BANBRIDGE
DISTRICT COUNCIL

2013 Air Quality Progress Report for Banbridge District Council

In fulfillment of the Environment (Northern Ireland) Order 2002 - Local Air Quality Management

April 2013

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Executive Summary

Diffusion Tube monitoring during 2013 for Nitrogen Dioxide (NO_2) was carried out at 7 locations within Banbridge District Council's area. None of the sites monitored exceeded the objective limit of 40ug/m^3. Therefore no AQMA's will be declared at this time for any of the sites monitored by Banbridge District Council. No detailed assessments are required for NO_2 at this time.

Banbridge District Council has not seen any significant changes from any pollution sources since the last round of review and assessment and no other sources of pollution have been identified. Therefore the likely impact from such sources is negligible.

Banbridge District Council has not identified the requirement for any proposed actions at this time as a result of information identified in this Progress Report.

The next course of action to be taken by the council is to complete and submit a Progress Report in April 2014.

Table of contents

Appendices

List of Tables

1 Introduction

1.1 Description of Local Authority Area

Banbridge District covers approximately 180 square miles in the north west of County Down and has a population of around 41,392. It is a predominantly rural area with a largely agricultural economic base. The main centres of population are Banbridge town, the focus of administration and commercial activity in the District, and the smaller settlements of Dromore, Rathfriland, Gilford, Loughbrickland and Scarva.

The District is dissected by two major traffic routes. The A1 from Belfast to Dublin runs along the outskirts of Dromore, Banbridge town and Loughbrickland through a traditionally rural area. In recent years residential development has expanded in proximity to the carriageway. This is to some extent due to the area becoming a convenient satellite residential base for commuters to Belfast. The A50 from Castlewellan to Portadown passes through the centre of Banbridge town. It crosses the A1 via a flyover in the developing residential area to the east of the town.

There are four relatively large quarries located in the District. Activities include rock blasting, crushing, screening, manufacture of bitmac and asphalt coating products and cement and concrete production. Other industries include animal feed, cement and food production, timber processing, textile manufacturing and engineering works. Some of these processes are prescribed for authorisation under IPC.

Domestic fuel usage throughout the District has historically been based on solid fuel but, as with the province generally, the use of coal is declining.

1.2 Purpose of Progress Report

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in Northern Ireland** are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre $\mu g/m^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

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

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	3.25 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	Annual mean	31.12.2004
	0.25 $\mu g/m^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g/m^3$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

Table 1.4- Summary of Previous Review and Assessment Report completed by Banbridge District Council

Report Type	Date	Exceedences	Detailed Assessment Required	AQMA's Declared
Initial Review and Assessment	Jan 2001	None	No	None
Supplementary Report on SO2 and PM10	Nov 2004	None	No	None
Progress Report	April 2005	None	No	None
Updating & Screening Assessment	April 2006	None	No	None
Progress Report	April 2007	None	No	None
Progress Report	April 2008	None	No	None
Updating and Screening Assessment	April 2009	None	No	None
Progress Report	April 2010	None	No	None
Progress Report	April 2011	None	No	None
Updating and Screening Assessment	April 2012	None	No	None

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There are no automatic monitoring sites within the Banbridge District Council area.

2.1.2 Non-Automatic Monitoring

Banbridge District Council carries out monitoring of NO_2 by diffusion tubes at seven sites within the District. The NO_2 diffusion tubes were prepared and analysed by Environmental Sciences Group (ESG) Didcot. ESG Didcot was contracted to supply and analyse the diffusion tubes from the beginning of April 2010. This laboratory takes part in the NO_2 Network QA/QC Field Intercomparison survey. ESG's diffusion tubes are prepared by coating the grids in 50% TEA in Acetone. Analysis is carried out using a colorimetric technique.
None of the sites were co-located with an automatic NO_2 analyser. Details are given in Table 2.2.

Diffusion Tube Bias Adjustment Factors

The NO_2 diffusion tubes were prepared and analysed by Environmental Sciences Group (ESG) Didcot from the beginning of January 2012. This laboratory takes part in the NO_2 Network QA/QC Field Intercomparison survey. ESG's diffusion tubes are prepared by coating the grids in 50% TEA in Acetone. Banbridge District Council obtained the appropriate bias factor from the DEFRA Website. http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html. A bias factor of **0.79** was taken from the drop down menus available on the excel spreadsheet matrix.

Factor from Local Co-location Studies (if available)

Banbridge District Council did not use a Bias Factor from a local Co-location study. Banbridge does not have an automatic NO_2 analyser in the district to carry out a co-location assessment. Also, although a co-location factor may be available from two other neighbouring councils (Armagh & Newry), it was felt that the national bias factor was drawn from a greater range of sites and could therefore be considered overall more representative of the sites monitored in Banbridge.

Discussion of Choice of Factor to Use

Banbridge District Council used the Bias Factor from the Defra Website. This was calculated by using the matrix available on the site by selecting the appropriate laboratory, year of monitoring and significant methodology. Banbridge District Council used a bias factor for 2012 (0.79)

QA/QC of diffusion tube monitoring

See Appendix A for Gradko WASP data

Table 2.2 Details of Non- Automatic Monitoring Sites

Site Name	Site Type	Pollutants Monitored	In AQMA ?	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Worst-case Location ?
Site 1 Church St Dromore	Roadside	NO_2	N	Y (5m)	2m	Y
Site 2 Kenlis St Banbridge	Roadside	NO_2	N	Y (5m)	2m	Y
Site 3 Mill St Gilford	Roadside	NO_2	N	Y (5m)	2m	Y
Site 4 Fortfield Dr Dromore	Urban background	NO_2	N	Y (10m)	50m+	Y
Site 5 Springfields Banbridge	Urban Background	NO_2	N	Y (10m)	50m+	Y
Site 6 Dromore St Banbridge	Roadside	NO_2	N	Y (10m)	3m	Y
Site 7 Newry Road Banbridge	Roadside	NO_2	N	Y (10m)	2.5m	Y

Figure 2.2 Map(s) of Non-Automatic Monitoring Sites (if applicable)

See Appendix B

2.2 Comparison of Monitoring Results with Air Quality Objectives

Table 2.3 Diffusion Tube Monitoring Sites

Pollutant	Equipment	Location	Eastings	Northings	Site Type
NO2	Nitrogen Dioxide diffusion tubes	(SITE 1) Church Street Dromore	320013	353392	Roadside
		(SITE 2) Kenlis Street Banbridge	312596	345554	Roadside
		(SITE 3) Mill Street GILFORD	306680	348346	Roadside
		(SITE 4) 17 Springfields, Banbridge BT32 3LT	312010	344249	Urban Background
		(SITE 5) 7 Hillview Terrace, Dromore Street, Banbridge BT32 4BS	312845	346275	Roadside
		(SITE 6) 9 Fortfield, Maypole Hill, Dromore BT25 1DD	319800	353508	Urban Background
		(SITE 7) Newry Road Banbridge	312010	344250	Roadside

2.2.1 Nitrogen Dioxide

There are no automatic monitoring sites within the Banbridge District Council Area measuring Nitrogen Dioxide (NO_2) levels.

Automatic Monitoring Data

Banbridge District Council does not have any automatic monitoring sites in the Council district

Diffusion Tube Monitoring Data

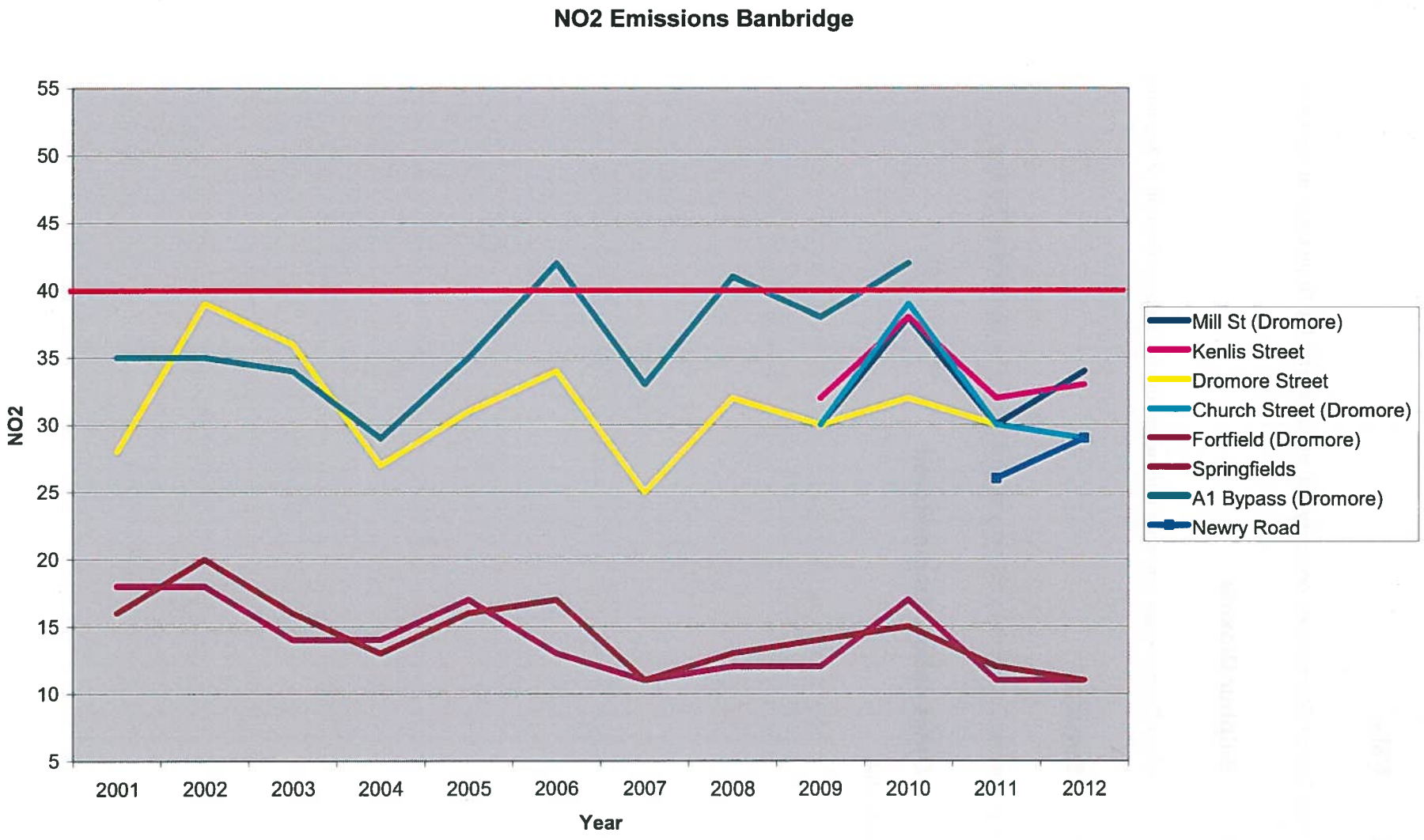
Table 2.4a Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Data Capture for full calendar year 2012 %	Data Capture for monitoring period %	Annual mean concentrations 2012 (µg/m^3) Adjusted for bias
Site 1	Church Street	N	100	100	29
Site 2	Kenlis Street	N	92	92	33
Site 3	Mill St, Gilford	N	100	100	34
Site 7	9 Fortfield	N	100	100	11
Site 8	17 Springfields	N	100	100	11
Site 10	Dromore Street	N	100	100	29
Site 11	Newry Road	N	92	92	29

Table 2.4b Results of Nitrogen Dioxide Diffusion Tubes in previous years

Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m^3) - Adjusted for Bias [a]				
			2008 (Bias Factor 0.90)	2009 (Bias Factor 0.86)	2010 (Bias Factor 0.95)	2011 (Bias Factor 0.84)	2012 (Bias Factor 0.79)
Church Street	Roadside	N	-	30	39	30	29
Kenlis Street	Roadside	N	-	32	38	32	33
Mill St, Gilford	Roadside	N	-	30	38	30	34
9 Fortfield	Background	N	12	12	17	11	11
17 Springfields	Background	N	13	14	15	12	11
Dromore Street	Roadside	N	32	30	32	30	29
Newry Road	Roadside	N	-	-	-	26	29

Figure 2.3 Trends in Annual Mean NO_2 Concentrations Measured at Automatic Monitoring Sites



2.2.2 PM_{10}

Banbridge District Council does not carry out monitoring for PM10 pollution at this time

2.2.3 Sulphur Dioxide

Banbridge District Council does not carry out monitoring for Sulphur Dioxide at this time.

2.2.4 Benzene

Banbridge District Council does not carry out monitoring for Benzene at this time.

2.2.5 Other pollutants monitored

Not Applicable

2.2.6 Summary of Compliance with AQS Objectives

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

3 New Local Developments

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

4 Local / Regional Air Quality Strategy

There are currently no Local or Regional Air Quality Strategies applicable to Banbridge District Council. The Southern Group Air Quality Strategy came to and end in 2010. No further strategies are planned at this time.

5 Planning Applications

There were no planning applications submitted to The Northern Ireland Planning Service within the Banbridge District Council area during 2012 which were deemed to have any impact on local air quality.

6 Air Quality Planning Policies

N/A

7 Local Transport Plans and Strategies

Regional Transportation Strategy

The Regional Transportation Strategy (RTS) for Northern Ireland 2002- 2012 identifies strategic transportation investment priorities and considers potential funding sources and affordability of planned initiatives. The RTS focuses on three geographic areas and one overlying Network. These are as follows:

- Belfast Metropolitan Area (BMA), containing the continuous area comprising Belfast City Council and the built-up areas within the Council areas of Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down;
- Other Urban Areas (OUAs): collectively those towns described as main or local hubs in the RDS (including Banbridge) and other towns outside the BMA with a population greater than 5,000);
- Rural Area – the remainder of Northern Ireland; and
- Regional Strategic Transport Network (RSTN) comprising the complete rail network and all motorway and trunk road links (including the Key Transport Corridors and Link Corridors).

The RTS is a "daughter document" of the Regional Development Strategy (RDS), which sets out the spatial development framework for Northern Ireland up to 2025. Implementation of the Strategy will be through three Transport Plans covering the Regional Strategic Transport Network (RSTN), the Belfast Metropolitan Area (BMA), and the Sub-Regional Transport Plan (SRTP). Transport studies undertaken to support the RSTN Transport Plan will take due account of current and future cross-border inter-urban transport demands and the roles of the gateway cities and towns, including Banbridge.

3.4 Regional Strategic Transport Network Transport Plan

The Regional Strategic Transport Network (RSTN) Transport Plan prepared by the Department for Regional Development (DRD) covers the complete rail network, five Key Transport Corridors (KTCs), four Link Corridors, the Belfast Metropolitan Transport Corridors and the remaining trunk network across Northern Ireland. The Plan is based on the guidance set out in the Regional Development Strategy (RDS) and the Regional Transportation Strategy (RTS), as described in Sections 3.2 and 3.3, above.

The RSTN Transport Plan consists of proposals for transport schemes and measures for the maintenance, management and development of the RSTN until 2015. The RSTN Transport Plan also includes a number of measures for rail, bus, roads, walking and cycling.

3.5 Sub-Regional Transport Plan 2015

The Sub-Regional Transport Plan (SRTP) was prepared by the Department for Regional Development (DRD) and completed in 2007. The SRTP is based upon the guidance provided by the Regional Development Strategy (RDS) and the Regional Transportation Strategy (RTS). Proposed public transport measures for Dungannon (within category of Other Urban Areas (OUA)) contained within the SRTP are as follows:

· Improved walk/cycle

· Improved local bus services

· Bus stop Improvement Strategy

· Bus based Park and Ride

· Increased parking at bus/rail station

· Taxi rank

· Transport Programme for People with Disabilities

Spatial Development Strategy for Northern Ireland

The Spatial Development Strategy (SDS) guides the physical development of the Region to 2025. The SDS will contribute to meeting a number of key regional challenges emerging from the significant local, national and international forces, which will drive change over the next 25 years, including:

Transport:

- Promote a change in travel culture and particularly manage the effects of a possible 100% growth in the number of vehicles by 2025;
- Contribute to the creation of a modern, sustainable, safe transportation system for the Region, meeting the travel needs of all groups in society;
- Accommodate the growing volume of freight moving to and from the regional gateways; and
- Strengthen the regional gateways to handle the increasing flow of people and goods in and out of the Region.

Environment:

- Accommodate future development growth while protecting and caring for the environment;
- Reduce the consumption of resources;
- Continue to maintain or, where needed, to improve the quality of air, water and land resources within the Region;
- Seek to maintain local landscape character and to conserve cultural assets; and
- Take particular care to sustain and, where required, to enhance the biodiversity of the Region, its natural habitats, high quality landscapes and built heritage.

Developing a Regional Transportation System

Creating an upgraded and integrated transport system, built around the Regional Strategic Transport Network of the key transport corridors with their main public transport services providing the framework for future development is recognised as one of the key assets to accommodate growth. Strategic planning guidelines relating to the development of a Regional Transport System (RTS) are as follows:

- **SPG-TRAN 1:** To develop a Regional Strategic Transport Network (RSTN), based on Key Transport Corridors (KTCs), to enhance accessibility to regional facilities and services. Two major roads within the Borough are identified in the RDS as part of the Key Transport Corridors in Northern Ireland: -
- A4 Dungannon - Fivemiletown Road: The South Western Corridor; and
- A5 Aughnacloy - Omagh Road: The Western Corridor.
- In addition, the A29 Cookstown to Moy Road is identified as part of one of three additional Link Corridors in the RTS.

- **SPG-TRAN 2:** To extend travel choice for all sections of the community by enhancing public transport. Including the strengthening of the regional bus network (including the promotion of public transport routes and Park and Ride schemes) and the regional rail system;

- **SPG-TRAN 3:** To integrate land use and transportation to provide a much better range of travel choices for all, and reduce the demand for travel; and

- **SPG-TRAN 4:** To change the regional travel culture and contribute to healthier lifestyles, such as giving greater priority to encouraging more walking and cycling.

8 Climate Change Strategies

N/A

9 Implementation of Action Plans

N/A

10 Conclusions and Proposed Actions

Diffusion Tube monitoring during 2013 for Nitrogen Dioxide (NO_2) was carried out at 7 locations within Banbridge District Council's area. None of the sites monitored exceeded the objective limit of 40ug/m^3. Therefore no AQMA's will be declared at this time for any of the sites monitored by Banbridge District Council. No detailed assessments are required for NO_2 at this time.

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11 References

Local Air Quality Management Technical Guidance – LAQM.TG(09)

Appendices

Appendix A: QA/QC Data

Appendix B: Diffusion Tube Monitoring Sites Maps

Appendix C: 2012 NO_2 Diffusion Tube Monitoring Data

Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors

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PM Monitoring Adjustment

N/A

Short-term to Long-term Data adjustment

N/A

QA/QC of automatic monitoring

N/A

QA/QC of diffusion tube monitoring

See table below

Table 1: Laboratory summary performance for WASP NO_2 PT rounds 111 - 118

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent HSL WASP NO_2 PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of □□± 2 as defined above.

WASP Round	WASP R111	WASP R112	WASP R113	WASP R114	WASP R115	WASP R116	WASP R117	WASP R118
Round conducted in the period	October – December 2010	January - March 2011	April - June 2011	July - September 2011	October - December 2011	January – March 2012	April – June 2012	July – September 2012
Aberdeen Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Bristol City Council [6]	100 %	100 %	100 %	100 %	100 %	-	-	-
Cardiff Scientific Services	75 %	100 %	100 %	100 %	75 %	100 %	100 %	100 %
Edinburgh Scientific Services	100 %	100 %	100 %	100 %	0 %	100 %	100 %	100 %
Environmental Services Group, Didcot (formerly Bureau Veritas Laboratories, Glasgow and Harwell Scientifics) [1] [2]	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Exova (formerly Clyde Analytical)	100 %	100 %	100 %	0 %	75 %	0 %	0 %	100 %
Glasgow Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	50 %	100 %
Gradko International [2]	100 %	100 %	100 %	100 %	37.5 %	100 %	100 %	100 %
Kent Scientific Services	100 %	50 %	100 %	100 %	75 %	75 %	100 %	75 %
Kirklees MBC	0 %	100 %	0 %	0 %	50 %	100 %	100 %	75 %
Lambeth Scientific Services	100 %	50 %	25 %	100 %	25 %	75 %	100 %	0 %
Lancashire County Analysts [3]	100 %	75 %	-	-	-	-	-	-
Milton Keynes Council	100 %	100 %	75 %	100 %	100 %	100 %	100 %	75 %
Northampton Borough Council	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Somerset Scientific Services [4]	-	-	-	-	100 %	100 %	100 %	100 %
South Yorkshire Air Quality Samplers	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Staffordshire County Council	100 %	100 %	100 %	100 %	100 %	100 %	100 %	75 %
Tayside Scientific Services (formerly Dundee CC)	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Walsall MBC [5]	100 %	-	-	-	-	-	-	-
West Yorkshire Analytical Services	100 %	75 %	75 %	100 %	100 %	75 %	75 %	50 %

[1] Bureau Veritas laboratory and Harwell Scientific now part of ESG Group.

[2] Participant subscribes to two sets of test samples (2 x 4 test samples) in each WASP PT round.

[3] No longer involved in NO_2 diffusion tube measurements from R113.

[4] New participant from R115.

[5] No longer involved in NO_2 diffusion tube measurements from R112.

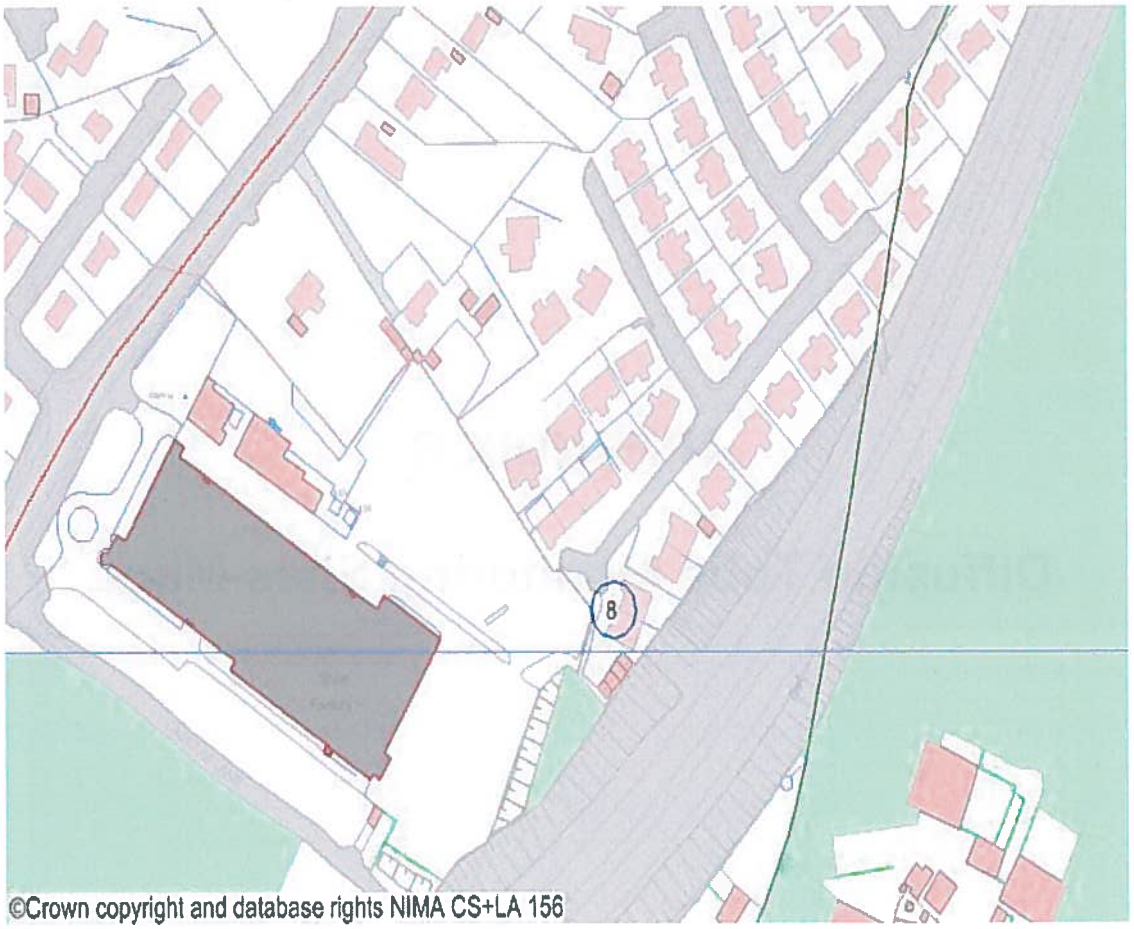
[6] No longer involved in NO_2 diffusion tube measurements from R116.

APPENDIX B

Diffusion Tube Monitoring Sites Maps

Map 1

Site at 17 Springfields, Banbridge BT32 3LT

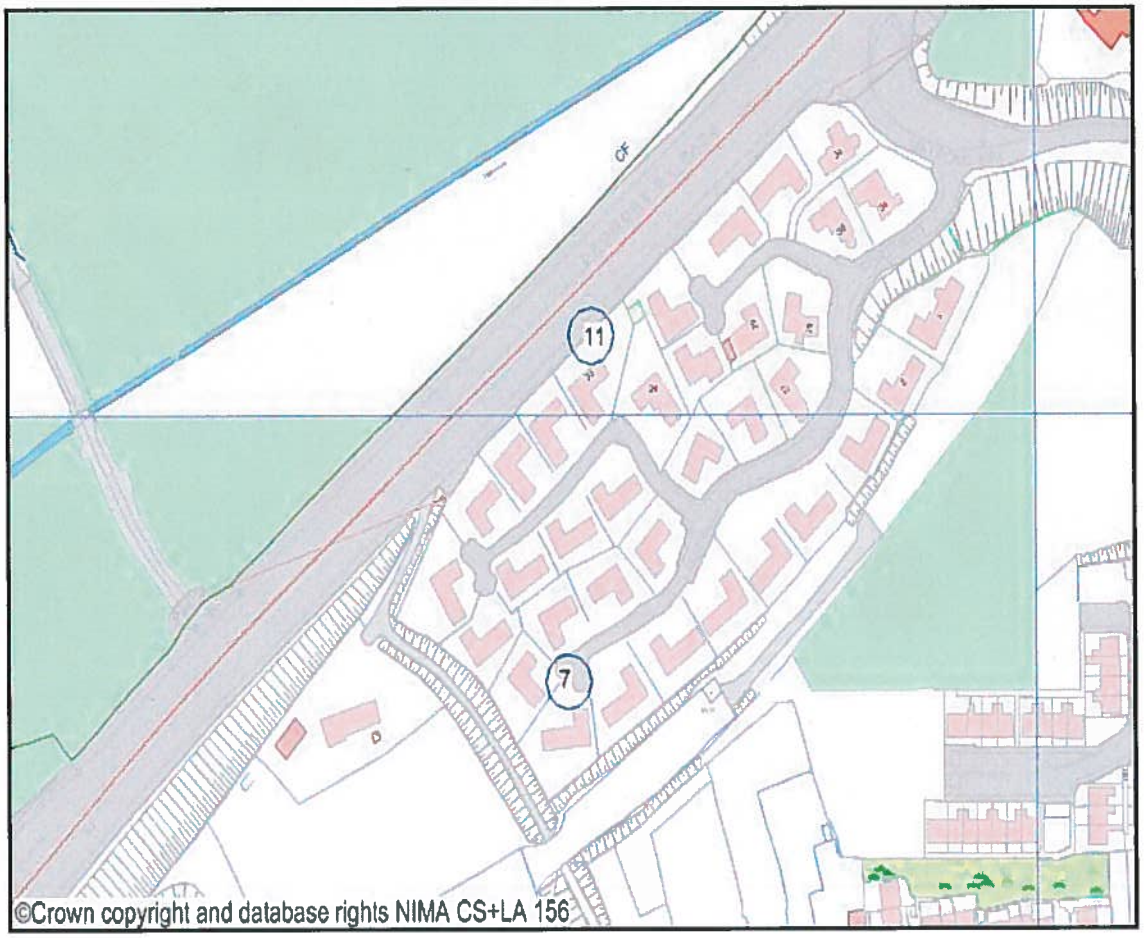


Map 2

Site at 7 Hillview Terrace, Dromore Street, Banbridge BT32 4BS

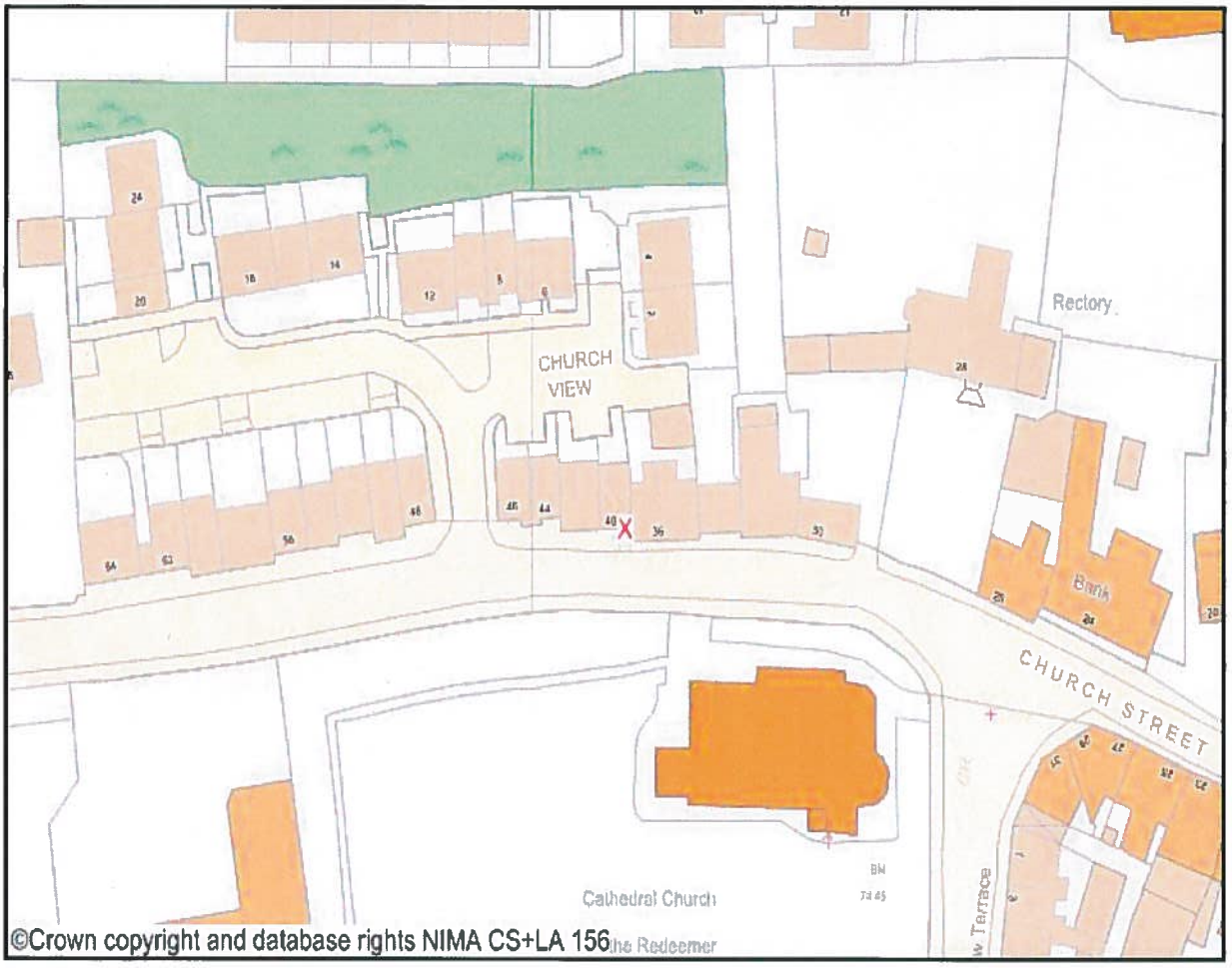
Map 3

Sites at 9 Fortfield, Maypole Hill, Dromore BT25 1DD and A1 Dromore By-Pass



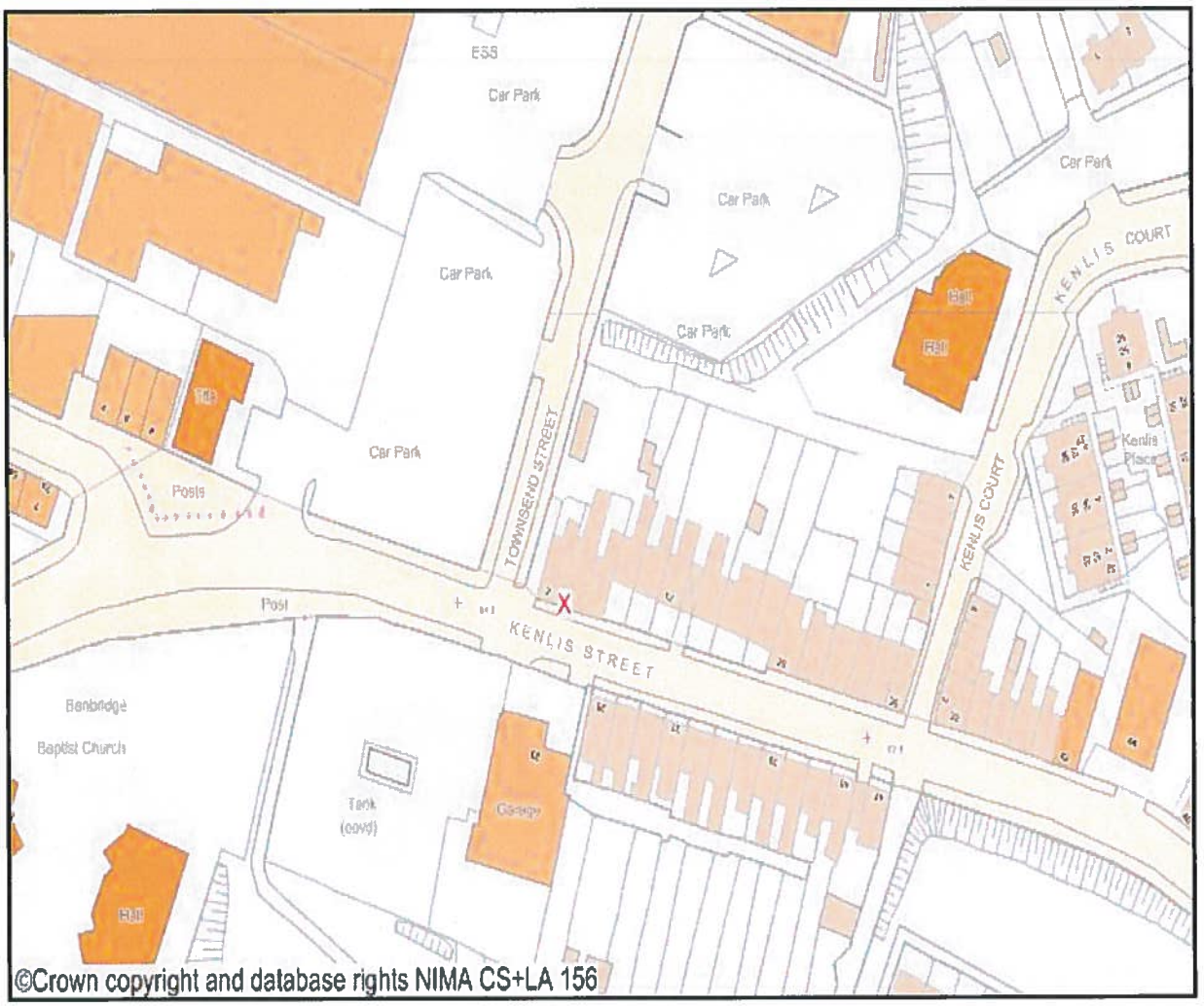
MAP 4

Site at Church Street, Dromore.



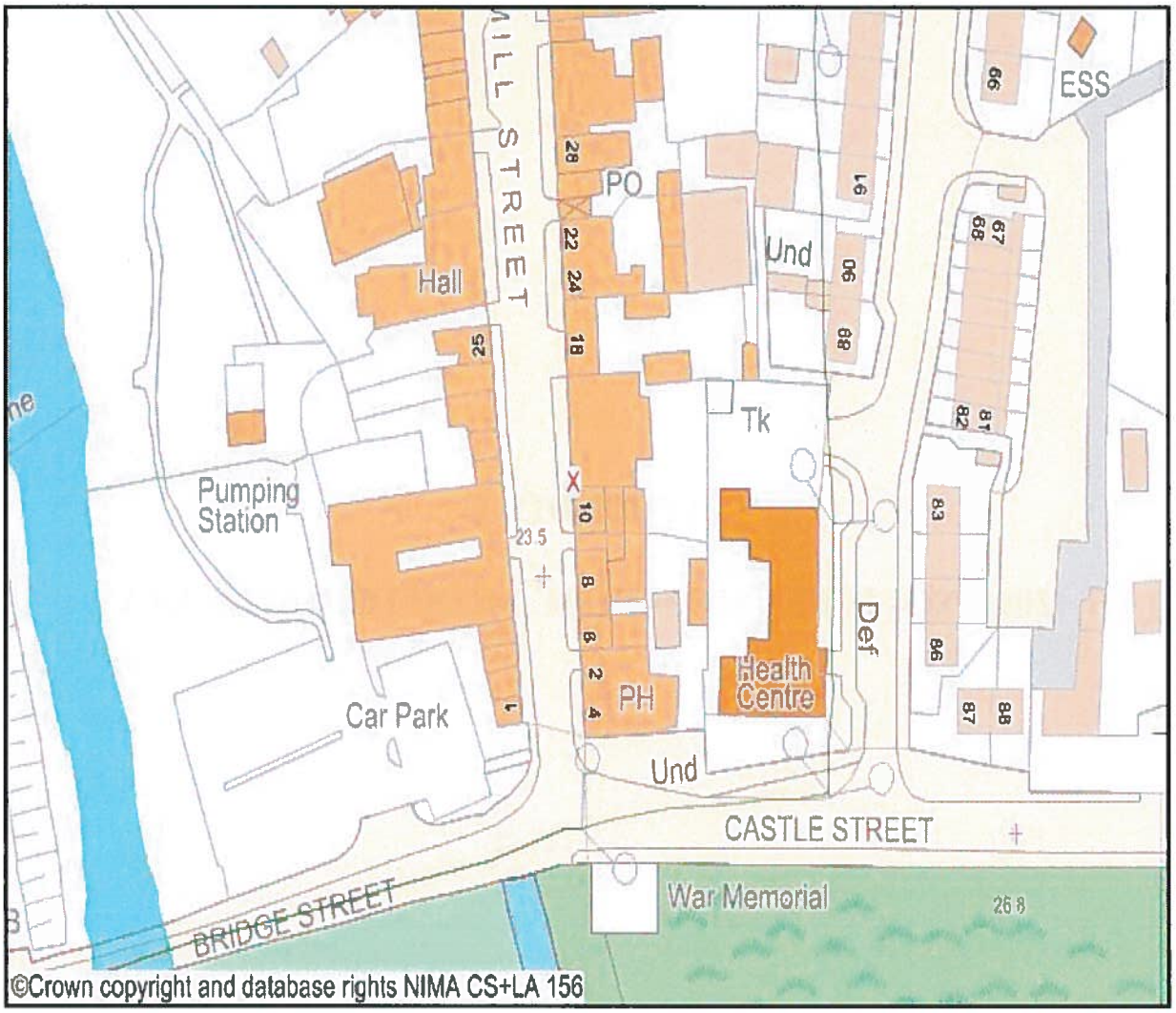
MAP 5

Site at Kenlis Street, Banbridge.



MAP 6

Site at Mill Street, Gilford



APPENDIX C

2012 NO_2 DIFFUSION TUBE MONITORING DATA

NO2 DIFFUSION TUBE RESULTS 2012 (µg/m^3)							
	Mill St, Gilford	Kenlis St	Dromore St	Church St, Dromore	Fortfield, Dromore	Springfields	Newry Road
JANUARY	42	43	39	41	16	15	44
FEBRUARY	41	44	40	36	19	19	-
MARCH	40	43	39	38	16	13	42
APRIL	46	39	26	48	14	11	34
MAY	50	39	31	41	11	15	30
JUNE	47	43	33	39	10	12	33
JULY	32	34	26	24	9	9	27
AUGUST	43	39	36	29	8	14	26
SEPTEMBER	30	41	34	36	14	9	36
OCTOBER	46	46	41	39	16	16	41
NOVEMBER	48	42	54	34	22	15	49
DECEMBER	45	-	44	33	17	18	42
AVERAGE	43	41	37	37	14	14	37
Adjusted Ave	34	33	29	29	11	11	29