



# 2009 Air Quality Updating and Screening Assessment for Strabane District Council

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

November 2009

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# Executive Summary

The Air Quality Strategy for England, Scotland, Wales & Northern Ireland provides a framework for air quality control through air quality management and air quality standards. These and other air quality standards and their objectives have been enacted through the Air Quality Regulations (Northern Ireland) 2003 in Northern Ireland. The Environment (Northern Ireland) Order 2002 requires District Councils to undertake air quality reviews and assessments. In areas where the air quality objectives are not anticipated to be met by the specified dates, District Councils are required to establish Air Quality Management Areas as a means to improve air quality.

In previous rounds of the review and assessment process Strabane District Council declared 3 air quality management areas affecting Strabane, Newtownstewart and Castleterg in relation to exceedences of the air quality objectives for particles (PM<sub>10</sub>). All three AQMA's remain in force and have been supplemented by the declaration of 3 overlying smoke control areas in order to control domestic emissions from solid fuel combustion.

This report provides an update as to the prevailing conditions within the Strabane District Council area and identifies any relevant changes to the air quality across the district. The conclusion of the screening and assessment report is that no detailed assessment is required for any pollutant prescribed for local authority control.



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# 1 Introduction

## 1.1 Description of Local Authority Area

The Strabane District Council area comprises some 922 square kilometres of largely unspoilt countryside, and is situated in north-west County Tyrone, Northern Ireland on the border with County Donegal in the Republic of Ireland. The principal centres of population are shown in pictorial form below.



The district had a population of 38,248 (NI Census) in 2001, the largest proportion of which reside in the main population centres of Strabane town and smaller towns of Castleberg and Newtownstewart. A number of small villages also exist within the district.

Strabane is situated approximately 14 miles from Derry/Londonderry and 90 miles from Belfast. The principal traffic routes within the district are the A5 (currently carrying approximately 14040 vehicles per day through Strabane which spans from Ballygawley to Derry/Londonderry via Newtownstewart and is a main arterial route), and the A38 (currently carrying approximately 19130 vehicles per day which links Strabane with Co Donegal in the Republic of Ireland). Strabane is linked to the smaller towns of Castleberg by the B72, Donemana by the B49 and Plumbridge by the B526; these roads carrying

substantially less vehicles per day than the other traffic routes. A number of prescribed industrial activities are controlled within the district as detailed in Appendix 2. The air quality updating and screening assessment has taken such premises and other commercial and industrial premises into consideration where necessary.

## **1.2 Purpose of Report**

This report fulfils the requirements of the Local Air Quality Management process as set out in Part III of the Environment (Northern Ireland) Order 2002, the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

## **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 microgrammes per cubic metre  $\mu\text{g}/\text{m}^3$  (milligrammes per cubic metre,  $\text{mg}/\text{m}^3$  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	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
<b>Benzene</b>	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	3.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
<b>1,3-Butadiene</b>	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
<b>Carbon monoxide</b>	10.0 $\text{mg}/\text{m}^3$	Running 8-hour mean	31.12.2003
<b>Lead</b>	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
<b>Nitrogen dioxide</b>	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
<b>Particles (PM<sub>10</sub>) (gravimetric)</b>	50 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
<b>Sulphur dioxide</b>	350 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

## **1.4 Summary of Previous Review and Assessments**

Strabane District Council published the Stage 2/3 Review And Assessment Report in May 2004. The conclusions of the report highlighted the requirement upon Strabane District Council to declare air quality management areas (AQMA's) in Strabane, Newtownstewart and Castlederg in relation to exceedences of the air quality objectives for particles (PM<sub>10</sub>). The air quality management areas were brought into effect by means of orders made by Strabane District Council and came into effect on 30<sup>th</sup> June 2004. Maps of the AQMA's are available at Appendix 2. The air quality action plan was published in September 2005 and is currently being implemented.

Strabane District Council is now embarking on the third round of air quality review and assessment. A phased approach is used to review and assess air quality. The first stage of the review and assessment process is an updating and screening assessment. This identifies any changes that have occurred since the second round which may have an affect on air quality and which require a more detailed assessment. Where an updating and screening assessment has identified a risk that an air quality objective will be exceeded at a location with relevant public exposure then the council is required to undertake a detailed assessment.

## **2 New Monitoring Data**

### **2.1 Summary of Monitoring Undertaken**

#### **2.1.1 Automatic Monitoring Sites**

Strabane District Council continues to operate a combined PM<sub>10</sub>/sulphur dioxide monitoring station at Springhill Park, Strabane as illustrated in Figure 1 below. The site is surrounded by housing (representing the worst case location) and has been in operation since April 2002. The PM<sub>10</sub> monitoring is carried out using a Met One BAM1020 and an API M100A fluorescent analyser is used to measure the sulphur dioxide concentrations. The site is subject to independent QA/QC audits by AEA Energy & Environment at 6 monthly intervals in order to provide confidence in the procedures adopted by Strabane District Council in managing the site and to enable the data ratification process to take place. Data management services are also provided by AEA Energy & Environment. The sulphur dioxide monitoring station is subject to calibration at 2-weekly intervals by staff from Strabane District Council with the results forwarded to AEA who carry out the data validation and ratification on behalf of Strabane District Council. The BAM monitor data is subject to the recommended correction factor of 0.83333 in order to provide gravimetric equivalent data.

**Figure 1 Location of the Springhill Park Monitoring Site**



The monitoring results from the PM<sub>10</sub> and sulphur dioxide monitors are shown in Table 2.1 for the period 01 January 2008 to 31 December 2008.

**Table 2.1 PM10 and SO2 Monitoring Results for the 2008 Calendar Year**

POLLUTANT	PM <sub>10</sub> *+	SO <sub>2</sub>
Number Very High	0	0
Number High	0	0
Number Moderate	25	0
Number Low	8236	32249
Maximum 15-minute mean	145 µgm <sup>-3</sup>	101 µgm <sup>-3</sup>
Maximum hourly mean	145 µgm <sup>-3</sup>	32 µgm <sup>-3</sup>
Maximum running 8-hour mean	126 µgm <sup>-3</sup>	22 µgm <sup>-3</sup>
Maximum running 24-hour mean	77 µgm <sup>-3</sup>	14 µgm <sup>-3</sup>
Maximum daily mean	58 µgm <sup>-3</sup>	13 µgm <sup>-3</sup>
Average	17 µgm <sup>-3</sup>	3 µgm <sup>-3</sup>
Data capture	93.7 %	89.9 %

\* PM<sub>10</sub> Indicative Gravimetric Equivalent µgm<sup>-3</sup>

+ PM<sub>10</sub> instruments: BAM using a factor of 0.83333 for Indicative Gravimetric Equivalence  
All mass units are at 20°C and 1013mb

**Table 2.2 Details of Automatic Monitoring Sites**

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA ?	Relevant Exposure?	Distance to kerb of nearest road	Worst-case Location ?
Springhill Park, Strabane	Urban background	2351 3972	PM10 SO <sub>2</sub>	Y	Yes (1m)	1m	Y

### **2.1.2 Non-Automatic Monitoring**

No non-automatic monitoring takes place within the Strabane District Council area.

## **2.2 Comparison of Monitoring Results with Air Quality Objectives**

Table 2.3 below provides a direct comparison with the relevant air quality objectives for PM<sub>10</sub>/SO<sub>2</sub>. In 2008 the number of exceedences of the daily mean PM<sub>10</sub> objective was 3 and the annual mean was 17µg m<sup>-3</sup> indicative gravimetric equivalent. These figures are similar to those for the 2007 calendar year. The dramatic reductions experienced in the number of daily mean exceedences and annual mean on previous years would now appear to have halted. The reduction in the number of daily mean exceedences and annual mean can be accounted for by the implementation of the air quality action plan including measures such as the NIHE heating conversion scheme, introduction of fuel conversion schemes for owner-occupied and rented accommodation funded by Northern Ireland Electricity and the Department for Social Development in conjunction with Strabane District Council and action by the introduction of smoke control areas in April and September 2007. Such measures have helped to produce an improvement in the air quality across the District and an overall reduction in background concentrations as a whole compared to previous years.

**Table 2.3 Comparison of Monitoring Data With Air Quality Objectives**

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Sulphur Dioxide	15-minute mean > 266 $\mu\text{g m}^{-3}$	0	0
Sulphur Dioxide	Hourly mean > 350 $\mu\text{g m}^{-3}$	0	0
Sulphur Dioxide	Daily mean > 125 $\mu\text{g m}^{-3}$	0	0
PM <sub>10</sub> Particulate Matter (Gravimetric)	Daily mean > 50 $\mu\text{g m}^{-3}$	3	3
PM <sub>10</sub> Particulate Matter (Gravimetric)	Annual mean > 40 $\mu\text{g m}^{-3}$	0	-

Table 2.4 below provides the trend in pollutant concentrations since monitoring began at the Springhill Park site in Strabane town. It is evident that PM10 concentrations in particular have reached a plateau and demonstrate the impact of the air quality action plan measures. The results also indicate a sustained period of compliance with the air quality objectives for particles and sulphur dioxide.

**Table 2.4 Trend Analysis of Pollutant Concentrations at the Springhill Park Monitoring Site**

Pollutant	Air Quality Regulations (Northern Ireland) 2003	YEAR					
		2003	2004	2005	2006	2007	2008
Sulphur Dioxide	15-minute mean > 266 $\mu\text{g m}^{-3}$	0	0	0	0	0	0
Sulphur Dioxide	Hourly mean > 350 $\mu\text{g m}^{-3}$	0	0	0	0	0	0
Sulphur Dioxide	Daily mean > 125 $\mu\text{g m}^{-3}$	0	0	0	0	0	0
PM <sub>10</sub> Particulate Matter (Gravimetric)	No. Days Daily mean > 50 $\mu\text{g m}^{-3}$	67	86	11	2	3	3
PM <sub>10</sub> Particulate Matter (Gravimetric)	Annual mean $\mu\text{g m}^{-3}$	36	42	25	17	17	17

### 2.2.1 Nitrogen Dioxide

No monitoring of nitrogen dioxide takes place within the Strabane District Council area.

## 2.2.2 PM<sub>10</sub>

Table 2.5 below provides a direct comparison of the monitoring results from the Springhill Park site with the relevant air quality objectives for PM<sub>10</sub>. The number of exceedences of the daily mean PM<sub>10</sub> objective was 3 and the annual mean was 17µg m<sup>-3</sup> indicative gravimetric equivalent. Both air quality objectives are therefore being achieved and there is no risk of the objectives being exceeded at present. The monitoring site is located within an AQMA and represents relevant public exposure locations for domestic and transport sources of particles due to its siting within a built up residential area. Tables 2.6 and 2.7 provide summary data statistics for the 2008 calendar year and trend analysis of PM10 concentrations at Springhill Park, Strabane from 2003 to the present.

**Table 2.5 Comparison of PM10 Concentrations with the Air Quality Objectives in 2008**

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
PM <sub>10</sub> Particulate Matter (Gravimetric)	Daily mean > 50 µg m <sup>-3</sup>	3	3
PM <sub>10</sub> Particulate Matter (Gravimetric)	Annual mean > 40 µg m <sup>-3</sup>	0	-

**Table 2.6 Summary Data for PM10 Monitoring at Springhill Park Site for the 2008 Calendar Year**

POLLUTANT	PM <sub>10</sub> *+
Number Very High	0
Number High	0
Number Moderate	25
Number Low	8236
Maximum 15-minute mean	145 µgm <sup>-3</sup>
Maximum hourly mean	145 µgm <sup>-3</sup>
Maximum running 8-hour mean	126 µgm <sup>-3</sup>
Maximum running 24-hour mean	77 µgm <sup>-3</sup>
Maximum daily mean	58 µgm <sup>-3</sup>
Average	17 µgm <sup>-3</sup>
Data capture	93.7 %

\* PM<sub>10</sub> Indicative Gravimetric Equivalent µgm<sup>-3</sup>

+ PM<sub>10</sub> instruments: BAM using a factor of 0.83333 for Indicative Gravimetric Equivalence  
All mass units are at 20°C and 1013mb

**Table 2.7 Trend Analysis of PM10 Concentrations at the Springhill Park Monitoring Site**

Pollutant	Air Quality Regulations (Northern Ireland) 2003	YEAR					
		2003	2004	2005	2006	2007	2008
PM <sub>10</sub> Particulate Matter (Gravimetric)	No. Days Daily mean > 50 µg m <sup>-3</sup>	67	86	11	2	3	3
PM <sub>10</sub> Particulate Matter (Gravimetric)	Annual mean µg m <sup>-3</sup>	36	42	25	17	17	17

### 2.2.3 Sulphur Dioxide

Table 2.8 below provides a direct comparison of the monitoring results from the Springhill Park site with the relevant air quality objectives for sulphur dioxide. There were no exceedences of any of the air quality objectives for this pollutant since monitoring began in April 2002 and this continues to be the case. All air quality objectives for this pollutant are therefore being achieved and there is no risk of the objectives being exceeded at present as is evident by the summary statistics provided in table 2.9 below. The monitoring site is located within an AQMA (in relation to PM10) and represents relevant public exposure locations for a range of sources of sulphur dioxide due to its siting within a built up residential area. Tables 2.9 and 2.10 provide summary data statistics for the 2008 calendar year and trend analysis of sulphur dioxide concentrations at Springhill Park, Strabane from 2003 to the present.

**Table 2.8 Comparison of Monitoring Data With Air Quality Objectives**

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Sulphur Dioxide	15-minute mean > 266 µg m <sup>-3</sup>	0	0
Sulphur Dioxide	Hourly mean > 350 µg m <sup>-3</sup>	0	0
Sulphur Dioxide	Daily mean > 125 µg m <sup>-3</sup>	0	0

**Table 2.9 SO<sub>2</sub> Monitoring Results for the 2008 Calendar Year**

POLLUTANT	SO <sub>2</sub>
Number Very High	0
Number High	0
Number Moderate	0
Number Low	32249
Maximum 15-minute mean	101 µgm <sup>-3</sup>
Maximum hourly mean	32 µgm <sup>-3</sup>
Maximum running 8-hour mean	22 µgm <sup>-3</sup>
Maximum running 24-hour mean	14 µgm <sup>-3</sup>
Maximum daily mean	13 µgm <sup>-3</sup>
Average	3 µgm <sup>-3</sup>
Data capture	89.9 %

**Table 2.10 Trend Analysis of Sulphur Dioxide Concentrations at the Springhill Park Monitoring Site**

Pollutant	Air Quality Regulations (Northern Ireland) 2003	YEAR					
		2003	2004	2005	2006	2007	2008
Sulphur Dioxide	15-minute mean > 266 µg m <sup>-3</sup>	0	0	0	0	0	0
Sulphur Dioxide	Hourly mean > 350 µg m <sup>-3</sup>	0	0	0	0	0	0
Sulphur Dioxide	Daily mean > 125 µg m <sup>-3</sup>	0	0	0	0	0	0

#### 2.2.4 Benzene

No monitoring for benzene takes place within the Strabane District Council area.

#### 2.2.5 Other pollutants monitored

No monitoring takes place for any other pollutant within the Strabane District Council area.

## **3 Road Traffic Sources**

### **3.1 Narrow Congested Streets with Residential Properties Close to the Kerb**

Concentrations of nitrogen dioxide and PM10 are often higher when traffic is slow moving with stop/start driving, and where buildings either side reduce dispersion. Sites of narrow congested streets were considered in the first round of review and assessment and it predicted that at these locations the air quality objective would be met. Air quality monitoring using nitrogen dioxide diffusion tubes has been undertaken at some of these sites in the first round of review and assessment. The results confirmed that the concentrations were not at risk of exceeding the air quality objectives for nitrogen dioxide. There are no new sites of narrow congested streets within the Strabane District Council area.

Strabane District Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

### **3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic**

Such locations were considered as part of the stage one review and assessment with the conclusion that there were no busy streets with a potential risk of exceeding the air quality objectives. According to LAQM.TG(09) if these types of location were included in previous rounds there is no need to proceed to a detailed assessment in this round of review and assessment.

Strabane District Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

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

In the previous rounds of review and assessment there were no roads with greater than 25% proportion of buses and/or HGV's. The most up to date general traffic data supplied by the DRD Roads Service (See Appendix 4) does not identify any roads with a proportion of greater than 25% buses and/or HGV'S.

Strabane District Council confirms that there are no new/newly identified roads with high flows of buses/HDVs.

### **3.4 Junctions**

The first stage review and assessment completed by Strabane District Council concluded that there were no junctions with a potential risk of exceeding the objectives for nitrogen dioxide and PM<sub>10</sub>. There has been no change in this position. According to LAQM.TG(09) further assessment of junctions is not required where there was a specific assessment during the first round against the 2004/2005 air quality objectives.

Strabane District Council confirms that there are no new/newly identified busy junctions/busy roads.

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

There has been one proposed road since the last round of review and assessment, namely the A5 Western Transport Corridor which will pass through several district council areas in including Strabane District Council, Derry City Council, Omagh District Council and Dungannon and South Tyrone Borough Council areas. The scheme is at an early planning stage and has completed the scoping assessment and preferred corridor selection and no planning application has yet been submitted.

Upon selection of the preferred route for the road detailed air quality and other impact assessments will be undertaken. It is therefore not possible to provide an accurate air quality assessment at this time and such an assessment will be included in future progress reports and updating and screening assessments should the scheme be likely to proceed.

Strabane District Council has assessed new/newly identified roads meeting the criteria in Section A.5 of Box 5.3 in TG(09), and concluded that it will not be necessary to proceed to a Detailed Assessment.

### **3.6 Roads with Significantly Changed Traffic Flows**

Appendix 5 details changes in traffic flows from 2006 to 2007 including the percentage increase/ decrease in traffic flow. There are no roads with more than 10,000 vehicles per day that have experienced a greater than 25% increase in traffic flow, in the Strabane District Council area. No data is currently available for the years 2008 and 2009. The greatest magnitude of increase is 8.88% and is substantially below the 25% increase that would require a detailed assessment to be carried out for both PM10 and nitrogen dioxide.

Strabane District Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

### **3.7 Bus and Coach Stations**

The guidance recommends consideration of bus stations with relevant exposure points at less than 10m from the station complex and more than 2500 vehicle movements per day. There are no such locations within the Strabane District Council area at present.

Strabane District Council confirms that there are no relevant bus stations in the District.

## **4 Other Transport Sources**

### **4.1 Airports**

There are no airports within or adjacent to the Strabane District Council area.

Strabane District Council confirms that there are no airports in the District.

### **4.2 Railways (Diesel and Steam Trains)**

There are no railways within or adjacent to the Strabane District Council area.

#### **4.2.1 Stationary Trains**

There are no railways within or adjacent to the Strabane District Council area.

Strabane District Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

#### **4.2.2 Moving Trains**

There are no railways within or adjacent to the Strabane District Council area.

Strabane District Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

### **4.3 Ports (Shipping)**

There are no ports within or adjacent to the Strabane District Council area.

Strabane District Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

## **5 Industrial Sources**

### **5.1 Industrial Installations**

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

Strabane District Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

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

Strabane District Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

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

Strabane District Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

### **5.2 Major Fuel (Petrol) Storage Depots**

There are no major fuel (petrol) storage depots within the Local Authority area.

### **5.3 Petrol Stations**

Strabane District Council confirms that there are no petrol stations meeting the specified criteria.

### **5.4 Poultry Farms**

Strabane District Council confirms that there are no poultry farms meeting the specified criteria.

## 6 Commercial and Domestic Sources

### 6.1 Biomass Combustion – Individual Installations

Strabane District Council is aware of one biomass combustion plant, located at an animal feed plant at Strabane Mills Ltd, Artigarvan. The combustion plant is subject to regulation under the Pollution Prevention Control Regulations (Northern Ireland) 2003 as a Part C installation. The following information is provided in support of the Screening Assessment:

#### Screening Assessment of Existing Biomass Plant at Strabane Mills Ltd, Artigarvan, Strabane (Based on EMEP/CORINAIR Emission Factors)

Height of the Stack	21metres
Diameter of the Stack	0.5metres
Dimensions of buildings within 5 times the stack height	18m High x 16m Long x 16m Wide 7m High x 37m Long x 7m Wide
Description of combustion appliance	Binder RRK 1200-1650 1.8Mw (th) maximum input burning clean waste wood as a fuel
Maximum emission rates (g/sec) of PM <sub>10</sub>	$25 \times 1800 \times 10^{-6} = 0.045 \text{g/sec}$
Maximum emission rates (g/sec) of NO <sub>x</sub>	$150 \times 1800 \times 10^{-6} = 0.270 \text{g/sec}$
Background Concentration of PM <sub>10</sub>	9.92µg/m <sup>3</sup>
Background adjusted emission rate PM <sub>10</sub>	0.002038 g/sec
Background Concentration of NO <sub>2</sub>	2.29µg/m <sup>3</sup>
Background adjusted emission rate NO <sub>2</sub> Annual Mean	0.0071599 g/sec
Background adjusted emission rate NO <sub>2</sub> 1-hour Mean	0.0552655 g/sec
Effective stack height	5m
Further assessment required?	No for PM <sub>10</sub> and NO <sub>2</sub> Annual Mean

The above assessments using the conservative EMEP/CORINAIR emission rates for a boiler with abated emissions fitted with a fabric filter (Table A2.20 of Appendix A of LAQM.TG(09)) demonstrates that the air quality objectives for particles and nitrogen dioxide are unlikely to be exceeded as a result of emissions from the Strabane Mills existing biomass plant. It is therefore submitted that a detailed assessment is not required in relation to PM<sub>10</sub> or nitrogen dioxide. No specific monitoring is currently

available for emissions of either pollutant from the plant. It is considered possible that the actual emissions of nitrogen dioxide and PM<sub>10</sub> would be less than those quoted in the EMEP/CORINAIR given their conservative nature. Paragraphs 2.30 to 2.35 of LAQM.TG(09) also confirm that exceedences of the 1-hour objective for nitrogen dioxide are unlikely to occur where the annual mean concentration is below 60µg/m<sup>3</sup>. Given that the predicted annual mean at the Strabane Mills site in Artigarvan is 2.29µg/m<sup>3</sup> is it considered extremely unlikely that the air quality objectives for this pollutant will be exceeded.

Strabane District Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

## **6.2 Biomass Combustion – Combined Impacts**

Strabane District Council is aware of one proposed biomass plant that is to be located adjacent to the existing biomass plant at Strabane Mills Ltd in Artigarvan, Strabane. The proposed plant has not been granted planning approval, but should it do so it would be controlled within the industrial pollution prevention and control regime as a Part A installation regulated by the Northern Ireland Environment Agency. Potential for a combined impact therefore could exist, however this has been assessed as part of the Environmental Impact Statement submitted in support of the proposed plant. The conclusions demonstrate that the air quality objectives are unlikely to be exceeded and no further assessment is deemed necessary. Should the plant be granted planning approval and come into operation the matter will be reviewed in subsequent updating and screening or detailed assessments.

Strabane District Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

### **6.3 Domestic Solid-Fuel Burning**

Strabane District Council has assessed the impacts of domestic solid fuel burning in previous rounds of air quality review and assessment and no further assessment is therefore deemed necessary at this time.

Strabane District Council has assessed areas of significant domestic solid fuel use, and concluded that it will not be necessary to proceed to a Detailed Assessment.

## 7 Fugitive or Uncontrolled Sources

Strabane District Council identified 25 quarrying/mineral extraction sites and a waste transfer station located within the district as possible sources of fugitive emissions. These were identified through a combination of personal knowledge and a review of planning applications. A number of such sites were considered in the 2006 Updating and Screening Assessment and lists of operational and non-operational sites considered in this report are presented in Appendix 6 and Appendix 7.

There are no major construction works, landfill sites or coal and material stockyards within the Strabane District Council area.

With regard to the waste transfer station and quarrying/mineral extraction sites identified it was ascertained that no detailed air quality assessments had been carried out for these and that there was no history of any complaints concerning them. All previously considered operational sites have been reviewed in order to establish if any new relevant exposure has been introduced in the vicinity of the sites and it was found that the previous assessment remains valid.

Officer visits were made to the waste transfer station and each of the quarrying sites. During the visits the officer made an assessment of the activity being undertaken, whether dust was being generated from this and whether there was any relevant exposure near to the source of the dust emissions.

The following is a list of quarrying sites that the officer identified as requiring further investigation and further visits were made to these and the local background PM<sub>10</sub> was identified for each.

- Aughafad Quarry, Lisnarragh Road, Donemana
- WJ Chambers, Moyagh Road, Donemana
- J O'Connor, 38a Moyagh Road, Donemana
- Devines Sand and Gravel, 65 Moorlough Road, Glenmornan, Strabane
- Tony Harley & Sons, Urbalreagh Road, Ardstraw

### **Aughafad Quarry**

Aughafad Quarry is a hard rock quarry and an installation that is subject to integrated central control and permitted by the Northern Ireland Environment Agency under the Pollution Prevention and Control Regulations (NI) 2003. During some of the visits to the site by Strabane District Council dust was seen being generated from vehicular movements on site and from the main screening building. This matter was referred to IPRI for them to follow up regarding compliance with Permit conditions. The nearest residential receptors are located 130m and 180m from the installation and as these matters are regulated by operational conditions it is considered that a detailed air quality assessment is not required.

### **WJ Chambers, Moyagh Road, Donemana & J O'Connor, 38a Moyagh Road, Donemana**

Moyagh Road, Donemana has two quarrying sites located in close proximity to one another that operate independently. Concerns in relation to these two sites arise primarily in relation to the proximity of existing dwellings to the public road used by vehicles exiting the sites, the closest of which is 25m from the road and the site access/haul roads as all extraction is currently occurring in excess of 200m from the existing dwellings in the area. During visits accumulations of sandy material were evident on the Moyagh Road and primarily the verges of the road. This matter was referred to DRD Roads Service and Strabane District Council is advised that Moyagh Road is inspected regularly as part of their programme and that it had not previously been identified as requiring attention and that there is not a history of complaints concerning the road. These sites were also considered in previous rounds of review and assessment and it was concluded and accepted by DOE that detailed assessment was not required. Strabane District Council has not received any complaints in relation to these sites in the time that they have been operational.

The J O'Connor site has now been exhausted and with the exception of some gravel that has been stockpiled which still requires to be removed, the site it is ready for restoration. The WJ Chambers site has planning permission granted for an additional area of land to be quarried and it appears that the land is currently being prepared for extraction. The planning permission for this new area is controlled by

planning conditions with regard to dust mitigation measures and it is therefore considered unlikely that airborne dust emissions likely to exceed the air quality objectives will occur.

In summary it was ascertained that the background PM<sub>10</sub> concentration does not exceed 11µg/m<sup>3</sup> in the vicinity of the sites, the public road is finished in tarmac, free from substantial deposits of material likely to become airborne, there is no history of complaints concerning dust arising from the site and the sites have facilities available for the dampening of haul roads. Based upon these factors and the professional judgement of the officers concerned it is considered that no detailed assessment is required in respect of these two sites.

***Devine Sand and Gravel, 65 Moorlough Road, Glenmornan, Strabane***

Concerns in relation to this site arise primarily in relation to the proximity of an existing dwelling within 15m of the site access road as all haul roads and extraction is currently occurring at significant distances from the existing dwellings in the area. It was ascertained that the dwelling adjacent to the site access road is occupied however the background PM<sub>10</sub> concentration does not exceed 11µg/m<sup>3</sup> in the vicinity of the site, the road is finished in tarmac, free from substantial deposits of material likely to become airborne, the site road would be reserved for site traffic and residents use only, there is no history of complaints concerning the site and the site has facilities available for the dampening of haul roads. Based upon these factors and the professional judgement of the officers concerned it is considered that no detailed assessment is required in respect of this site.

***Tony Harley & Sons, Urbalreagh Road, Ardstraw***

This quarrying site is now exhausted and no longer in operation.

**Summary**

LAQM.TG(09) paragraphs 1.29 to 1.32 provides guidance in relation to review and assessment with regard to public exposure. In considering the sites detailed above Strabane District Council has assessed the likelihood of members of the public being regularly exposed to particulate emissions for the duration recommended in the guidance ie for 8 hours or more in a day in respect of the daily mean or a cumulative

period of 6 months in a year in respect of the annual mean. As all of the sites considered operate during the daytime only and are located in rural areas on minor roads (with the exception of the waste transfer station), it is considered unlikely that members of the public would be exposed for the durations cited above and that emissions are likely to exceed the air quality objectives for particulate matter. In addition the background PM<sub>10</sub> concentrations do not exceed 11µg/m<sup>3</sup> in the vicinity of the sites considered, no complaints have been received in relation to dust emissions (in the years that the sites have been operating) thereby supporting the observations and conclusions of Strabane District Council's assessment. It is therefore considered that a detailed assessment is not required in respect of emissions from fugitive sources within the Strabane District Council area.

Strabane District Council confirms that there are no potential sources of fugitive particulate matter emissions in the District that require a detailed assessment to be carried out.

## **7.1 Conclusions From New Monitoring Data**

The new monitoring available within the Strabane AQMA since the last updating and screening assessment has not identified any exceedences of the air quality objectives for PM<sub>10</sub> or sulphur dioxide. PM<sub>10</sub> concentrations appear to be demonstrating a trend in recent years in that no further dramatic reductions in concentrations have been demonstrated and annual mean and daily mean concentrations remain relatively constant year on year. The monitoring has not identified any potential or actual exceedences at relevant locations outside existing AQMA's.

## **7.2 Conclusions From Assessment of Sources**

The assessment of sources included in this report has not identified any new or significantly changed sources that require a detailed assessment at this time.

### **7.3 Proposed Actions**

The assessment of sources included in this report has not identified any new or significantly changed sources that require a detailed assessment for any pollutant at this time. The Updating and Screening Assessment has not identified any need for additional monitoring, or changes to the existing monitoring programme. It is considered that no changes are required to any existing AQMA's at this time.

It is proposed that the next course of action will be to submit a Progress Report in 2010.

## **8 References**

Strabane District Council Stage 1 Review and Assessment 2000

Strabane District Council Stage 2/3 Review and Assessment 2004

Strabane District Council Air Quality Action Plan 2005

Strabane District Council Updating and Screening Assessment 2006

# Appendices

# **Appendix 1**

## **QA/QC Data**

### **PM Monitoring Adjustment**

PM10 monitoring data from the BAM is corrected to gravimetric equivalent using a factor of 0.83333 for Indicative Gravimetric Equivalence.

### **QA/QC of automatic monitoring**

AEA carry out independent QA/QC visits to the Springhill Park monitoring station at 6-monthly intervals. Strabane District Council carry out calibrations of the sulphur dioxide monitor at 2-weekly intervals.

## **Appendix 2**

### **Pollution Prevention Control Register**



## Pollution Prevention & Control Register - Part C

Ref No	Company Name	Company Address	Process Type	Date Permit Issued
PPC/05/C/0001/V1	Supermix Ltd	76 Strabane Road, Newtownstewart	Section 3.1 Production Of Cement & Lime	1 <sup>st</sup> June 2005 Date of Variation 9 <sup>th</sup> June 2008
PPC/05/C/0002/V1	Northstone (NI) Ltd (Concrete Division)	Strahans Road, Strabane	Section 3.1 Production of Cement & Lime	1 <sup>st</sup> June 2005 Date of Variation 19 <sup>th</sup> May 2008
PPC/05/C/0003	Spamount Precast	50 Drumnabey Road, Spamount, Castledearg	Section 3.1 Production of Cement & Lime	1 <sup>st</sup> June 2005 Date of Variation 9 <sup>th</sup> June 2008
PPC/05/C/0004	Mr Raymond Boyd	7 Deerpark Industrial Estate, Baronscourt Road, Newtownstewart	Section 6.6 Timber Activities	21 <sup>st</sup> June 2005

## Pollution Prevention & Control Register - Part C

Ref No	Company Name	Company Address	Process Type	Date Permit Issued
PPC/05/C/0005/V1	Frylite	Orchard Road Industrial Estate Orchard Road, Strabane	Section 6.8 Treatment of Animal & Vegetable Matter & Food Industries	16 <sup>th</sup> May 2007  Date of Variation 28 <sup>th</sup> January 2008
PPC/06/C/0001	Strabane Mills Ltd	3 Art Road, Artigarvan, Strabane, BT82 0HA	Section 1.1 Combustion Processes	15 <sup>th</sup> May 2007
PPC/07/C/0001	Cemex (NI) Ltd	48A Ballyheather Road, Strabane	Section 3.1 Production of Cement &  Lime	26 <sup>th</sup> June 2007  Date of Transfer 19 <sup>th</sup> May 2008
PPC/07/C/0002	Strabane Mills Ltd	3 Art Road, Artigarvan, Strabane, BT82 0HA	Section 6.8 Treatment of Animal and Vegetable Matter and Food Industries	10 <sup>th</sup> September 2007

## Pollution Prevention & Control Register

## - Part C

Ref No	Company Name	Company Address	Process Type	Date Permit Issued
PPC/07/C/0003	Taggart Jack	1 Carnkenny Road, Ardstraw	Section 6.8 Treatment of Animal and Vegetable Matter and Food Industries	10 <sup>th</sup> September 2007
PPC/07/C/0004	L W Surphlis & Son	31 Drumlegagh Church Road, Newtownstewart	Section 6.8 Treatment of Animal & Vegetable Matter & Food Industries	10 <sup>th</sup> September 2007
PPC/07/C/0005	Tyrone Dry Cleaners	80 Main Street, Strabane	Section 7 Dry Cleaning Installation	20 <sup>th</sup> December 2007
PPC/07/C/0006	Jiffy Dry Cleaners	4A Railway Street, Strabane	Section 7 Dry Cleaning Installation	19 <sup>th</sup> March 2008
PPC/08/C/0001	McCullagh Concrete	7 Millbrook Road, Newtownstewart	Section 3.1 Production of Cement & Lime	31 <sup>st</sup> October 2008

## Pollution Prevention & Control Register - Part C

Ref No	Company Name	Company Address	Process Type	Date Permit Issued
PPC/08/C/0002	M Beattie & Son Ltd	70 Plumbridge Road, Newtownstewart	Section 6.8 Treatment of Animal & Vegetable Matter & Food Industries	12 <sup>th</sup> January 2009
PPC/08/C/0003	Masterclean Exclusive Drycleaners	51 Main Street, Castleberg	Section 7 Dry Cleaning Installation	4 <sup>th</sup> November 2008
PPC/08/C/0004	Boran Mopack Ltd	Ballycolman Industrial Estate Strabane	Section 7 SED activity Part C Printing of flexible packaging.	29 <sup>th</sup> October 2008
PPC/09/C/0001	Maxwell Concrete	22 Folliard Road, Castleberg	Section 3.1 Use of Bulk Cement for Manufacturing of Cement Products.	27 <sup>th</sup> October 2009

**Pollution Prevention & Control Register****- Part C**

Ref No	Company Name	Company Address	Process Type	Date Permit Issued
PPC/09/C/0002	Taylors (Fyfin) Ltd	27 Killeen Road, Strabane	Section 6.8 Treatment of Animal & Vegetable Matter & Food Industries	

**Pollution Prevention & Control Register - Part A**

Ref No	Company Name	Company Address	Process Type	Date of Permitting
P0051/04A	Ultra Building Products	Deerpark Industrial Estate, Baronscourt Road, Newtownstewart	Non-ferrous Metal	21 <sup>st</sup> March 2005
P0088/05A P0088/05A/V1	Jason Browne	99 Peacock Road, Magheragar, Strabane	Intensive Farming (Poultry)	19 <sup>th</sup> January 2006 20 <sup>th</sup> February 2008
P0095/05A P0095/05A/V1	TMC Dairies (NI) Ltd	47 Berryhill Road, Artigarvan, Strabane	Treating & Processing Of Milk	1 <sup>st</sup> May 2006 15 <sup>th</sup> May 2007
P0149/06A	Ian Millar	10 Bellspark Road, Sion Mills, Strabane	Intensive Farming (Poultry)	9 <sup>th</sup> July 2007
P0177/07A	Valleyview Enterprises	39 Laghel Road, Killen, Castledearg	Intensive Farming (Pork)	2 <sup>nd</sup> November 2007

**Pollution Prevention & Control Register - Part A**

Ref No	Company Name	Company Address	Process Type	Date of Permitting
P0241/07A	DRD Water Service	Strabane Waste Water Treatment Works  24 Park Road, Strabane, BT82 8LH	Waste	
P0250/07A	DRD Water Service	Derg Water Treatment Works Landfill  Tievenny Road, Victoria Bridge,  Strabane	Waste	
P0323/09A	Ian McMullan	8 Willow Road,  Strabane, BT82 0DJ	Intensive Farming (Poultry)	



**Pollution Prevention & Control Register - Part B**

<b>Ref No</b>	<b>Company Name</b>	<b>Company Address</b>	<b>Process Type</b>	<b>Date Permit Issued</b>
PPC0085/08B	A S Ballatine Ltd	Aughafad Quarry, 221 Lisnarrow Road, Donemana	Quarry	30 <sup>th</sup> January 2009
PPC0117/08B	GE Ballantine	Letterbrat Quarry, 79 Letterbrat Road, Plumbridge, BT79 8DN	Quarry	10 <sup>th</sup> March 2009



## **Appendix 3**

### **AQMA/SMOKE CONTROL AREA MAPS**

## Appendix 4

### HGV Roads Data

COMPARISON OF ANNUAL AVERAGE DAILY TRAFFIC FLOWS FROM 2006 TO  
2007 INDICATING % HGV

Road No.	CP No.	2007 AADT	% HGV
B72	622	3460	13.2
A5	623	14060	11.6
A38	624	19130	5.6
B49	625	2400	10.3
A5	659	15410	8.5
A5	648	14040	8.4

## Appendix 5

### AADT Traffic Data

#### COMPARISON OF ANNUAL AVERAGE DAILY TRAFFIC FLOWS FROM 2006 TO 2007

<b>Road No.</b>	<b>CP No.</b>	<b>2006</b>	<b>2007</b>	<b>% Increase 2006-2007</b>
B72	622	3290	3460	5.17
A5	623	13960	14060	0.72
A38	624	17570	19130	8.88
B49	625	2310	2400	3.9
A5	659	14530	15410	6.06
A5	648	13440	14040	4.46

## **Appendix 6**

### **Operational Quarry/Mineral Extraction Sites**

#### LIST OF QUARRIES VISITED FOR UPDATING AND SCREENING ASSESSMENT

1. Riddles Bros., 35 Castlewarren Road, Donemana
2. WJ Chambers, Moyagh Road, Donemana
3. Devines Sand and Gravel, 65 Moorlough Road, Glenmornan, Strabane
4. WM McLaughlin & Son, Castlewarren Road, Donemana
5. Robinson Bros., 104 Gortclare Road, Donemana
6. J O'Connor, 38a Moyagh Road, Donemana
7. Riddles Bros., 34 Lupin Avenue, Donemana
8. Aughafad Quarry, Lisnarragh Road, Donemana
9. Gregory Donnelly Sand & Gravel Ltd, Ballyheather Road, Burndennett
10. Letterbrat Quarry, 79 Letterbrat Road, Plumbridge
11. Tony Harley & Sons, Urbalreagh Road, Ardstraw
12. Tyrone Sand & Gravel, Old Bridge Road, Victoria Bridge
13. Thompson, Baronscourt Road, Newtownstewart
14. Thompson, Drumlegagh Road North, Newtownstewart
15. Kane, Strabane Road, Newtownstewart
16. Kane, Derg Road, Ardstraw

## **Appendix 7**

### **Non-operational Quarry/Mineral Extraction Sites**

#### **LIST OF QUARRIES VISITED FOR UPDATING AND SCREENING ASSESSMENT & FOUND TO BE NON-OPERATIONAL**

1. Riddles Bros., Rouskey Road, Donemana
2. Riddles Bros., Longland Road, Donemana
3. Lands East of 135 Lisnarragh Road, Donemana
4. Glenelly Road, Plumbridge
5. 39 Woodend Road, Strabane
6. Newtown Sand & Gravel, Lands adjacent to Lisnarragh Road, Aghabrack, Donemana
7. WM McLaughlin & Son, 62 Ardcame Road, Donemana
8. Devine Sand & Gravel, Crockanroe, Strabane
9. Lands opposite 41 Ballyheather Road, Burdennett