Minsterley	Erection of a building for storage of eggs, packaging and cold room and provision of an access track	10/12/2007
07/1400/F	Former New Street Nursery, Copthorne Road, Shrewsbury	Erection of 14 detached 2 and 1/2 storey dwellings with garages and provision of car parking spaces following demolition of existing buildings (including No 39 Copthorne Road) and creation of new vehicular and pedestrian accesses (Amendment to previously approved application ref: 07/0256/F)	20/12/2007
07/1473/F	The Uplands, Bicton Heath	Erection of two 2-storey buildings to create twenty eight 2-bedroom extra care units and erection of single storey Wellness centre incorporating a swimming pool and gym (Amended Description)	10/01/2008
07/1493/RM	Former Tesco site, Arlington Way, Shrewsbury	Reserved matters pursuant to outline permission reference 06/0166/DDM for residential development of 101 dwellings (including 35 affordable units) incorporating open space to include layout of site, scale and external appearance of buildings and landscaping of the site	30/01/2008
07/1494/F	Plot 8 Knights Way, Battlefield Enterprise Park, Shrewsbury	Erection of 3, two storey blocks to create 5 B1 office units (2079.52 sq. m.) and provision of car parking spaces	03/01/2008
07/1561/O	Shrewsbury Livestock Market, Battlefield, Shrewsbury	Outline Application for the construction of a fine art and general sale auction rooms, storage and offices to include layout and means of access	06/02/2008
07/1566/RM	Land at Spring Gardens, Shrewsbury	Reserved matters pursuant to outline permission reference 01/1176/O dated 10th August 2005, for the substitution of house types on plots 47-92 and 121-127, changes to layout and associated garages resulting in 53 units (comprising 18 apartments and 35 houses of which 18 are affordable) instead of 54 units, to include layout of the site, scale, external appearance and landscaping (amendment to planning permission reference 07/0952/RM granted 21st September 2007)	07/01/2008
07/1639/F	Royal Shrewsbury Hospital, Mytton Oak Road Shrewsbury	Erection of a 4-storey building to provide 16, 4-bedroom key worker residential units with associated car parking, alterations to vehicular access and provision of open space	13/02/2008
07/1839/F	Plot 24, Shrewsbury Business Park	Erection of two buildings for B1 use to include formation of new vehicular access and associated car parking	22/02/2008
07/1844/DD	Land adj. Harlescott Park & Ride, Battlefield Road Shrewsbury	Erection of a new bus depot (1706.76 sq. m) and maintenance facility with two access points onto existing park & ride access road	22/02/2008
08/0012/F	Former Railway Land, Sutton Lane, Shrewsbury	Erection of 10 residential dwellings, construction of new estate roads, creation of new pedestrian and vehicular accesses, creation of landscaped seating area and additional car parking spaces (amendment to part of the site to provide 1 additional dwelling to that approved under planning reference 06/1359/F to provide a total of 47 dwellings and an additional 18 car parking spaces)	22/02/2008
07/1592/F	Land Off Ellesmere Road, Shrewsbury, SY1 2AH	Part amendment of previously approved application ref: 06/0636/F granted 4th September 2007 for the re-siting of 72 residential dwellings (comprising 26 houses and 46 apartments of which 41 are affordable) on plots 48-103 and plots 1-16 to provide a service access road to the railway line	01/05/2008

08/0108/F	Manor Farm, Stoney Stretton, Shrewsbury,	Erection of a free range egg laying unit (2060 M.Sq.)	23/04/2008
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A4.3: Diffusion tubes in Shrewsbury & Atcham

Diffusion tube concentrations

Tube ID	Location	Coordinates		Original Annual Mean NO ₂ Concentration (µg/m ³)			
		X	Y	2004	2005	2006	2007
2	A49 Bayston Hill, Opposite Three Fishes	348726	308959	33.9	36.2	39.3	41.99
3	Mytton Oak Road, between 2 entrances to hospital	346473	312420	23.2	22.7	23.7	24.17
5	Ford, Outside School	341612	313309	-----	-----	-----	-----
6	Pontesbury, Opposite Mary Webb School	340300	305800	-----	-----	-----	-----
7	Woodfield School, Copthorne Road	347741	312758	30.3	31.6	29.8	32.38
8#	Frankwell, on corner of Drinkwater Street	348719	312952	27.4 part	-----	-----	-----
9	Smithfield Road, on corner of Victoria Avenue	348891	312721	37.4	38.2	44.1	43.53
44 #	Duplicate of 9 Smithfield	348891	312721	39.3 part	-----	-----	-----
45 #	Duplicate of 9 Smithfield	348891	312721	41.6 part	-----	-----	-----
10	Town Walls, opposite Murivance	348881	312326	27.4	24.9	23.7	26.13
11#	Castle Foregate, opposite Royal Mail	349432	313100	44.1 part	-----	-----	-----
13	Harlescott Park & Ride	351260	315968	22.4	24.2	21.6	23.83
15	Ditherington Road, Mount Pleasant Road by Doctors	350255	314367	32.9	35.3	36.6	35.27
17	Dogpole (Car Entrance)	349330	312503	34.3	33.5	34.7	34.56
18	The Square, LH side by phone boxes	349153	312482	20.0	20.7	21.2	20.99
19	Wenlock Road, between New College Road and Kingston Drive	351197	310771	20.8	20.4	21.5	23.41
20#	Buildwas, outside Post Office Park View	363841	304693	11.1 part	-----	-----	-----
21	Ellesmere Road (Town End) opposite York Villa	349284	313719	22.2	25.5	24.9	26.09
22#	A5/Sundorne Road Junction (on roundabout A49 link/B5062 jnct)	352248	314729	43.9 part	-----	-----	-----

24	Nesscliffe, opposite Nesscliffe Hotel		319190	-----	-----	-----	-----
26	Dorrington, outside Horseshoes Inn	347822	302852	31.0	31.9	33.7	32.99
30	Whitchurch Road, adjacent to traffic lights by Morrisons	350533	314786	33.9	31.1	32.4	31.75
31	Ravens Meadow, outside 23 Meadow Place	349284	312848	37.9	41.4	42.5	41.13
32	Coleham Head, outside Printers	349682	312311	33.2		34.5	34.81
33	English Bridge, town side of bridge, first bus stop LHS	349540	312348		38.9	39.2	32.39
34	Abbey Foregate gyratory(Samaritons)	349667	312347		31.7	31.8	35.23
42A	Duplicate of 34 Samaritans	349667	312347		32.3	30.0	34.52
43A	Duplicate of 34 Samaritans	349667		31.2	31.7	31.4	37.64
35	Meole Brace between Bayleys and retail park	348929	310108	25.7	28.6	29.1	30.81
36	Meole Brace roundabout	349077	310575	25.8	27.6	24.7	26.28
37#	Heathgates roundabout	350375	314590	32.2 part	-----	-----	
38	51 Abbey Foregate	349981	312430	31.3	30.6	30.6	28.53
39	Castle Gates next to steps	349396	312742	37.2		39.0	41.25
40	St Michaels gate	349609	313375	28.6	26.3	27.6	29.50
41#	Station House Upton Magna	348891	312721	-----	-----	-----	-----
46	Monitoring Station - Bayston Hill	348776	309004	25.9	26.3	25.2	28.41
47	Duplicate of 46 Monitoring Station	348776	309004	25.9	26.4		25.66
48	Longner Street	348983	312919	17.9	17.6	16.7	17.23
49*	82/83 Frankwell (façade)	348669	312957	29.6 part	30.1	29.9	32.07
50*	Brittania Inn 76 Castle Foregate (façade)	349461	313133	38.4 part	37.9	38.7	38.95
51*	6a Severn Steps (on adj lamp post)	349235	312900	39.9 part	35.5	38.6	38.23
52*	16 New Street (corner of post office) (side façade)	348657	312851	20.2 part	20.0	18.8	23.43
53*	Abbey Foregate/Monkmoor Road	350103	312378	29.3 part	35.2	32.2	36.50
54*	Featherbed Lane (opposite Inchcape) Lamp post	351215	315660	29.8 part	24.9	22.9	25.84
55*	Heathgates Public House (front façade)	350436	314607	28.3 part	28.5	30.2	31.43

56*	35 Whittington Close (façade facing Sundorne Road)	352114	314787	24.3 part	25.5	29.0	28.71
57*	1 Woodcote Cottages Bowbrook (gable end)	345221	311913	18.5 part	13.6	13.2	13.31
58*	The Albert Smithfield Road	349283	312889	34.3 part	37.4	39.2	39.74
59*	Duplicate of 58 The Albert	349283	312889	36.3 part	36.6	40.8	41.86
60*	Station Hotel 4 Castle Foregate (façade)	349400	312954	61.3 part	83.2	87.9	84.53
61*	135 Harlescote Lane	350477	316167	17.9 part	18.3	17.6	16.92
62	16 Ebnal Road	351026	311311	-----	-----	16.6 part	15.14
63	7 New College Road	351197	311148	-----	-----	15.7 part	13.88
64	1 Knightsbridge Close, Lamp Post Outside	351531	310953	-----	-----	19.9 part	17.49
65	36 London Road, Lamp Post	350815	311817	-----	-----	30.4 part	28.73
HA	Outside 13 Hereford Road, Bayston Hill	348682	308935	-----	-----	50.0 Part	43.1

Note:

Green = Sites now discontinued ; Yellow = Results from within AQMA

- Locations 46 and 47 were added in November 2002 for long term co-location comparison with real time monitoring.
- Location 48 was added in November 2003 during construction of the new Guildhall.
- The locations of all diffusion tubes were reviewed in July 2004 following the completion of the Detailed Assessment for NO₂ in order to improve the data being collected in urban areas subjected to the highest traffic flows and to concentrate on locations where receptors would be likely to be subject to long term exposure (facades of dwellings). Those locations marked # were removed at the end of July and those marked * were added in August 2004.
- Locations 62, 63, 64 and 65 were added in October 2006 in light of the proposed collocation and expansion of Shrewsbury 6th Form College and Shrewsbury College of Arts and Technology at the London Road campus.
- HA indicates tube placed from April 2006 on behalf of the Highways Agency in respect of Air Quality Management Area 01
- Those results marked part are for mean averages based on less than 12 months data.

The data in the table above has been corrected by a bias adjustment factor to take account of inherent differences between results from diffusion tube and reference method (chemiluminescence) analysis. Recent reviews carried out on behalf of Defra have examined variations between diffusion tube and co-located automated monitors. These reviews show that the main factor affecting tube performance is the laboratory. Although the studies suggest that there may be residual uncertainty due largely to some aspect of the tube exposure, it has been recommended that diffusion tubes should be bias adjusted using the results from co-location studies carried out in the same year.

Bias adjustment factors determined from co-location studies throughout the UK have been collated by the Review & Assessment Helpdesk for Defra. This information has been used to derive the most appropriate bias correction factor for SABC. SABC have been using diffusion tubes supplied and analysed by Gradko using a 20% TEA in water preparation since 2001. Data on bias correction factors for this laboratory and preparation have been used for the 2004 – 2007 data. The table below summarises the bias factors used and the number of studies from which the average has been derived.

Year	Supplier	Preparation	Bias factor	No of studies
2004	Gradko	20% TEA/water	0.91	11
2005	Gradko	20% TEA/water	0.97	14
2006	Gradko	20% TEA/water	0.98	10
2007	Gradko	20% TEA/water	0.87	10

The uncorrected data has been bias corrected and also 2010 concentrations have been projected from the various annual averages based upon the guidance in LAQM.TG(03) (Defra 2003). The revised figures are detailed in the following table.

Bias Corrected Annual Mean NO₂ Concentration (µg/m³)

Tube ID	Location	Bias 04	Bias 05	Bias 06	Bias 07	Project 2010 from 2004	Project 2010 from 2005	Project 2010 from 2006	Project 2010 from 2007
2	A49 Bayston Hill,	30.80	35.09	38.53	36.53	23.89	28.06	32.03	31.74
3	Mytton Oak Road,	21.14	22.06	23.28	21.03	16.40	17.64	19.36	18.27
7	Woodfield School,	27.6	30.68	29.15	28.17	21.41	24.54	24.23	24.48
8#	Frankwell,	24.9	-----	-----	-----	19.32	-----	-----	-----
9	Smithfield Road,	34.07	37.01	43.27	37.87	26.43	29.60	35.97	32.90
44	Duplicate of 9	35.79 part	-----	-----	-----	27.76 part	-----	-----	-----
45	Duplicate of 9	37.81 part	-----	-----	-----	29.33 part	-----	-----	-----
10	Town Walls,	22.22	24.17	23.18	22.73	17.24	19.33	19.27	19.75
11#	Castle Foregate,	40.15 part	-----	-----	-----	31.14	-----	-----	-----
13	Harlescott Park & Ride	20.42	23.42	21.15	20.73	15.84	18.73	17.58	18.01
15	Ditherington Road,	29.95	34.20	35.85	30.69	23.23	27.35	29.80	26.66
17	Dogpole	31.23	32.50	33.99	30.07	24.22	25.99	28.26	26.12
18	The Square,	18.17	20.03	20.77	18.26	14.09	16.02	17.27	15.87

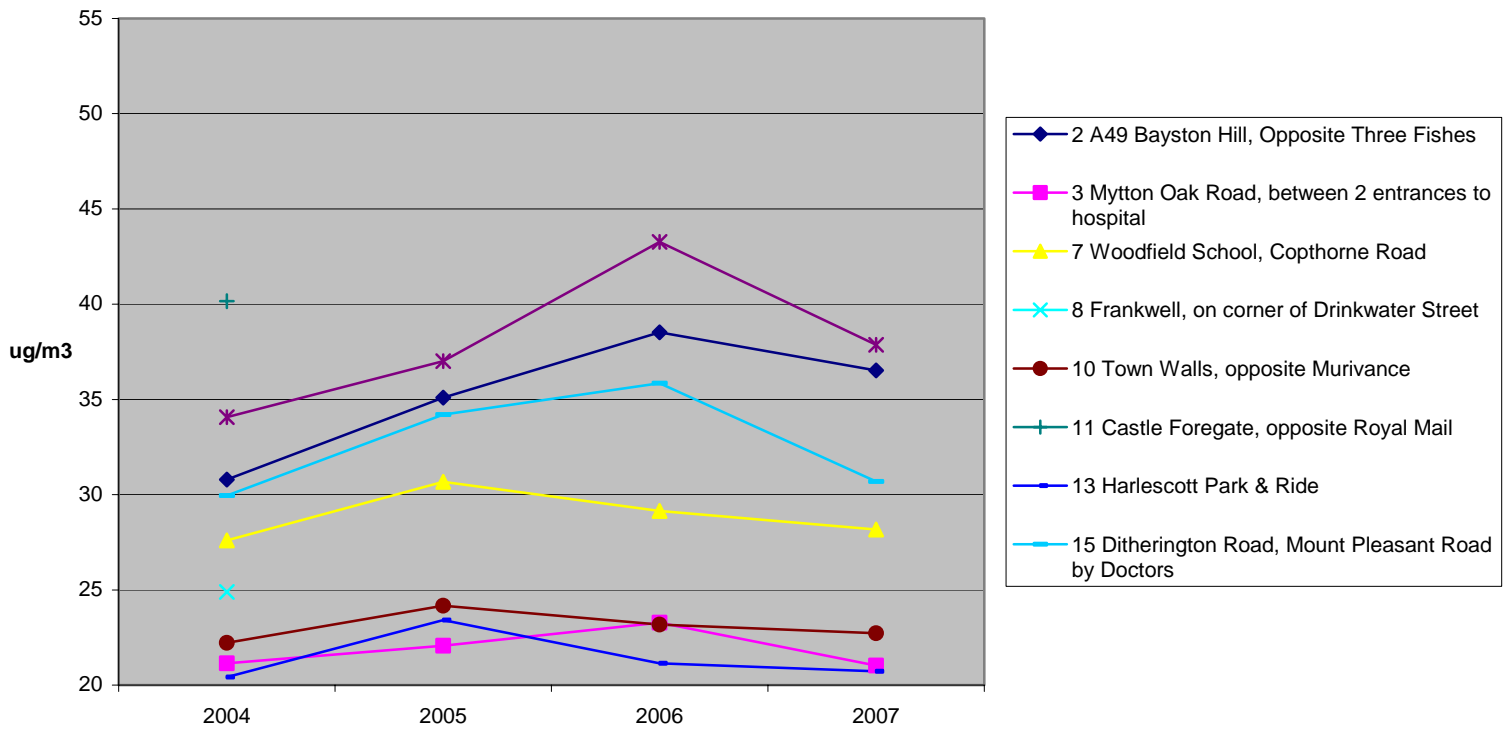
Tube ID	Location	Bias 04	Bias 05	Bias 06	Bias 07	Project 2010 from 2004	Project 2010 from 2005	Project 2010 from 2006	Project 2010 from 2007
19	Wenlock Road,	18.91	19.74	21.02	20.37	14.67	15.78	17.48	17.69
20#	Buildwas,	10.11 part	-----	-----	-----	7.85 part	-----	-----	-----
21	Ellesmere Road	20.19	24.73	24.38	22.70	15.66	19.78	20.27	19.72
22#	A5/Sundorne Road Junction	39.92 part	-----	-----	-----	30.96	-----	-----	-----
26	Dorrington,	28.25	30.97	33.02	28.71	21.91	24.77	27.45	24.94
30	Whitchurch Road,	30.88	30.17	31.79	27.62	23.95	24.13	26.43	23.99
31	Ravens Meadow,	34.53	40.12	41.65	35.78	26.78	32.08	34.62	31.08
32	Coleham Head,	30.20	31.73	33.78	30.29	23.43	25.38	28.08	26.31
33	English Bridge,	36.44	37.77	38.39	28.18	28.26	30.21	31.91	24.48
34	Abbey Foregate gyratory	29.92	30.74	31.19	30.65	23.20	24.59	25.93	26.62
42A	Duplicate of 34	29.71	31.30	29.37	30.03	23.04	25.03	24.42	26.09
43A	Duplicate of 34	28.43	30.72	30.79	32.75	22.05	24.57	25.59	28.45
35	Meole Brace	23.41	27.74	28.47	26.81	18.16	22.18	23.67	23.29
36	Meole Brace roundabout	23.49	26.73	24.19	22.87	18.22	21.38	20.11	19.87
37#	Heathgates roundabout	29.33 part	-----	-----	-----	22.75 part	-----	-----	-----
38	51 Abbey Foregate	28.50	29.64	29.95	24.82	22.10	23.70	24.90	21.56
39	Castle Gates	33.84	36.67	38.25	35.89	26.25	29.32	31.80	31.18
40	St Michaels Gate	25.98	25.52	27.08	25.67	20.15	20.41	22.51	22.30
41#	Station House Upton Magna	-----	-----	-----	-----	-----	-----	-----	-----
46	Monitoring Station -	23.55	25.54	24.67	24.72	18.26	20.43	20.51	21.48
47	Duplicate of 46	23.59	25.63	23.91	22.32	18.30	20.50	19.88	19.39
48	Longner Street	16.27	17.06	16.34	14.99	12.62	13.64	13.58	13.02
49*	82/83 Frankwell	26.97 part	29.17	29.28	27.90	20.92	23.33	24.34	24.24
50*	Britannia Inn	34.95 part	36.73	37.89	33.89	27.11	29.37	31.50	29.44
51*	6a Severn Steps	36.34 part	34.42	37.84	33.26	28.19	27.53	31.45	28.89
52*	16 New Street)	18.41 part	19.35	18.45	20.38	14.28	15.47	15.34	17.71

Tube ID	Location	Bias 04	Bias 05	Bias 06	Bias 07	Project 2010 from 2004	Project 2010 from 2005	Project 2010 from 2006	Project 2010 from 2007
53*	Abbey Foregate /Monkmoor Rd	26.67 part	34.14	31.55	31.76	20.69 part	27.31	26.23	27.59
54*	Featherbed Lane	27.14 part	24.13	22.43	22.48	21.05 part	19.30	18.65	19.53
55*	Heathgates Public House	25.80 part	27.67	29.56	27.34	20.01 part	22.13	24.57	23.76
56*	35 Whittigton Close	22.20 part	24.73	28.44	24.98	17.22 part	19.77	23.64	21.70
57*	1 Woodcote Cottages	16.82 part	13.16	12.88	11.58	13.05 part	10.52	10.71	10.06
58*	The Albert Smithfield Road	31.20 part	36.23	38.41	34.57	24.20 part	28.98	31.93	30.03
59*	Duplicate of 58 The Albert	33.05 part	35.50	39.98	36.42	25.64 part	28.39	33.24	31.64
60*	Station Hotel 4 Castle Foregate	55.76 part	80.73	86.13	73.54	43.25 part	64.56	71.60	63.89
61*	135 Harlescott Lane	16.27 part	17.73	17.28	14.72	12.62 part	14.18	14.37	12.79
62	16 Ebnal Road	-----	-----	15.91 part	13.17	-----	-----	13.23 part	11.45
63	7 New College Road	-----	-----	13.52 part	12.08	-----	-----	11.24 part	10.49
64	1 Knightsbridge Close,	-----	-----	17.55 part	15.22	-----	-----	14.59 part	13.22
65	36 London Road,	-----	-----	18.56 part	24.99	-----	-----	15.43 part	21.71
HA	13 Hereford Road, Bayston Hill	-----	-----	40.25 part	37.50	-----	-----	33.46 part	32.58

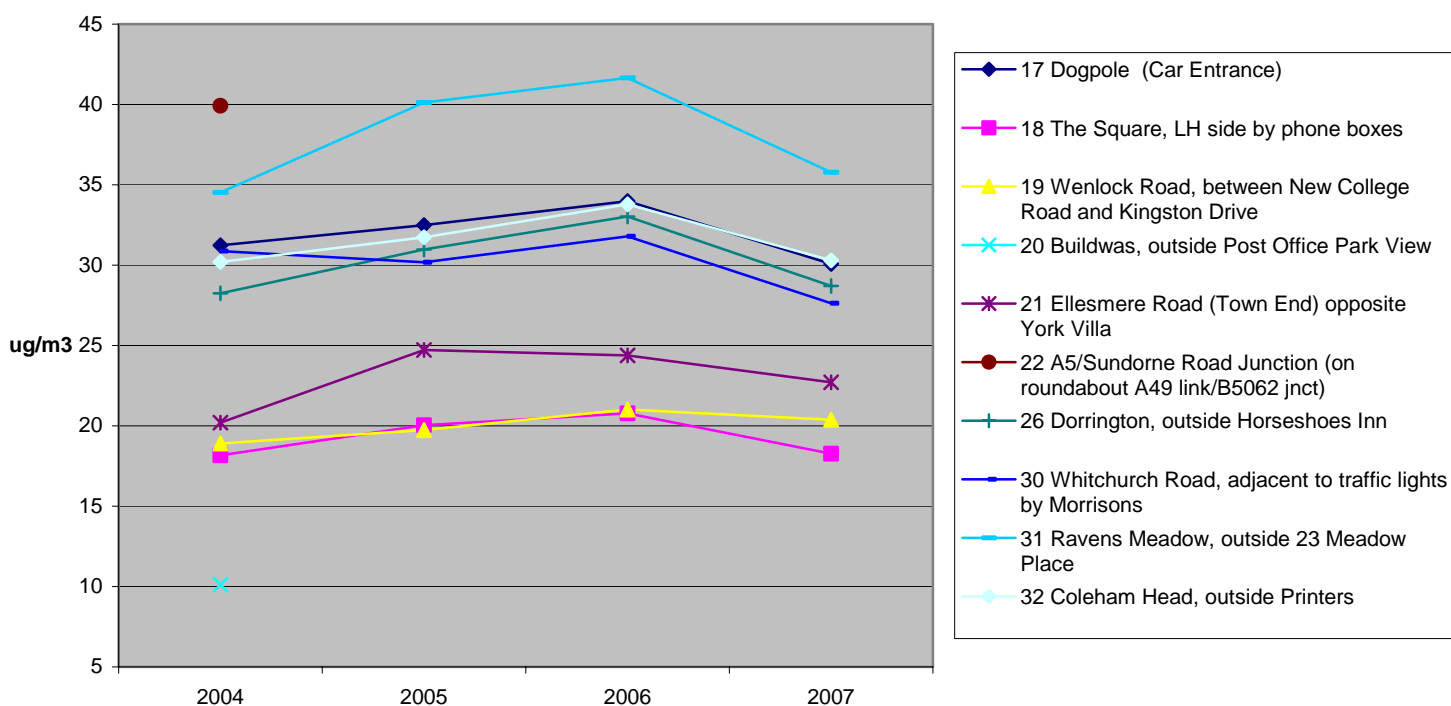
Green = Sites now discontinued ; Yellow = Results from within AQMA

In addition, this data has been reproduced graphically along with location plans in the following pages to detail the positions of new diffusion tube locations.

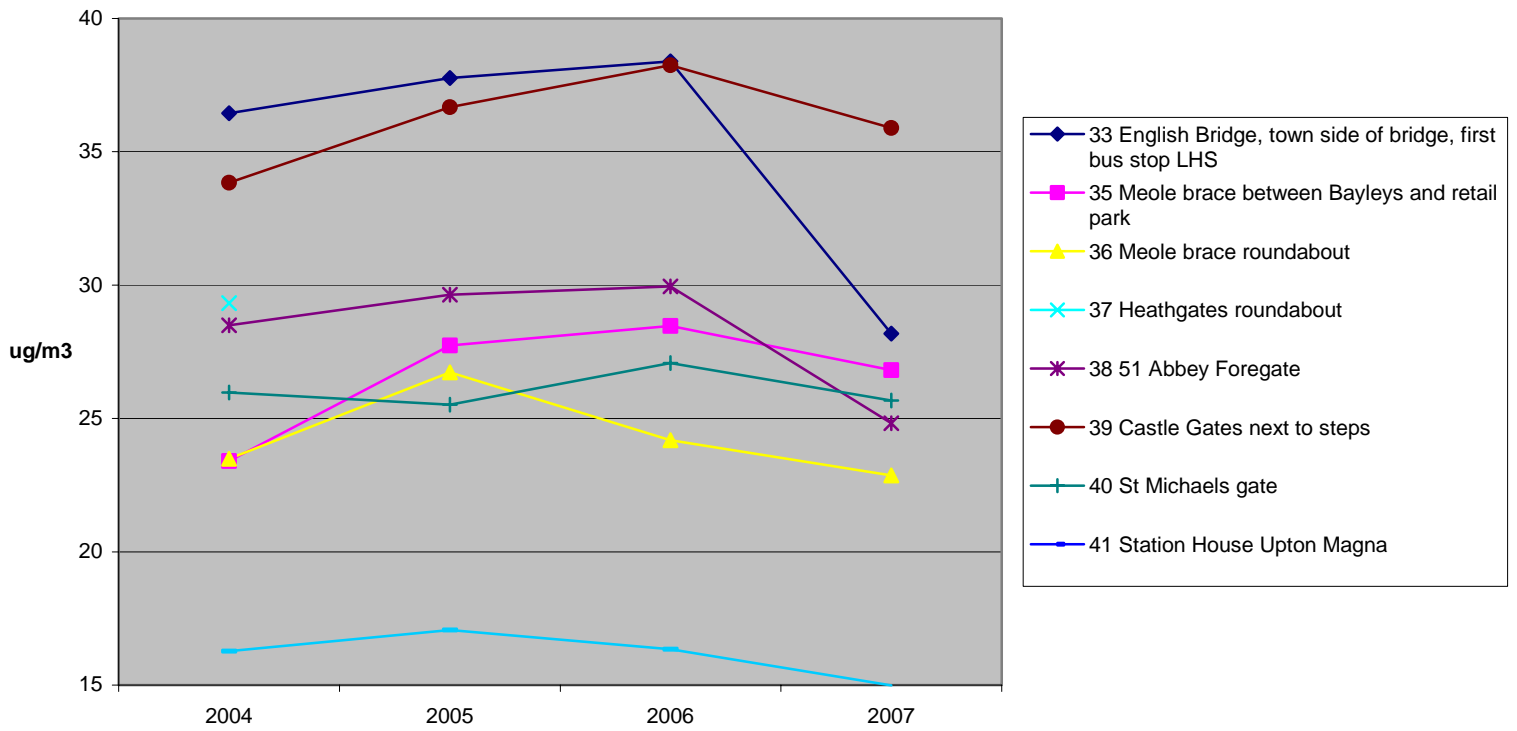
Diffusion Tube Concentrations - Shrewsbury



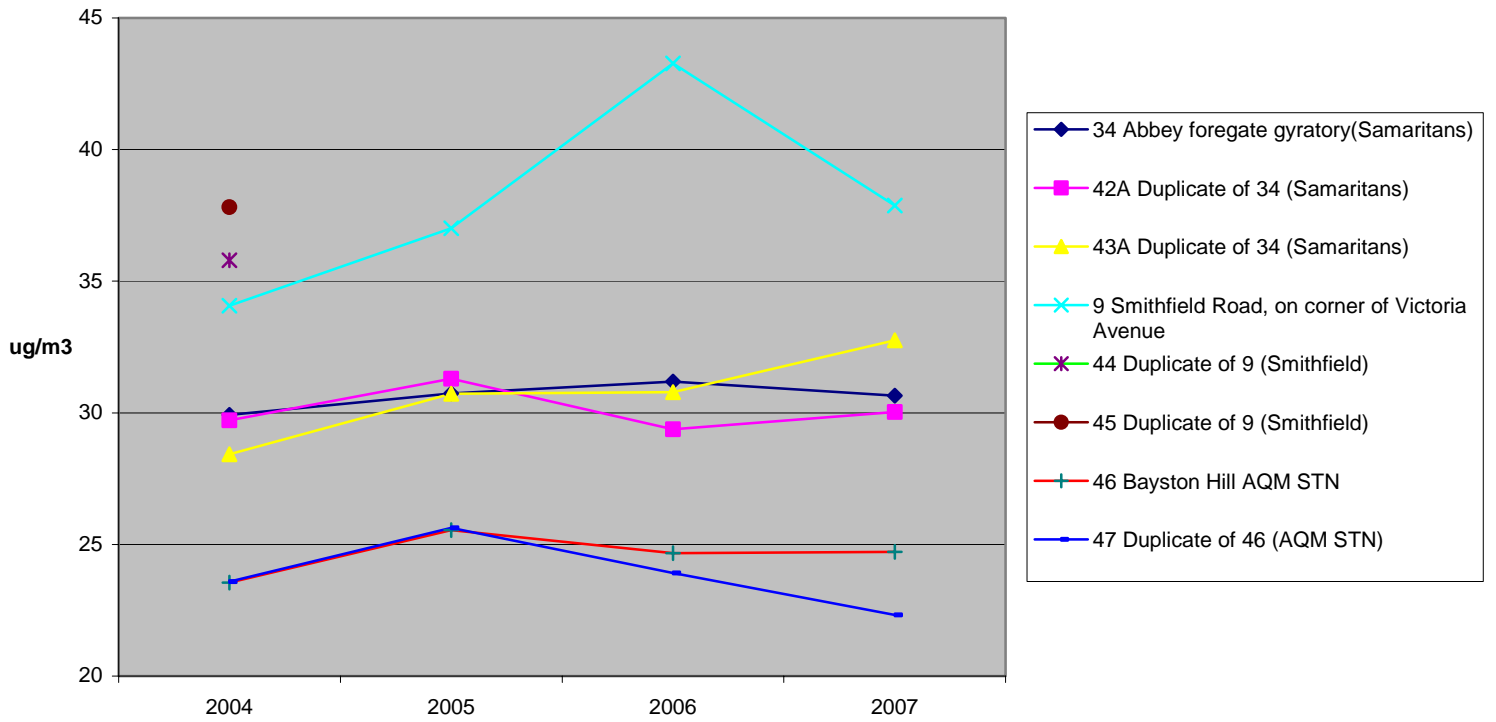
Nitrogen Dioxide Concentrations - Shrewsbury



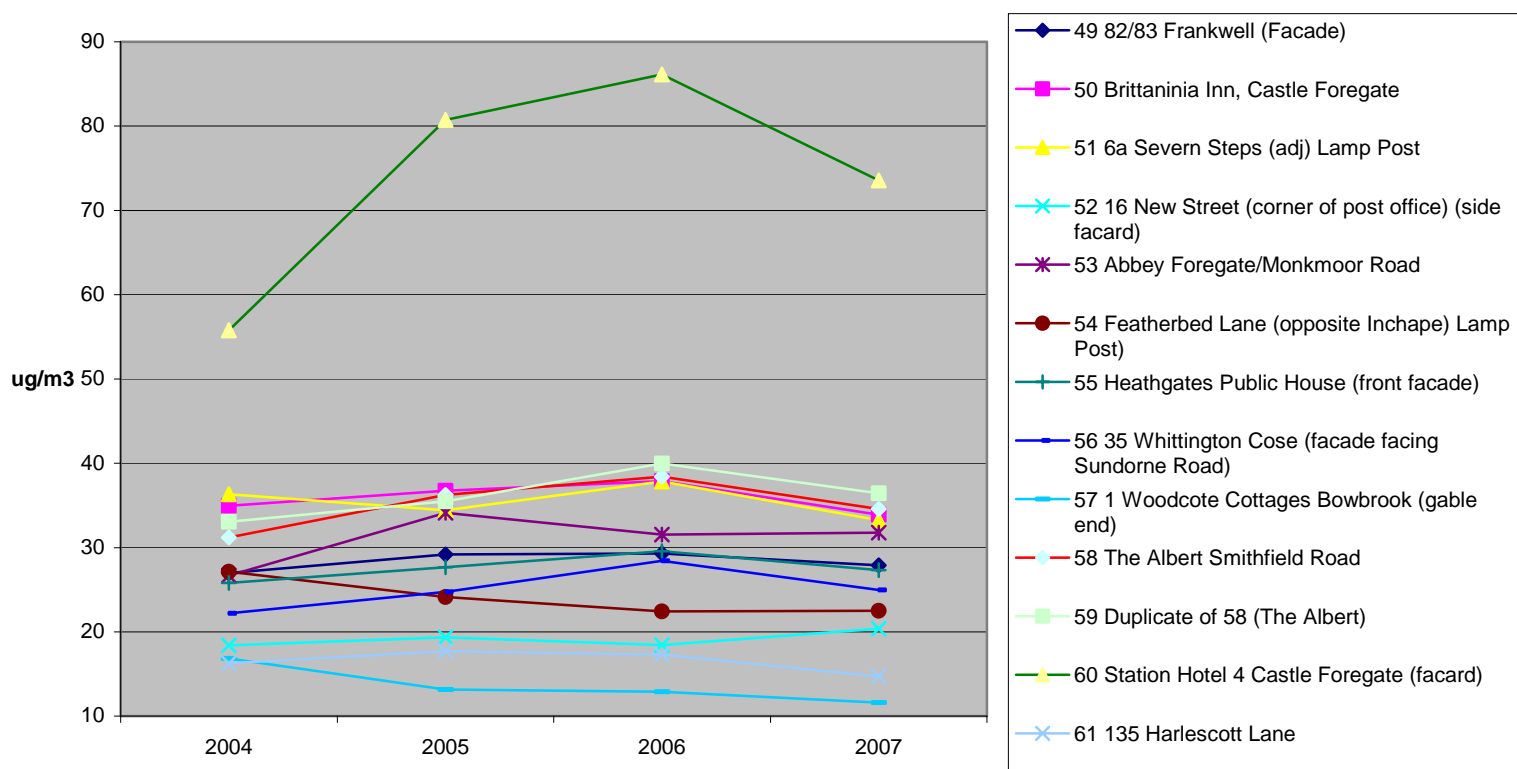
Nitrogen Dioxide Concentrations - Shrewsbury

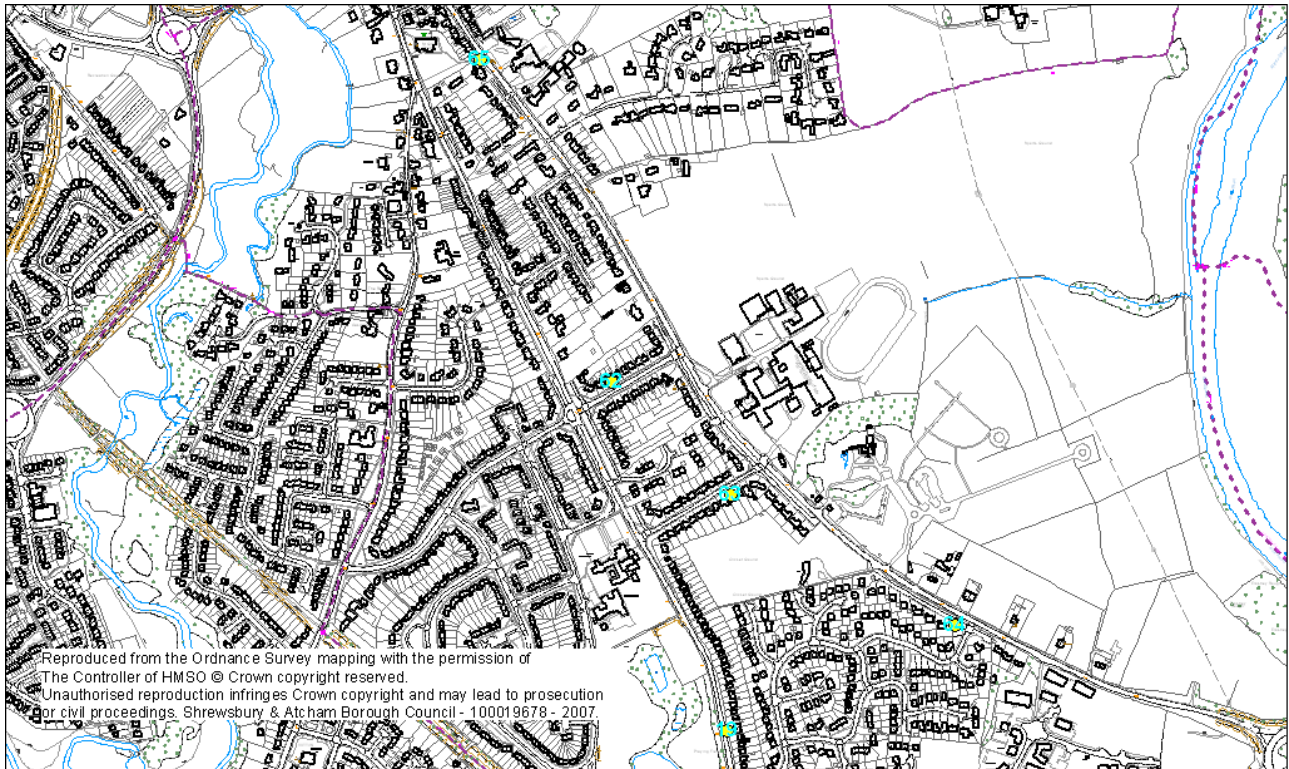


Nitrogen Dioxide Concentrations - Shrewsbury

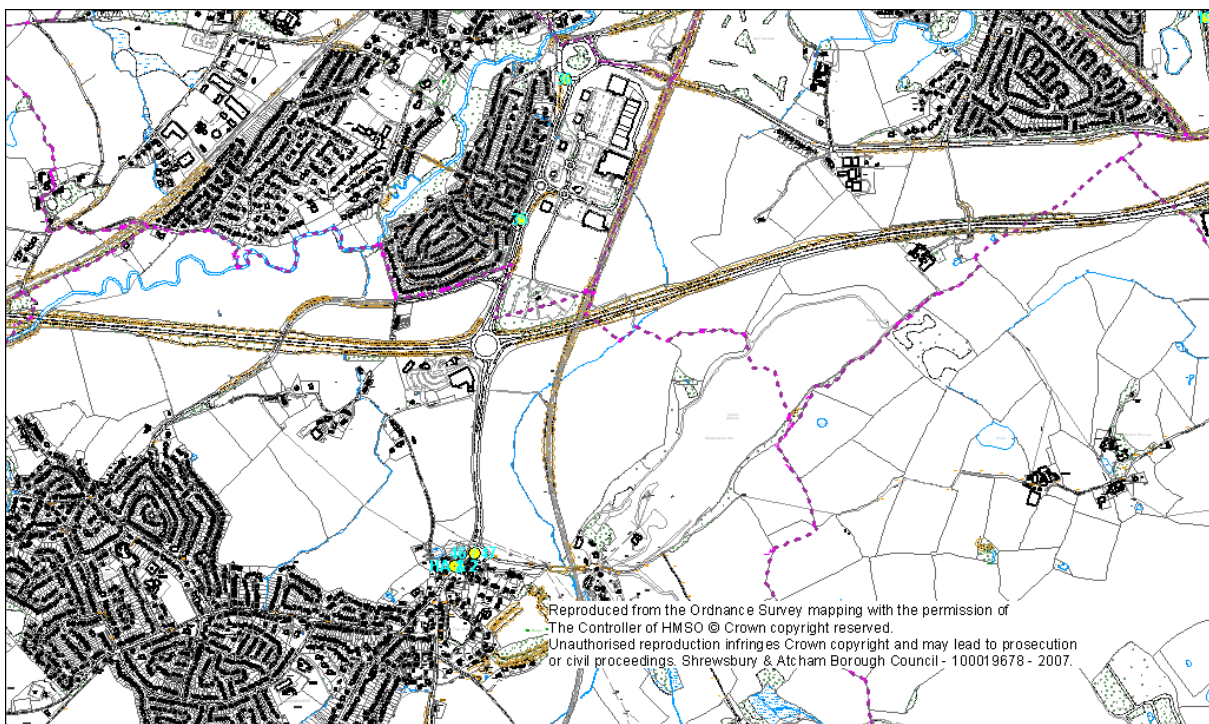


Nitrogen Dioxide Concentrations - Shrewsbury





Diffusion Tubes (East Shrewsbury)



Diffusion Tubes (South Shrewsbury)

A4.4: Additional Information: Shrewsbury & Atcham

The council does not monitor benzene, 1,3 butadiene, or lead.

The real time air quality monitoring station introduced by SABC during late 2002 at Bayston Hill at the location shown at Figure 1 continues to provide useful data. This equipment, supplied by Signal Ambirak, measures a range of pollutants including PM₁₀ using an R and P TEOM instrument and oxides of nitrogen, including NO₂.

The rationale behind choosing this monitoring position was to obtain better information about PM₁₀ at this location of concern, whilst also obtaining local data relevant to AQMA 01 declared in May 2003 in respect of the predicted exceedence of the annual mean objective for NO₂ at Hereford Road, Bayston Hill.

More recently, approval by Shropshire County Council of a planning application for the enlargement of Bayston Hill Quarry, reinforces the need to continue the monitoring of particulates within the vicinity of the quarry. The intention (subject to the availability of funding from Defra) is to extend the monitoring capability to also include a new sensitive location to the east of the quarry that will potentially be impacted by the new workings.

Following the receipt of capital funding from Defra arrangements have been made to establish a new real time monitoring station at the junction of Chester Street and Castle Gates within the town centre, a location which modelling and diffusion tube monitoring indicates is likely to experience continuing non-compliance with the National Air Quality Annual Mean Objective for NO₂ into the foreseeable future. This station will measure oxides of nitrogen, including NO₂ and PM₁₀ and should become operational during the early summer of this year.

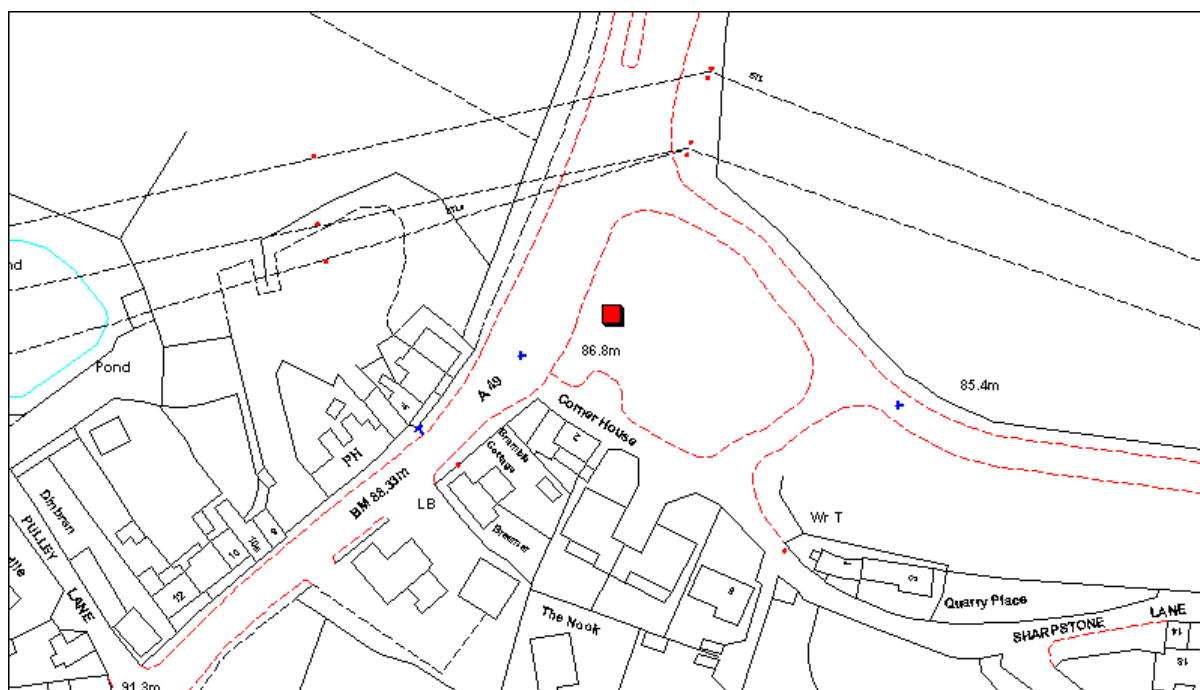
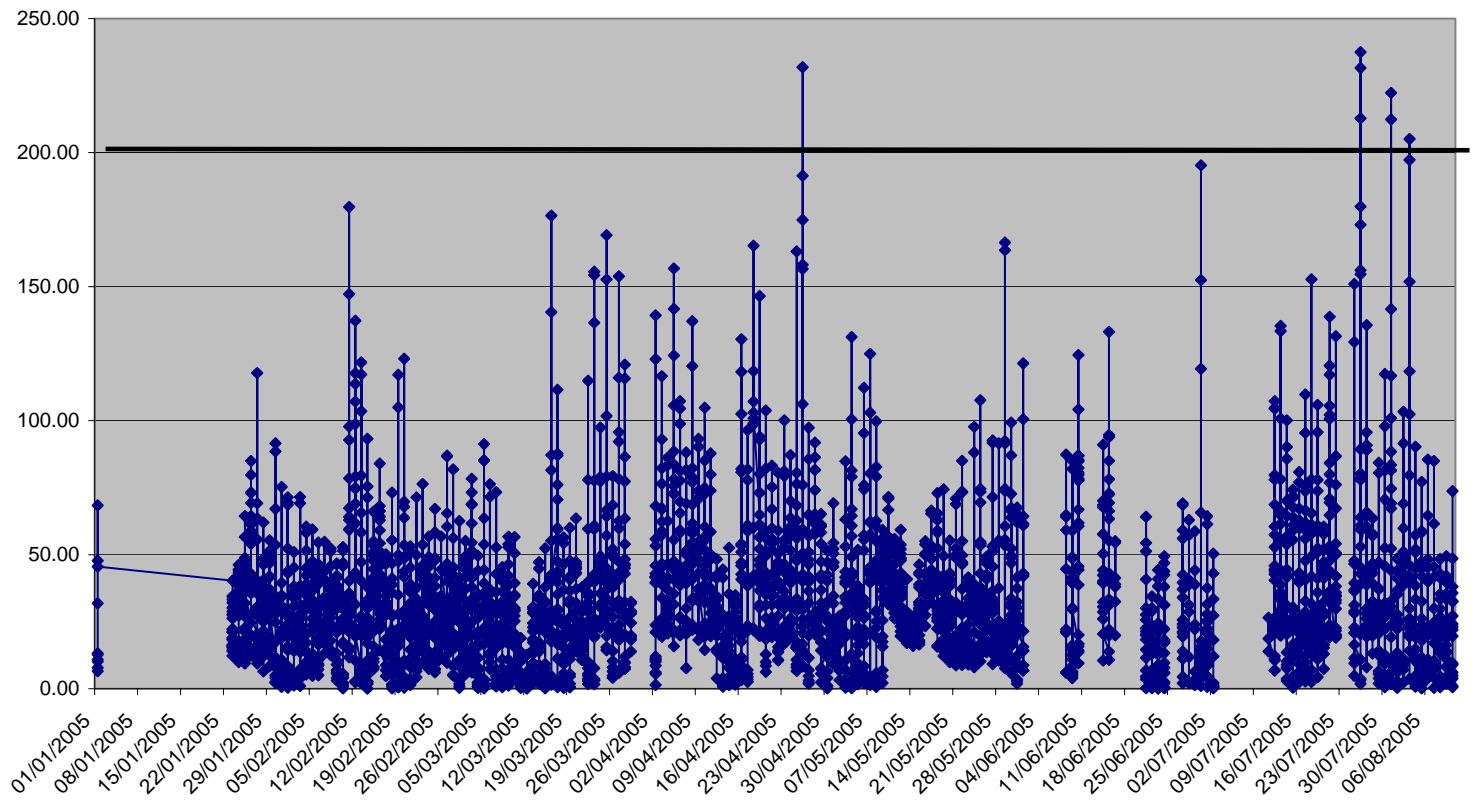


Figure 2: Location of Air Quality Monitoring Station at Bayston Hill

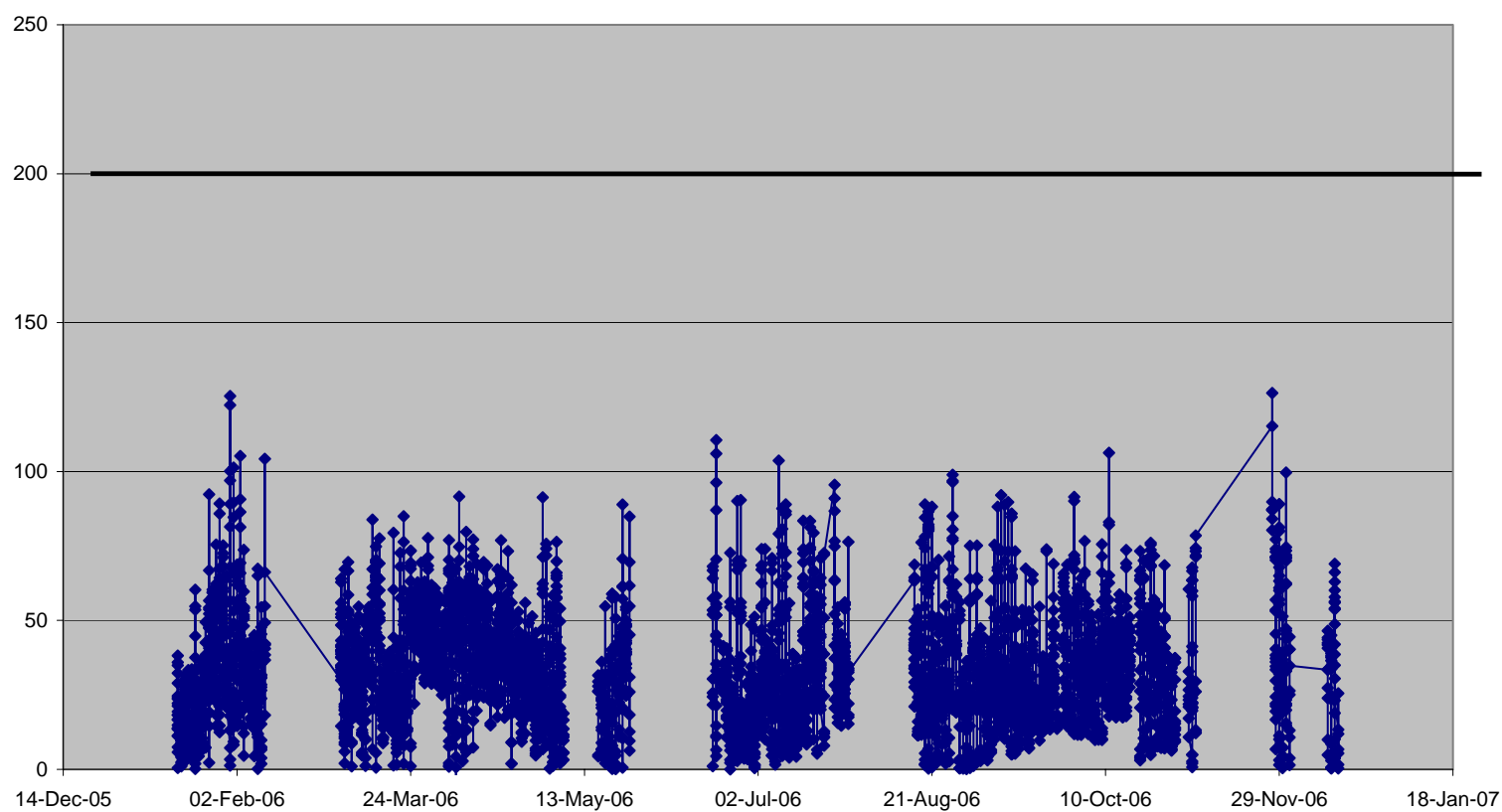
A colocation study for NO_x diffusion tubes numbers 46 and 47 is also carried out at this location.

Results for NO₂ annual and 1 hour means and for PM₁₀ annual and 24 hour means are shown in the figures below

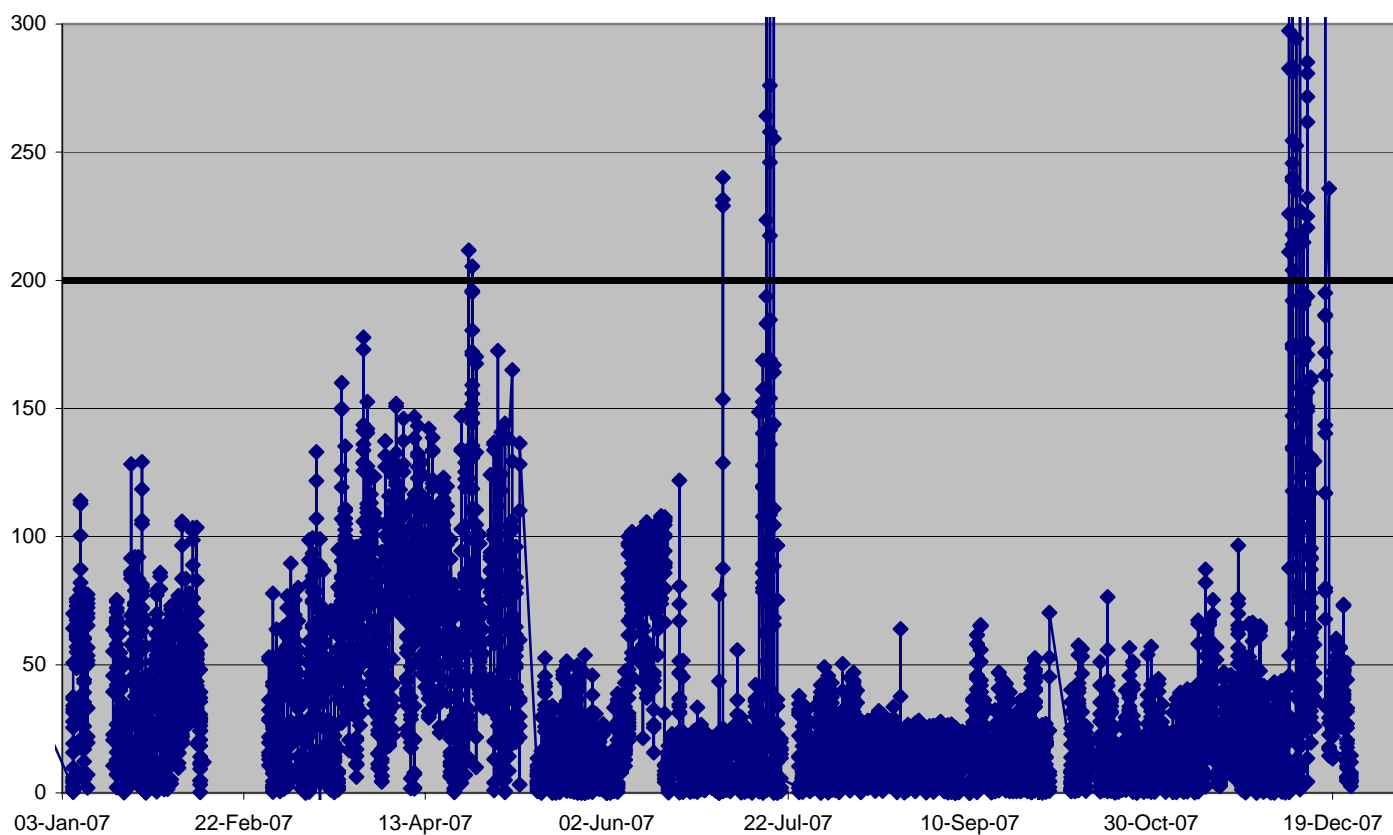
Hourly Mean NO₂ Concentrations (ug/m³) at Bayston Hill 2005



Hourly Mean NO2 Concentrations (ug/m3) at Bayston Hill 2006



Hourly MeanNO2 Concentrations (ug/m3) at Bayston Hill 2007



The annual mean values and number of exceedences of the hourly mean National Air Quality Objective of 200ug/m³ are shown in the table below

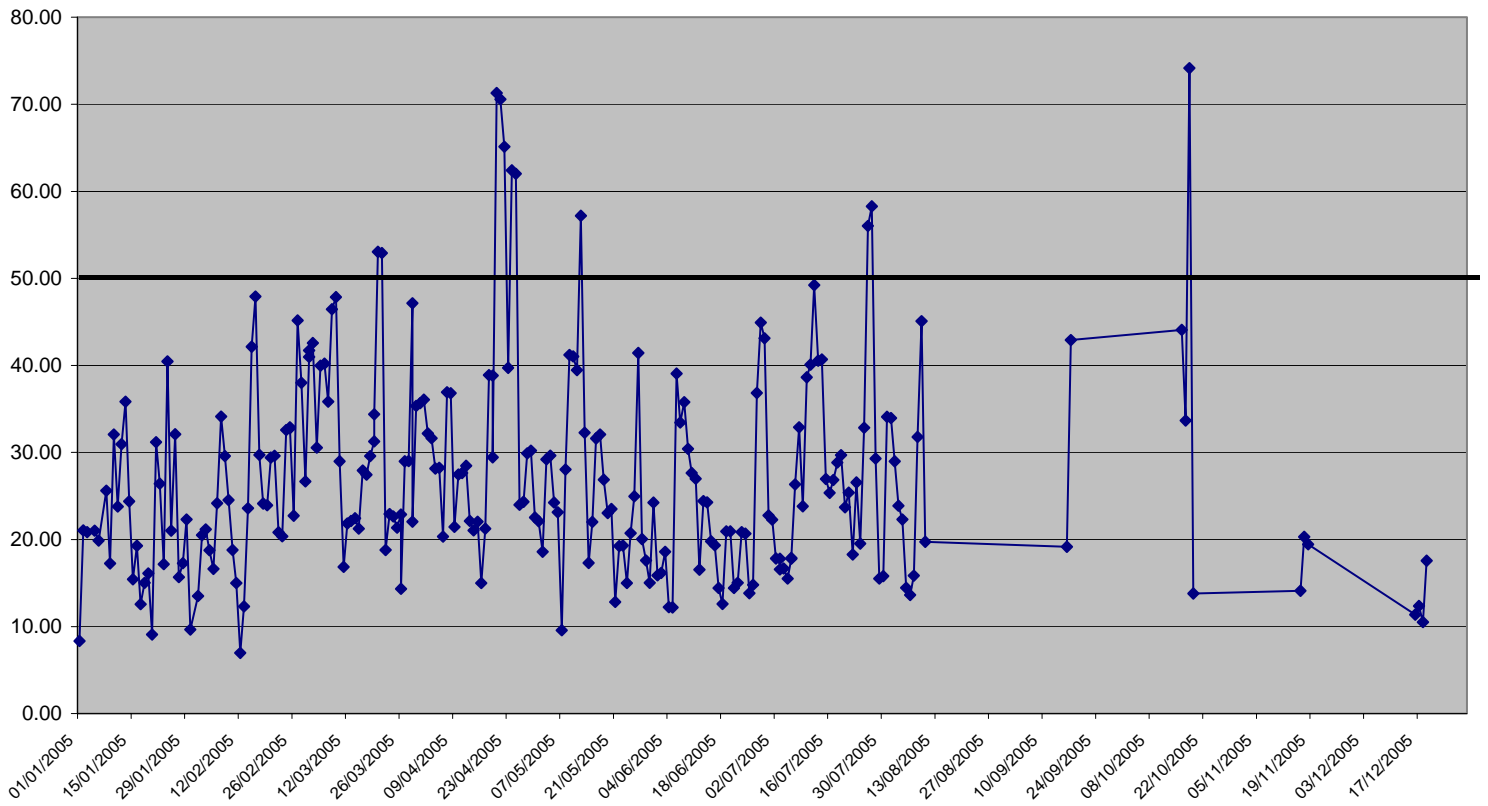
Year	Annual Mean Value	No. of exceedences of Hourly Mean Objective
2004	34.52	22
2005	33.12	7
2006	32.92	0
2007	33.98	73
2008	25.14 to date	0 to date

There appear to have been breaches in 2004 and again in 2007 of the hourly mean NAQO, which permits 18 exceedences per year. However, the number of hourly exceedences should be viewed with caution as the results are based on unratified data and there is marked variability in hourly values during certain periods of 2007, which may be associated with unreliability of the analyser.

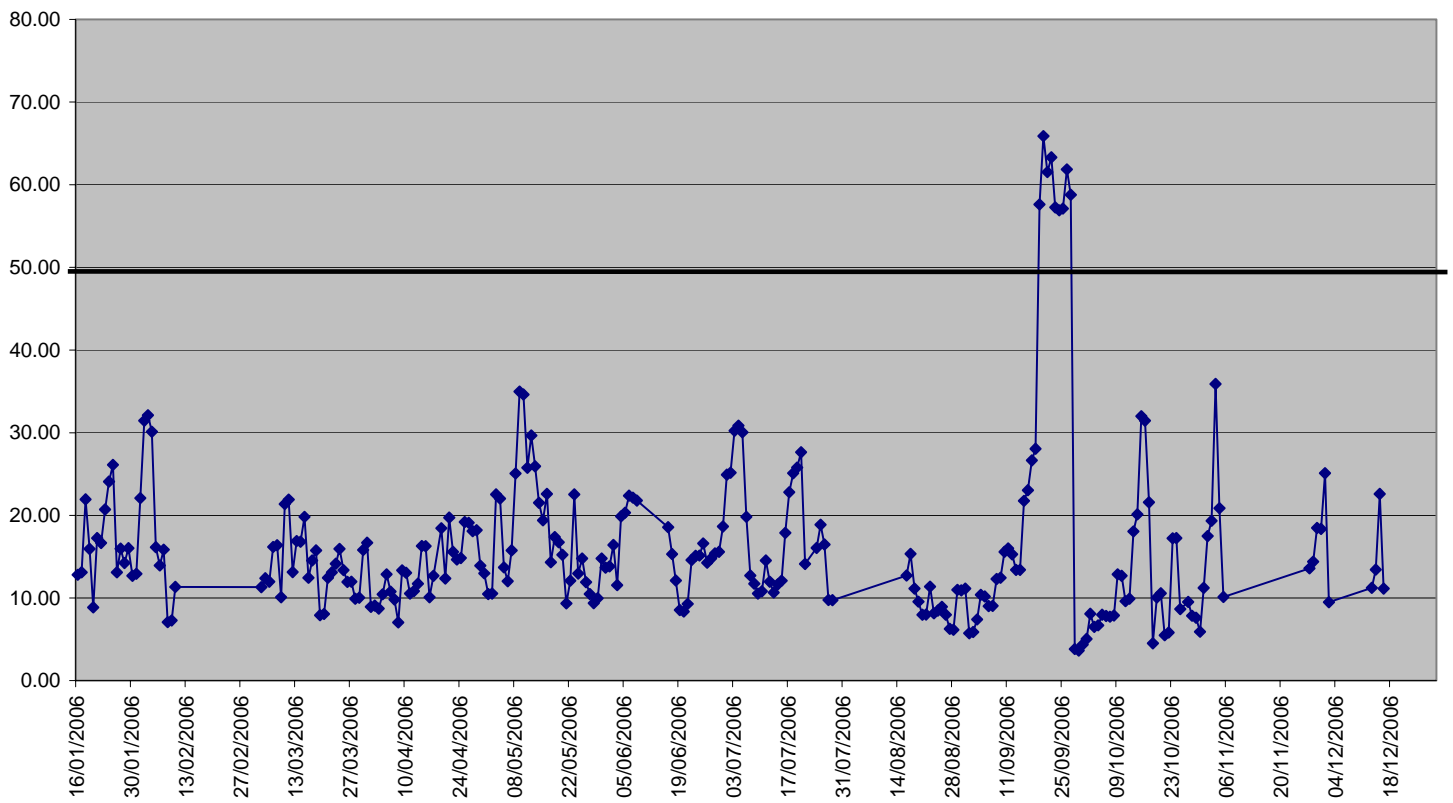
It can be seen from the annual mean values calculated from the data collected by this equipment that the values are similar to the diffusion tubes data at other Bayston Hill locations, although the co-located diffusion tubes indicate annual mean values typically 9 to 10 ug/m³ lower than the real time data.

In view of the 2007 results (albeit subject to uncertainty), the situation at Air Quality Management Area 01 at Bayston Hill will be kept under close review and if necessary further detailed assessment and dispersion modelling will be carried out at a further date prior to any decisions being taken as to the continuing status of the AQMA.

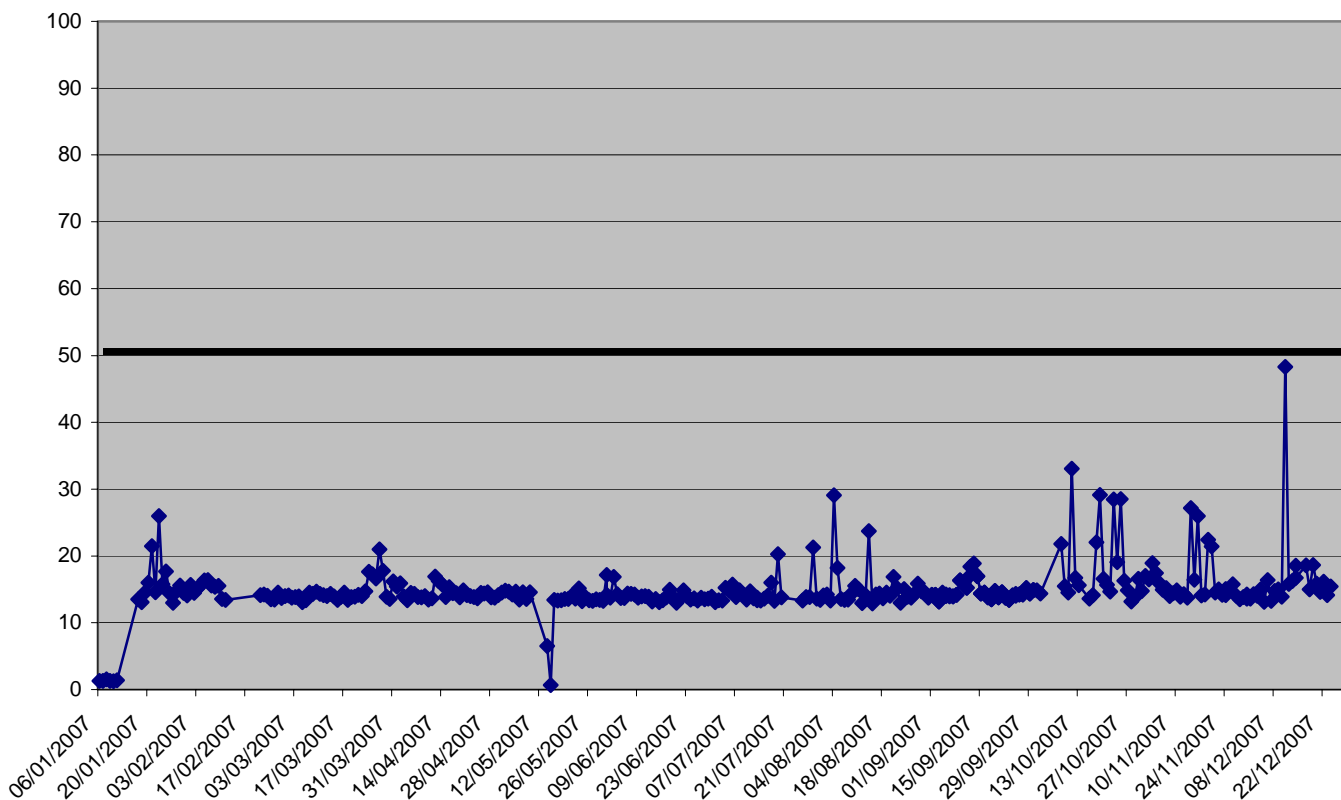
24 Hour PM10 Concentrations (ug/m3) at Bayston Hill 2005



24 Hour PM10 Concentrations (ug/m3) at Bayston Hill 2006



24 Hour PM10 Concentrations at Bayston Hill 2007



The annual mean values and number of exceedences of the 24 hours mean National Air Quality Objective of 50ug/m3 are shown in the table below

Year	Annual Mean Value	No. of exceedences of 24 Hours Mean Objective
2004	20.63	3
2005	27.19	11
2006	16.49	9
2007	15.18	0
2008	17.47 to date	0 to date

It can be seen that the PM10 annual mean values for all years were all well below the annual mean NAQO of 40ug/m3 and the exceedences of the PM10 24 hour mean limit were all well below the 35 exceedences of 50 ug/m3 permitted by the NAQO. .

Air Quality Management Areas (AQMA)

A detailed assessment for NO₂ was completed in July 2004. This can be viewed at:

www.shrewsbury.gov.uk/public/health/airquality/aggx0116+sabc+detailed+assessmentv2.pdf

The results of this are that the annual mean objective for NO₂ is predicted to continue to be breached at existing AQMA 01 at Bayston Hill and at AQMA 03 at Frankwell/Smithfield Road/Castle Gates. Furthermore, that this objective is predicted to be breached throughout much of Shrewsbury town centre and accordingly an enlarged AQMA (03A) has been declared for most of the town centre, to encompass AQMA 03.

The annual mean objective for NO₂ is now predicted to be close to, but not being exceeded, at existing AQMA 02 at Heathgates Island, however, the AQMA designation will be maintained on a precautionary basis. More recent monitoring at AQMA 01 at Bayston Hill suggests that the annual mean objective for NO₂ at this location is close to, but not being exceeded, and thus the AQMA designation will be maintained on a precautionary basis.

A Further Assessment for NO₂, including source apportionment to quantify the effectiveness of measures within AQMA 03A, was completed in May 2006. This can be viewed at:

<http://www.shrewsbury.gov.uk/public/health/airquality/AMCX0406+SABC+Further+Assessment+Report+v2.pdf>

The Council adopted a Draft Air Quality Action Plan (AQAP) in October 2004 in respect of Air Quality Management Areas 01, 02 and 03 which included a range of hard and soft measures designed to work towards meeting the Air Quality annual mean objective for NO₂.

Subsequently many of the measures have been delivered either directly by SABC or as part of ongoing work by Shropshire County Council (SCC) through the Local Transport Plan. The plan will be refined and finalised following further consultation with the statutory consultees and all relevant stakeholders. The final plan will also incorporate any additional measures stemming from the declaration of the enlarged AQMA (03A). The plan can be viewed at:

[www.shrewsbury.gov.uk/public/health/airquality/air+quality+action+plan+\(aqap\)+2004.htm](http://www.shrewsbury.gov.uk/public/health/airquality/air+quality+action+plan+(aqap)+2004.htm)

Following Detailed Review and Assessment for NO₂, AQMA 03 was extended in March 2006 to cover most of Shrewsbury Town Centre. Further assessment / source apportionment modelling was carried out by Bureau Veritas to inform the finalisation of the measures in the AQAP and to assist in the production of SCCs new Local Transport Plan (LTP2) to ensure that measures to meet the Environment objective (including Air Quality) would be addressed.

The AQAP was revised in March 2008 to take into account the enlargement of AQMA 03 and in light of SCC's proposed Transport Innovation Funding (TIF) bid for a range of measures intended to include congestion charging and improved public transport. Comprehensive consultation of the public and other stakeholders by both SABC and SCC took place in respect of all the proposals prior to the TIF bid not being proceeded with and the AQAP amendments then reflecting that TIF measures would not be implemented.

AQAP measures that have already been implemented to date include:

- Voluntary emissions testing in conjunction with VOSA
- Improvements to Dobbie's Roundabout to reduce queuing traffic at Bayston Hill
- Upgrading of public transport infrastructure
- Increased and Improved Public Transport Promotion and Information

- Expand and integrate cycle network
- Footway and footpath improvements
- Implement Travel Plans and Safer Routes to School initiatives
- Targeted Travel Awareness initiatives
- Improved frequency of rail services on Shrewsbury – S Wales line
- Expanding the Shrewsbury Bus Quality partnerships
- Enhanced levels of cycle training offered at primary, secondary and adult level
- Implement SABC green travel plan including acquisition of low emission pool car
- Car Parking Strategy to encourage more cost effective parking outside the river loop
- Measures for reducing traffic speeds and smoothing flow of traffic
- Increased enforcement of waiting restrictions in town centre
- Review Licensing conditions for Taxis and Private Hire vehicles
- Improvements to SABC fleet and tendering for replacements based on emissions standards/sustainability
- Integration of Air Quality into land use planning policy and decision making

AQAP measures that will be implemented in the longer term include:

- Use of Bus Contract subsidy to require operator improvements
- Improve existing Park & Ride (P&R) site facilities and services
- Improvements to Bus Station
- Review of signposting to identify AQMAS and alternative routes
- SCOOT control (With Bus priority)
- Creation of a Gyratory System at Bridge Street/St. Austin's Street.
- Investigate enhancement of Gyratory System at Howard Street/Castle Foregate
- Investigate creation of a Gyratory System at St Julians Friars
- Identification, mapping and signing of recommended freight routes
- Investigate options for further pedestrianisation of Shrewsbury town centre
- Make a decision on whether to pursue a North West Relief Road for Shrewsbury
- Use of Fixed Penalty Notices to enforce switch off of engines of parked vehicles
- Increased provision of air quality information to public
- Improved targeting of air quality monitoring into town centre location

A detailed assessment for SO₂ was completed in May 2005 jointly with BTW and BDC in relation to SO₂ from Ironbridge Power Station. The results of this were that although there were 66 exceedences in 2003 of the 15-minute mean NAQO for SO₂ (the objective permits no more than 35 per year) at Aqueduct Monitoring Station, Telford, there were only 11 exceedences in 2004 and thus not a breach of this objective. During subsequent years, an improved control strategy as required by the operator's Air Quality Management Plan has considerably reduced the number of 15 minute mean exceedences, such that this objective has not been breached. Therefore, it is not necessary to declare an AQMA here, but close liaison with the Environment Agency and the operator will continue.

A detailed assessment for PM₁₀ was completed in November 2004 and indicated that the number of yearly exceedences of the 24 hour mean level of 50 µg/m³ is unlikely to breach the objective of 35 permitted occurrences. This can be viewed at:

www.shrewsbury.gov.uk/public/health/airquality/detailed+assessment+of+air+quality+-+particulate+matter.doc

On the basis of this prediction and more recent monitoring results reported above, it is not currently necessary to declare an AQMA for the pollutant PM₁₀ at Bayston Hill. However, SABC will continue to monitor a range of pollutants at this location for the foreseeable future and will strictly enforce compliance with a range of permit conditions designed to minimise direct and fugitive particulate emissions from the quarry. This will be particularly important in view of the impending enlargement of the quarry following the recent approval of a planning application by Shropshire County Council.

APPENDIX 5: SOUTH SHROPSHIRE

A5.1: New and Altered Industrial Developments: South Shropshire

Part A1 Installations

The Environment Agency has granted permits for the following Part A1 processes since the USA of 2006

Company	Process	Emmissions to air	Grid Co-ordinates
EQL	Livestock slaughter and processing	Ammonia, PM10	345571-282809
Sun Valley Foods	Intensive Farming	Ammonia, PM10	351364-292928
Farmpoint Ltd.	Intensive Farming	Ammonia, PM10	351371-269335
J L Jones & Co.	Intensive Farming	Ammonia, PM10	342939-285377
D J & M P Mills	Intensive Farming	Ammonia, PM10	345837-283414
R T Bright & Son	Intensive Farming	Ammonia, PM10	327498-285613
Goodwins	Intensive Farming	Ammonia, PM10	345630-287010

Part A2 Installations

There are no A2 permitted installations within SSDC

Part B Installations

The following Part B Processes have opened since the USA of 2006.

Company	Process	Pollutants	Eastings	Northings
Harry Tuffin Ltd	Petrol Vapour Recovery	Benzene	3515	2683
Tarmac Ltd	Concrete Batching	PM10	3513	2749

The following Part B Processes have ceased to require a permit since the USA of 2006.

Company	Process	Pollutants	Eastings	Northings
Mawley Oak Garage	Petrol Vapour Recovery	Benzene	3697	2757

Sheldon & Key	Waste Oil Burning	NO2, SO2, PM10	3513	2749
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A5.2: New Major Developments: South Shropshire

The following applications for housing and other developments that may affect air quality have received planning approval since the last Progress Report.

App No.	Location	Proposal	Decision Date
1/08/20328/F	Land at Ashbrook (off Lawley Close) Church Stretton Shropshire	Construction of 42 residential units.	06.03.08
1/08/20452/F	Land to rear of 34-36 High St, Sumach, Station St & land at Castle Street, Bishop's Castle, Shropshire	Construction of 12 residential units.	10.06.08
1/06/18517/F	Dun Cow Farm, Rocks Green, Ludlow, Shropshire	Construction of 91 residential units.	24.08.06
1/06/18858/0	Land at Fishmore Road, Ludlow, Shropshire	Construction of 94 residential units.	22.01.07
1/07/19614/F	Land at Vaughan Road, Cleobury Mortimer, Kidderminster, Worcs.	Construction of 14 residential units.	21.09.07
1/07/19700/F	Land adjacent to Swains Meadow, Church Stretton, Shropshire	Construction of 26 residential units.	25.09.07
1/07/19179/O	Former Motorway Remouls Ltd. Factory, Silurian Mill, Mill Green Lane, Knighton	Construction of 36 residential units. (Outline permission only – no. of units may change)	05.04.07
1/08/20327/O	Land at Ashbrook (off Lawley Close), Church Stretton, Shropshire	Construction of 34 residential units.	06.03.08

A5.3: Diffusion Tubes in South Shropshire

The Council monitors NO₂ by diffusion tubes at sites across the district.

NO₂ Diffusion tube concentrations

Tube ID	Location	Coordinates		Original Annual Mean NO ₂ Concentration (µg/m ³)					
		X	Y	2002	2003	2004	2005	2006	2007
1	Corve St, Ludlow	351132	275028	N/A	N/A	34.2	35.6	27.4	31.8
2	Corve St, Ludlow	351132	275028	N/A	N/A	32.8	37.7	28.8	33.5
3	Upper Galdeford, Ludlow	351429	274835	N/A	N/A	23.3	25.9	23.0	28.4
4	Old Street, Ludlow	351248	274681	N/A	N/A	37.8	36.7	36.3	40.0
5	Ludford Bridge, Ludlow	351225	274159	N/A	N/A	27.6	26.3	27.3	29.1
6	A49 south of crossroad Church Stretton	345711	229849	N/A	N/A	30.6	32.8	33.2	34.3
7	A49 near Tuffins Craven Arms	343307	282833	N/A	N/A	29.7	31.7	27.7	29.8
8	A49 near Tuffins, Craven Arms	343307	282833	N/A	N/A	28.3	30.5	28.8	28.8
9	A49 Near Craven Arms Hotel, Craven Arms	343350	282612	N/A	N/A	34.3	42.3	38.5	33.9
10	Near crossroad Clun	330097	280860	N/A	N/A	14.3	13.8	12.3	14.7
11	Aston Hill	329849	229849	N/A	N/A	4.9	5.2	4.6	4.9
12	Aston Hill	329849	229849	N/A	N/A	4.5	4.9	4.8	4.9
13	Aston Hill	329849	229849	N/A	N/A	4.6	5.1	4.9	4.7
15	Onibury			N/A	N/A	N/A	N/A	23.2	26.5
16	Ludlow Castle Square			N/A	N/A	N/A	N/A	17.8	24.0
17	Ludlow Corve St Coral			N/A	N/A	N/A	N/A	39.0	39.9
18	Ludlow Tower St			N/A	N/A	N/A	N/A	26.4	29.4
19	Craven Arms Corvedale Rd – wood			N/A	N/A	N/A	N/A	20.8	22.3
20	Craven Arms Corvedale Rd - G/ins			N/A	N/A	N/A	N/A	19.3	23.1
21	Craven Arms Fairfield			N/A	N/A	N/A	N/A	23.9	25.3
22	Leominster			N/A	N/A	N/A	N/A	8.7	9.9
23	Leominster			N/A	N/A	N/A	N/A	8.2	9.9
24	Leominster			N/A	N/A	N/A	N/A	7.8	10.8

The data in the table above has been corrected by a bias adjustment factor to take account of inherent differences between results from diffusion tube and reference method (chemiluminescence) analysis.

Bias adjustment factors determined from co-location studies throughout the UK have been collated by the Review & Assessment Helpdesk for Defra. This information has been used to derive the most appropriate bias correction factor for SSDC. SSDC have been using diffusion tubes supplied by Gradco using a 20% TEA in water preparation method. Data on bias correction factors for this laboratory and preparation have been used for the 2004 – 2007 data.

Year	Supplier	Preparation	Bias factor	Number of Studies
2004	Gradco	20% TEA/water	0.91	11
2005	Gradco	20% TEA/water	0.97	14
2006	Gradco	20% TEA/water	0.98	10
2007	Gradco	20% TEA/water	0.89	17

Bias Corrected Annual Mean NO₂ Concentration (µg/m³)

Tube ID	Location	Bias Corrected						
		2001	2002	2003	2004	2005	2006	2007
1	Corve St, Ludlow	N/A	N/A	N/A	31.1	34.5	26.9	28.3
2	Corve St, Ludlow	N/A	N/A	N/A	29.8	36.6	28.2	29.8
3	Upper Galdeford, Ludlow	N/A	N/A	N/A	21.2	25.1	22.5	25.3
4	Old Street Ludlow	N/A	N/A	N/A	34.4	35.6	35.6	35.6
5	Ludford Bridge Ludlow	N/A	N/A	N/A	25.1	25.5	26.8	25.9
6	A49 south of crossroad Church Stretton	N/A	N/A	N/A	27.8	31.8	32.5	30.5
7	A49 nr Tuffins Craven Arms	N/A	N/A	N/A	27.0	30.7	27.1	26.5
8	A49 nr Tuffins Craven Arms	N/A	N/A	N/A	25.8	29.6	28.2	25.6
9	A49 Near Craven Arms Hotel Craven Arms	N/A	N/A	N/A	31.2	41.0	37.7	30.2
10	Near crossroad Clun	N/A	N/A	N/A	13.0	13.4	12.1	13.1
11	Aston Hill	N/A	N/A	N/A	4.5	5.0	4.5	4.4
12	Aston Hill	N/A	N/A	N/A	4.1	4.8	4.7	4.4
13	Aston Hill	N/A	N/A	N/A	4.2	4.9	4.8	4.2
15	Onibury	N/A	N/A	N/A	N/A	N/A	22.7	23.6

16	Ludlow Castle Square	N/A	N/A	N/A	N/A	N/A	19.0 ^z	21.4
17	Ludlow Corve St Coral	N/A	N/A	N/A	N/A	N/A	41.6 ^z	35.5
18	Ludlow Tower St	N/A	N/A	N/A	N/A	N/A	28.2 ^z	26.2
19	Craven Arms Corvedale Rd – wood	N/A	N/A	N/A	N/A	N/A	22.1 ^z	19.8
20	Craven Arms Corvedale Rd - G/ins	N/A	N/A	N/A	N/A	N/A	20.6 ^z	20.6
21	Craven Arms, Fairfield	N/A	N/A	N/A	N/A	N/A	25.5 ^z	22.5
22	Leominster	N/A	N/A	N/A	N/A	N/A	8.5	8.8
23	Leominster	N/A	N/A	N/A	N/A	N/A	8.0	8.8
24	Leominster	N/A	N/A	N/A	N/A	N/A	7.6	9.6

Note

“z” includes part year correction

From the beginning of 2008, locations with ID's 5, 7-10, 15, and 19-20 have been removed and replaced with three new sites in Bishops Castle and one in Cleobury Mortimer (see the Table below for details). These sites have been chosen as no monitoring has previously taken place in these small towns. While high concentrations of nitrogen dioxide are not expected, in order to gain a more complete understanding of concentrations throughout the district, additional monitoring was identified as being of benefit. Results at the locations where monitoring has ceased showed results consistently well below an exceedence.

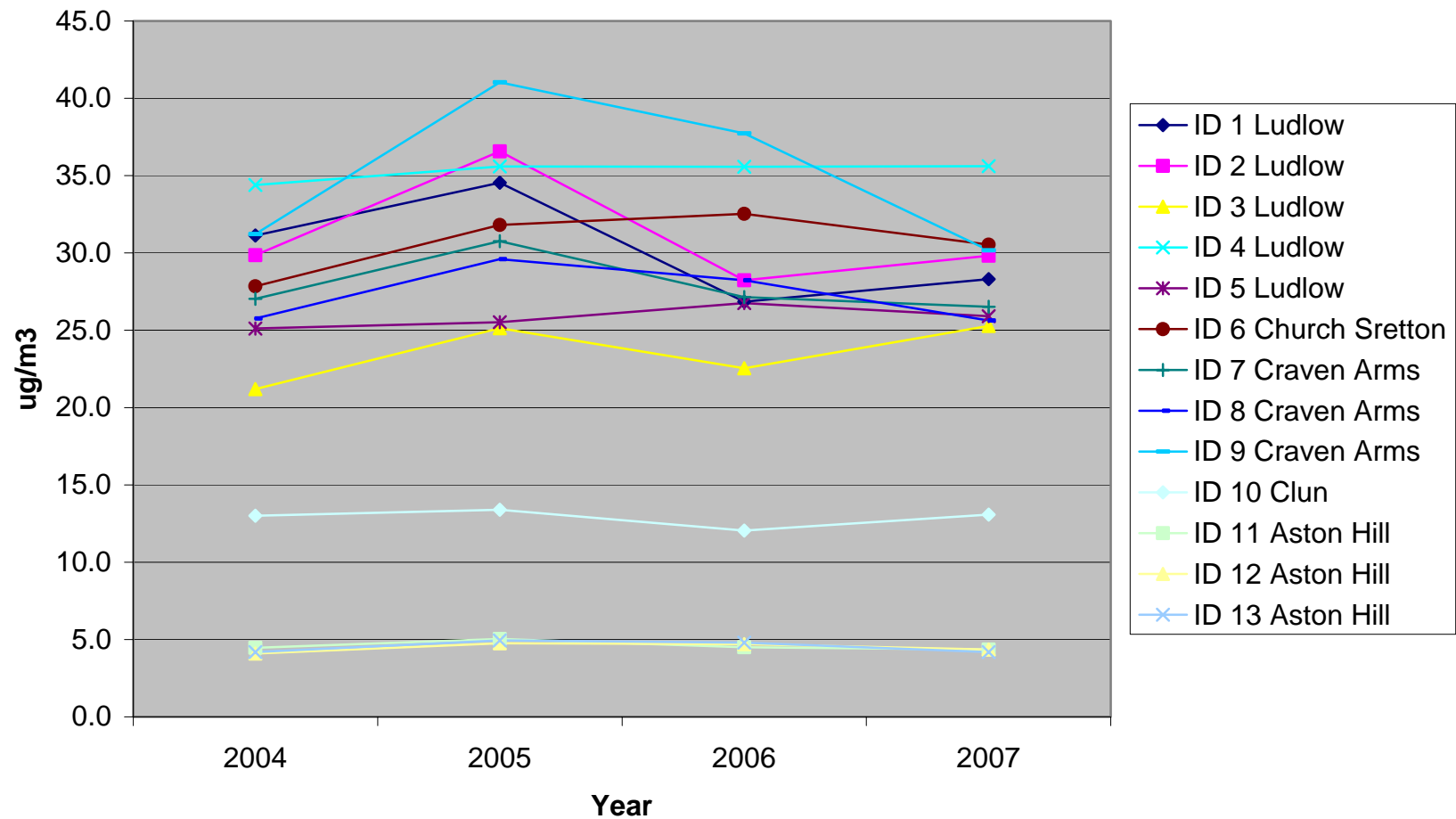
Tube ID	Location	Coordinates	Original Annual Mean NO ₂ Concentration (µg/m ³)
25	Bishops Castle - Whispers		Not yet available
26	Bishops castle – Whispers		Not yet available
27	Bishops Castle – Old Brick Cottage		Not yet available
28	Cleobury		Not yet available

The data has been reproduced graphically along with location plans of the four newest diffusion tube location sites in the following pages. All other location plans can be found in the 2006 USA and/or the 2007 detailed assessment reports. These reports can be found at

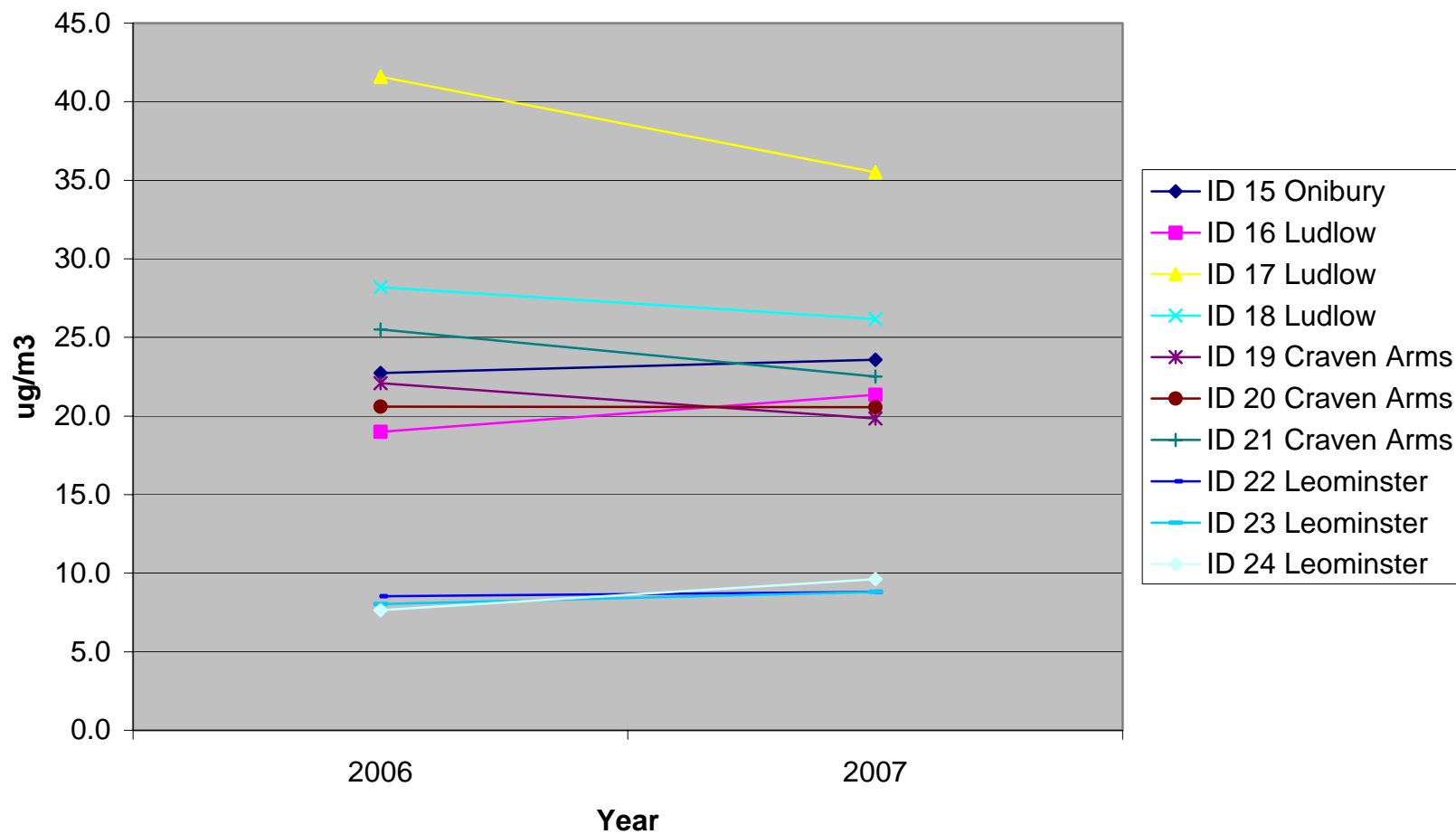
<http://www.southshropshire.gov.uk/static/page3712.htm>

Aston Hill & Leominster are AURN sites. While not in South Shropshire, they are in nearby localities. Aston Hill is a rural background site so is likely to be representative of rural backgrounds concentrations in the western part of the District of South Shropshire, while Leominster is an Suburban Background site not too far from Ludlow and therefore may give some idea of background concentrations in Ludlow. Both measure Ozone, NO₂, NO & NO_x, with SO₂ in addition at Leominster from April 2008. Results from the last few years from these site can be downloaded from the air quality website www.airquality.co.uk

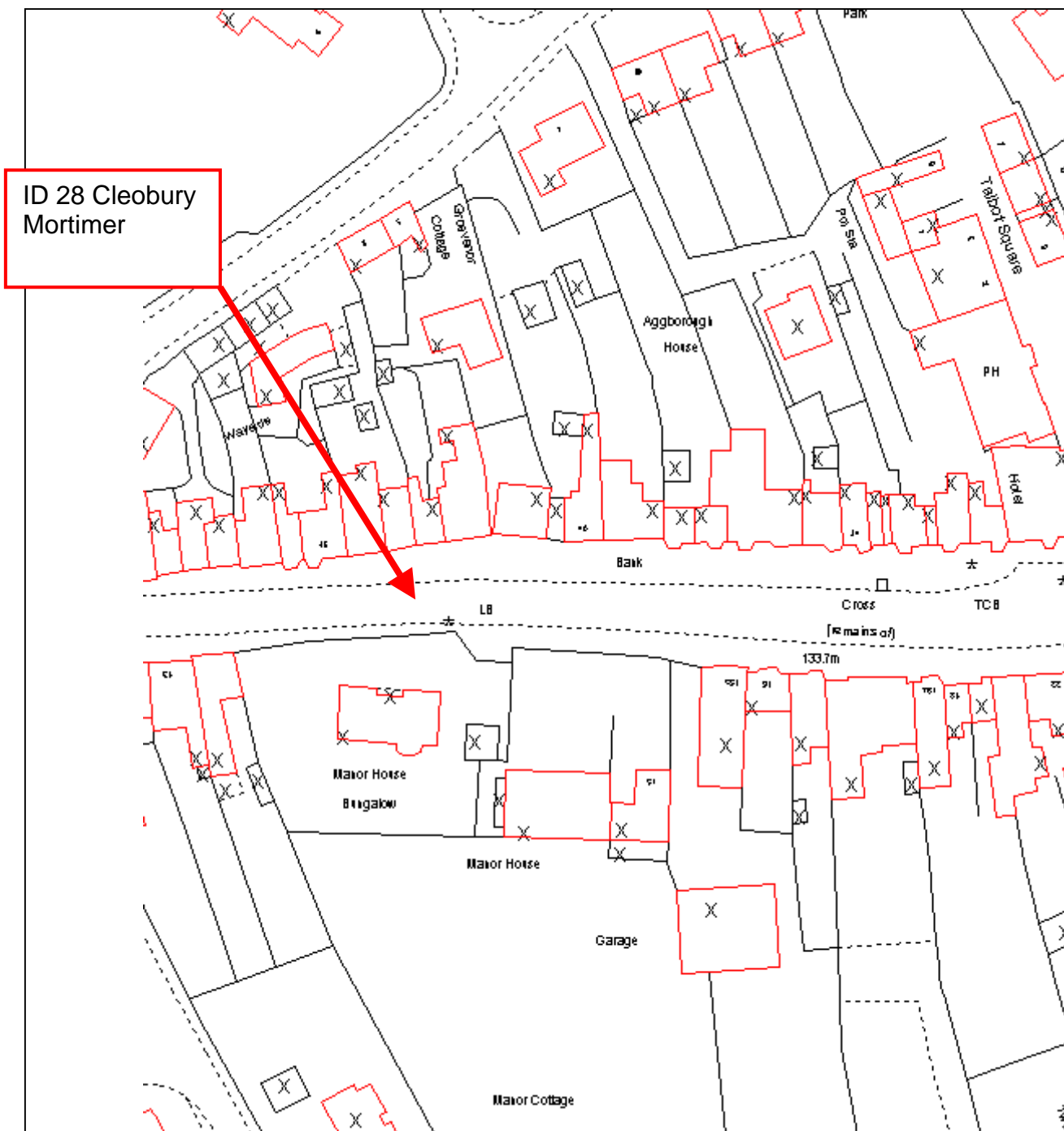
NO2 Diffusion Tube Concentrations



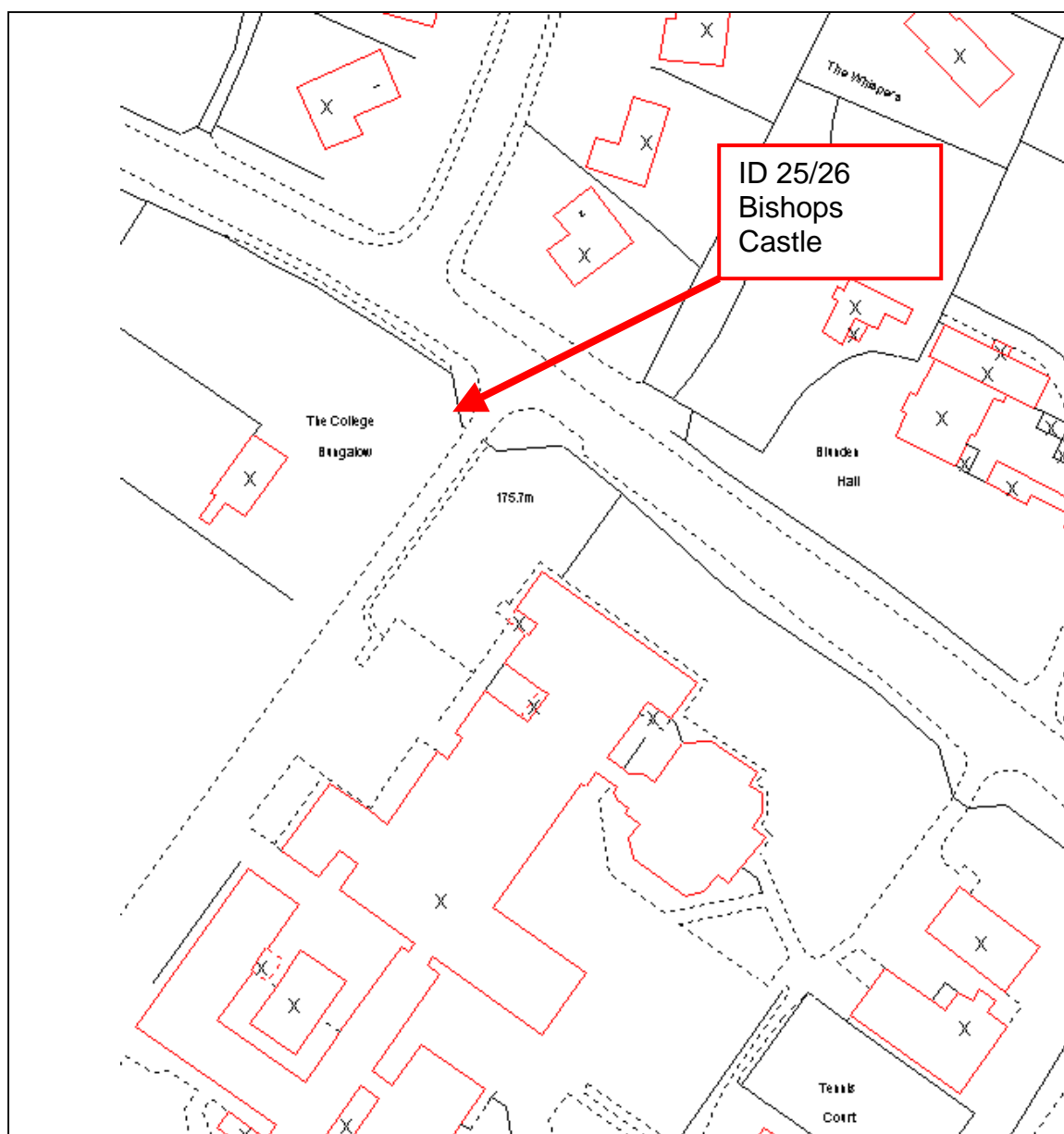
NO2 Diffusion Tube Concentrations



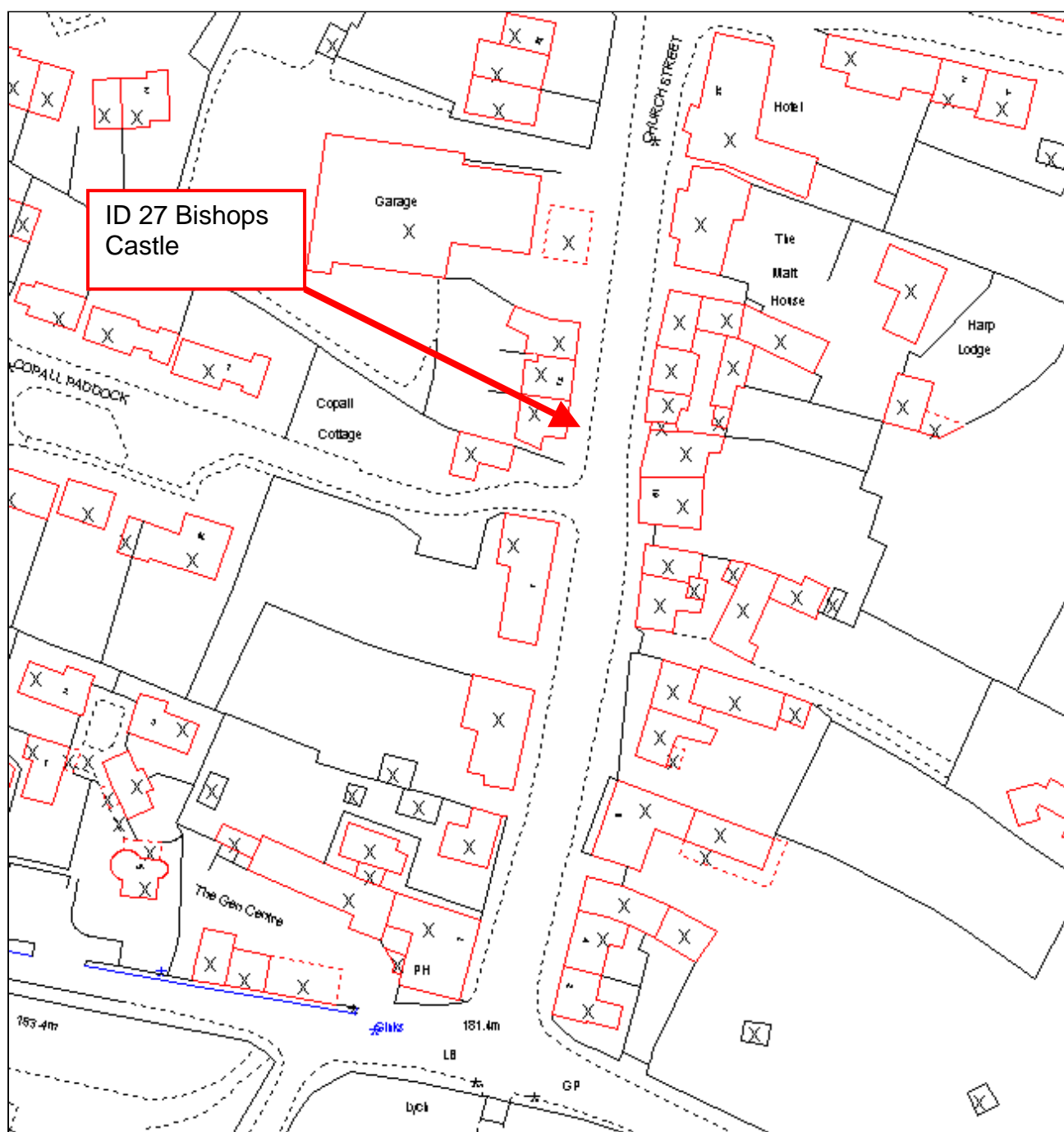
South Shropshire DC New Tube Locations



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The Council also monitors Benzene in one location. The results are shown in the detailed assessment report of October 2007. This report can be found at

<http://www.southshropshire.gov.uk/static/page3712.htm>

The conclusion of the report was that, at the closest residential property to the petrol service station of concern, it is extremely unlikely that there will be any exceedence of the 2003 objective of $16.25\mu\text{g}/\text{m}^3$. There has been a real possibility that the 2010 objective of $5\mu\text{g}/\text{m}^3$ would be exceeded at this location, however, the building of a new petrol station elsewhere in Ludlow has reduced demand and therefore emissions of petrol vapour from the refueling of vehicles. Should this reduction in petrol throughput continue it is unlikely that the 2010 objective will be exceeded.

APPENDIX 6: TELFORD & WREKIN COUNCIL

A6.1: New and Altered Industrial Developments: Telford & Wrekin Council

Part A1 Installations

The Environment Agency has issued a permit for the following installation since the last progress report in 2007

Company	Process	Pollutant	Eastings	Northings
Shropshire Waste Management Ltd	Landfill	PM ₁₀	372463	311825

The following A1 installation has closed since the last progress report in 2007.

Company	Process	Pollutant	Eastings	Northings
British Sugar plc	Food & Drink	PM ₁₀	360496	312521

Part B Installations

The following Part B Installations have opened since the last progress report in 2007.

Company	Process	Pollutant	Eastings	Northings
Marks Motors	Small Waste Oil burner	PM ₁₀	367727	306714
TTI Nitriding Services Ltd		VOC	368444	313804
Creases Dry Cleaning Ltd	Dry Cleaner, Degreasing	VOC	370396	313410

The following Part B Installation has closed since the last progress report in 2007.

Company	Process	Pollutant	Eastings	Northings
Johnson Controls Automotive UK Ltd	Coating	VOC	371811	309130

A6.2: New Major Developments: Telford & Wrekin

The following applications for housing and other developments that may affect air quality have received planning approval since the last Progress Report.

Ref	Description	Decision date	OS Ref
W2007/0040	Residential development (outline) on land at, Brindleyford Primary School, Brindleyford, Brookside, Telford,	03/04/2007	369850 305769
W2007/0091	Erection Of A Victorian Street Comprising of Shops, Catering Businesses, Workshops and Storage, Erection of Artisans Quarter, Extensions to Existing Printing Premises and WC Extension at Blists Hill Victorian Town, Legges Way, Madeley, Telford, ,	25/04/2007	369479 303531
W2007/0145	Erection of 148 Dwellings Land At, Lawley Farm, Lawley, Telford	26/04/2007	366805 308802
W2007/0212	Erection of 2 no. Residential Blocks Comprising 60 no. Flats and Alterations to Existing Vehicular/Pedestrian Accesses at Former Budget Car Hire, Furnace Road, Snedshill, Telford	03/07/2007	370344 310344
W2007/0213	Demolition of Existing Barns and Erection of 20 no. Dwellings at Church Farm Yard, Preston Upon The Weald Moors,	17/05/2007	368248 315236
W2007/0256	Erection of a Primary School, Community Facilities and Sports Pavilion Land Off, Woodlands Lane, Horsehay, Telford	27/07/2007	366900 306592
W2007/0300	Earthworks and Associated Landscaping to Create Football Pitch, Play Area and Mound as Part Of The First Phase Of Woodlands Park, Lightmoor Village Land Off, Lightmoor Way, Lightmoor, Telford,	08/06/2007	367758 305222
W2007/0316	Erection of a New School with Associated Car Parks, Playing Fields and Playgrounds and Alterations to Existing Vehicular Accesses on Land off, Church Road, Malinslee, Telford	01/05/2007	368681 308051
W2007/0354	Residential Development (Outline) on Land Off, Grooms Alley, Wellington, Telford	15/06/2007	364873 311560
W2007/0359	Demolition Of Existing Shops, Community Centre, Surgery And Public House And Erection Of A New Doctors Surgery, Child Development Centre, 4 no. Retail Units, Residential Development And A Local Equipped Play Area (Outline Application) Malinslee Local Centre, Brunel Road, Malinslee, Telford	13/06/2007	369347 308312
W2007/0367	Demolition Of Existing Retail Store And Erection Of A Food Store With Associated Delivery Area Car Parking And Landscaping, Alterations To Existing Vehicular Access And Creation Of A New Pedestrian Access Fashion Factory Outlet Centres, Castle Street, Hadley, Telford,	15/06/2007	368002 312316

Ref	Description	Decision date	OS Ref
W2007/0377	Residential Development To Provide 129 Apartments, 185 Basement Car Parking Spaces And Associated Landscape Land Off, Shifnal Road, Priorslee, Telford	21/06/2007	371229 309378
W2007/0438	Demolition Of Part Of Old Hall School Buildings And Conversion To 4 no. Dwellings, Extension And Conversion Of Tuck Shop Building Into 1no. Dwelling And Erection Of 12no. Dwellings With Associated Garages Old Hall School, Holyhead Road, Wellington, Telford	05/07/2007	365670 310965
W2007/0471	Erection Of A Two Storey Office Block With Associated Hardstanding Plot D3, Hadley Park, Hadley, Telford	12/06/2007	367979 313349
W2007/0477	Erection Of 6 no. Industrial Units Land At, Halesfield 9, Halesfield, Telford	04/07/2007	371451 304341
W2007/0535	Erection Of 149 Dwellings, Garages And Construction Of New Estate Roads And Vehicular/Pedestrian Accesses Site B, Limekiln Lane, Wellington, Telford,	20/07/2007	365627 310991
W2007/0536	Part Demolition Of Vacant Shops And Erection Of 12no. Residential Units 27-31, High Street, Wellington, Telford	12/07/2007	365343 311440
W2007/0660	Erection Of A New Steel Framed Unit To Provide 10no. Individual Mixed Commercial, Industrial And Office Units Land At, Ketley Business Park, Ketley, Telford	18/07/2007	367468 310800
W2007/0714	Erection Of A Dairy Development Consisting Of Milking Parlour And 2no. Housing Buildings For 400 Cows Together With Associated Straights Store, Silage Clamps And Slurry Storage Harper Adams University College, Newport, Shropshire.	06/08/2007	372301 320044
W2007/0753	Erection Of A New 900 Child Academy For Years 11-16 With Vocational Training Centre, Gate House, 3no. Freestanding And 6no. Roof Mounted Wind Turbines, 5no. Turf And 4no. 5-A-Side Floodlit Pitches, 1no. Floodlit Athletics Track And Construction Of A New Access Land At, Castlefields Way/Junction Of Woodside Avenue, Woodside, Telford	21/12/2007	369200 305030
W2007/0809	Change Of Use From Use Class B8 (Storage Or Distribution) To Use Class B1 (Office) And Construction Of A Three Level Car Park International House, Stafford Park 11, Stafford Park, Telford	20/09/2007	372157 308334
W2007/0810	Residential Development (Outline Planning Application) Plot D, Pool Hill Road, Horsehay, Telford	26/03/2008	367592 307362
W2007/0870	Conversion Of Existing Public House Into 2no. Dwellings, Erection Of 12no. Dwellings, Associated Landscape And Alterations To Existing Vehicular Access The White Hart Public House, Hinkshay Road, Dawley, Telford	27/09/2007	369458 307361

Ref	Description	Decision date	OS Ref
W2007/0884	Construction Of A New Mezzanine Floor Asda Store, St Georges Road, Donnington Wood, Telford	21/09/2007	370766 312436
W2007/0906	Erection Of 107 Dwellings (Reserved Matters) Land Off, Trench Lock 1, Sommerfeld Road, Trench Lock, Telford	01/10/2007	368353 312367
W2007/0948	Erection Of 218no. Dwellings With Associated Landscaping And Engineering Works, Construction Of New Vehicular/Pedestrian Accesses And Construction Of Estate Roads (Reserved Matters Application) Land Off, Dawley Road, Lawley, Telford	01/10/2007	366847 308802
W2007/0956	Erection Of A Unit To Be Used For Limousine Valeting, Hgv Maintenance And Haulage Yard Land Off, Halesfield 9, Halesfield, Telford	11/10/2007	371451 304341
W2007/1161	Erection Of 179 Houses And Apartments With Associated Highways, Parking, Landscaping And Open Space (Reserved Matters Application) Land At, Britannia Way, Hadley, Telford	20/12/2007	367601 312154
W2007/1173	Erection Of A Industrial Dairy Production Building To Include Production And Storage Areas, Milk Silos, Laboratories And Offices, Construction Of A New Vehicular Access And Car Parking Site 1, Donnington Wood Business Park, Granville Court, Donnington, Telford	14/12/2007	371221 312239
W2007/1245	Demolition Of Existing Office Block And Erection Of New Office Block Kendall Holdings Ltd, Stafford Park 6 & 7, Stafford Park, Telford	14/11/2007	372179 308848
W2007/1252	Erection Of 58no. Dwellings, Construction Of A New Estate Road, Vehicular And Pedestrian Accesses And Alterations To Existing Doseley Works, Doseley, Telford	07/12/2007	367564 306700
W2007/1300	Erection Of A Two Storey Extension To Existing Primark Unit Land To Rear Of, Primark, Telford Town Centre, Telford	13/12/2007	369821 308910
W2007/1334	Reserved Matters Pursuant To Outline Planning Permission W2006/0759 For Residential Development For 28no. Dwellings (Comprising 19 New Dwellings And A 3 Storey Apartment Block Comprising 9no. Apartments) And Retention Of Presbytery As A Dwelling Land Of The Former, Our Lady Of The Rosary Rc Church, Winifreds Drive, Donnington, Telford	20/12/2007	370178 313240

Ref	Description	Decision date	OS Ref
W2007/1364	Erection Of Residential Development Of 14no. Dwellings (Reserved Matters Application) 139, Hadley Park Road, Hadley, Telford	29/11/2007	366850 312943
W2007/1368	Erection Of 29no. Apartments With Associated Soft Landscaping, Hardstanding, Vehicle And Pedestrian Accesses Former Dawley Service Station, Finger Road, Dawley, Telford	08/01/2008	368935 306837
W2007/1372	Variation Of Conditions 6 And 11 Of Reserved Matters Approval W2007/0538 Regarding The Timing Of Details To Be Submitted For Opening And Delivery Hours And The Extraction And Dispersal Of Odours And Fumes (Reserved Matters Application) Land At, Lightmoor Way, Lightmoor, Telford	28/12/2007	368256 305936
W2007/1426	Installation Of 866m2 Mezzanine Floor For Office Use Within Existing Warehouse With Associated External Alterations Enta Group, Stafford Park 6, Stafford Park, Telford	06/12/2007	372035 309128
W2007/1466	Erection Of A 30 Bedroom 3 Storey Side Extension Whitehouse Hotel, Watling Street, Wellington, Telford	11/12/2007	366272 311086
W2007/1521	Erection Of 54no. Dwellings With Garages And Construction Of New Accesses (Reserved Matters Application) Pursuant To Outline Application W2005/0900 Land At, Dsdc Donnington, Station Road, Donnington, Telford	05/02/2008	370764 314378
W2007/1550	Erection Of 2 Storey Extension To Hotel And Provision Of Car Park (Full Planning Application) Telford Hotel & Golf Club, Great Hay Drive, Sutton Hill, Telford	13/02/2008	369663 303008
W2007/1586	Erection Of A Building In Connection With Haulage Building Bourne Transport, The Grange, Poynton, Shropshire.	18/02/2008	360300 318946
W2007/1666	Varation Of Condition 14 On Of Planning Permission W2001/0189 To Read: The Premises Shall Be Used For The Accommodation Of Young Families Including Single Parents And Their Children And For No Other Purposes Including Any Other Purpose In Class C3 Of The Schedule To The Town And Country Planning (Use Classes) Order 1987, Or In Any Provision Equivalent To That Class In Any Statutory Instrument Revoking And Re-Enacting That Order With Or Without Modification Clews Wood Court, Station Road, Madeley, Telford	31/01/2008	369916 304224

Ref	Description	Decision date	OS Ref
W2007/1703	Demolition Of Part Of Old Hall School Building And Conversion To 4no. Dwellings, Extension And Conversion Of Tuck Shop Building Into 1 Dwelling And Erection Of 12no. Dwellings With Amended House Types To Plots 5-10 And 20 (Amendment Of Planning Permission W2007/0438) Old Hall School, Holyhead Road, Wellington, Telford	17/03/2008	365669 310965
W2007/1731	Land Stabilisation Works The Lloyds & Lloyds Head, Ironbridge, Telford	19/02/2008	370178 313240
W2003/1238	Residential Development (Outline) Muxton C2/C3, Marshbrook Way, Muxton, Telford	04/04/2007	371573 313182
W2006/0245	Demolition Of Existing Buildings And Erection Of 13no. Units Comprising Of 6no. 2 Bed Flats And 7no. 3 Bed Dwellings With Associated Access And Parking Land To Rear Of, Station Garage, Station Road, Newport, Shropshire	20/09/2007	374824 318434
W2006/0380	Residential Development (Outline) Land At, Wellington Road, Muxton, Telford	11/01/2008	370880 314113
W2006/0608	Erection Of 18 Dwellings Land Off, Church Walk, Donnington, Telford	12/07/2007	370663 313562
W2006/0802	Erection Of 5 Industrial Buildings Under Use Class B1(B) And (C), B2 And B8, With Access Road, Parking And Loading Areas, And Landscaping Queensway Business Park, Queensway, Hadley, Telford	14/09/2007	367364 313494
W2006/0938	Demolition Of Existing Factory, Retail Units And Residential Accommodation And Erection Of New Supermarket, 15 Retail Units, 16 Residential Units, With Car Parking, Landscaping And Servicing, Together With New Library Access And Highway Works Land At, High Street/Park Avenue/Madeley District Centre, Madeley, Telford	15/01/2008	369577 304360
W2005/0659	Residential Development (Outline To Include Access) Land At, Britannia Way, Hadley, Telford	16/08/2007	367605 312146
W2005/0661	Residential Development To Include Access (Outline) Land At, Parkdale, Hadley, Telford	29/02/2008	367317 312336
W2005/0702	Erection Of Deck Car Park Asda, St. Georges Road, Wrockwardine Wood, Telford	24/09/2007	370765 312437
W2005/0932	Residential Development (Outline) Land At, Mossey Green, Ketley Bank, Telford	08/02/2008	368816 310228
W2005/0961	Residential Development (Outline) Land Opposite, 2, Marshbrook Way, Muxton, Telford	26/09/2007	371165 313817
W2005/1049	Erection Of A Care Home And Associated Engineering Works (Outline) Former Ibstock Brickworks Site, Off, Brick Kiln Bank, Park Lane, Lightmoor, Telford	30/04/2007	367800 305171

Ref	Description	Decision date	OS Ref
W2005/1050	Residential Development Including Formation Of Access And Associated Engineering Works (Outline) Former Ibstock Brickworks Site, Off, Brick Kiln Bank, Park Lane, Lightmoor, Telford	30/04/2007	367800 305171
W2005/1077	Residential Development (Outline) Daisy Bank Drive, St Georges, Telford	06/12/2007	370906 311699
W2005/1473	Residential Development, Provision Of 2no. Full Size Sports Pitches, 1no. Mini Sports Pitch And Changing Pavilion (Including Community Meeting Room) With Associated Car Parking (Outline) Orleton Park & Former Orleton Lane Infant & Nursery School, Orleton Lane, Wellington, Telford	09/07/2007	364024 311760
W2008/0023	Installation Of Footpaths, Steps And Ramps, Lighting, Fencing And Associated Hard And Soft Landscaping Ketley Park, Waterloo Road/Holyhead Road, Ketley, Telford	29/02/2008	367604 311120
W2008/0036	Erection Of A Cattle Housing Building Stockton Grange, Stockton, Shropshire	19/03/2008	377110 316803
W2008/0060	Erection Of Extensions To Existing Care Home Myford House, Woodlands Lane, Horsehay, Telford	10/03/2008	367025 306611

A6.3: Diffusion tubes in Telford & Wrekin

NO₂ Diffusion tube concentrations

Location	Coordinates		Original Annual Mean NO ₂ Concentration (µg/m ³)				
	X	Y	2003	2004	2005	2006	2007
Holmer Lake	370963	305913	21.5	16.4	17.9	17.2	16.1
Cygnnet Drive	370612	305540	22.0	17.5	19.0	19.0	19.0
Aqueduct	368997	305843	12.6	13.0	12.0	12.0	11.0
Ironbridge	366855	303608	16.6	12.4	13.2	14.4	13.2
Bush House	368752	310043	24.4	22.3	23.0	24.0	24.0
Ketley Cross Roads	367745	311038	22.0	17.3	14.3	18.8	19.0
The Russetts	364663	310393	19.0	16.5	16.4	17.0	18.0
Wellington Solicitors	364867	311447	21.5	16.8	18.6	19.3	18.8
17 Castle Street	367901	312223	23.0	21.2	21.0	21.0	24.0
Adney	369688	317965	9.9	9.2	6.7	9.0	9.3
Priorslee Campus	371431	309412	21.0	17.8	20.6	27.7	23.7

The Council uses Gradko 50% TEA in acetone tubes that are analysed by Gradko.

YEAR	SUPPLIER	PREPARATION	BIAS FACTOR	NO.OF STUDIES
2002	Gradko	50% TEA/acetone	1.27	12
2003	Gradko	50% TEA/acetone	1.11	19
2004	Gradko	50% TEA/acetone	1.10	27
2005	Gradko	50% TEA/acetone	1.10	14
2006	Gradko	50% TEA/acetone	1.04	10
2007	Gradko	50% TEA/acetone	0.93	6

Bias Corrected Annual Mean NO₂ Concentration (µg/m³)

Location	Bias Corrected					Project 2010				
	2003	2004	2005	2006	2007	From 2003	From 2004	From 2005	From 2006	From 2007
Holmer Lake	23.9	18.0	19.7	17.9	15.0	18.64	14.40	16.21	15.22	13.23
Cygnnet Drive	24.4	19.4	21.1	21.1	17.7	19.03	15.56	17.36	17.95	15.62
Aqueduct	14.0	14.4	13.3	13.3	10.2	11.49	12.09	11.40	11.71	9.25
Ironbridge	18.4	13.8	14.7	16.0	12.3	14.35	11.07	12.10	13.61	10.85
Bush House	27.1	24.8	25.5	26.6	22.3	22.24	20.81	21.85	23.41	20.22
Ketley Cross Roads	24.4	19.2	15.9	20.9	17.7	19.03	15.40	13.08	17.78	15.62
The Russetts	21.0	18.3	18.2	18.9	16.7	17.23	15.36	15.59	16.63	15.14
Wellington Solicitors	23.9	18.6	20.6	21.4	17.5	18.64	14.92	16.95	18.20	15.44
17 Castle Street	25.5	23.5	23.3	23.3	22.3	19.89	18.85	19.17	19.82	19.67
Adney	11.0	10.2	7.4	10.0	8.7	9.03	8.56	3.34	8.80	7.89
Priorslee Campus	23.3	19.8	22.9	30.7	22.1	19.12	16.62	19.62	27.02	20.04

The 2010 projections from the 2007 results indicate no exceedences of the annual average NO₂ objective of 40µg/m³.