

**2012 Air Quality  
Updating and Screening Assessment  
for**

**Craven District Council**

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

**May 2012**

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## Executive Summary

This Updating and Screening Assessment (USA) report has been prepared as part of Craven District Council's on-going responsibilities under Part IV of the Environment Act 1995. It summarises the updating and screening phase of the fifth round of review and assessment of air quality for 2012.

The UK Government published its strategic framework for air quality management in 1995 establishing national strategies and policies on air quality, which culminated in the Environment Act 1995. As a requirement of the Act, the Secretary of State has since prepared a National Air Quality Strategy. The National Air Quality Strategy provides a framework for air quality control through air quality management and air quality standards. The Expert Panel on Air Quality Standards (EPAQS) had proposed national air quality standards for the UK Government. These air quality standards and their objectives have been enacted through Air Quality Regulations. The Environment Act 1995 required local authorities to undertake an initial air quality review in 2000 with further reviews/assessments every three years thereafter. In areas where air quality objectives are not expected to be met local authorities are required to establish Air Quality Management Areas (AQMA's).

The first round of review and assessment was split into four stages. Progression to subsequent stages was dependant on the result of the previous stages. Stages 1 and 2 carried out in 1999/2000 ultimately concluded that the risk of the air quality objectives for all seven of the specified pollutants; (Carbon monoxide (CO), Benzene, 1,3 Butadiene, Lead (Pb), Nitrogen dioxide (NO<sub>2</sub>), Sulphur dioxide (SO<sub>2</sub>) and Particulate Matter 10 (PM<sub>10</sub>) being exceeded in the Craven district was negligible therefore it was not necessary to progress to Stage 3 or Stage 4.

The second and third round of review and assessments carried out in 2003 and 2006, the fourth round (the 2009 USA) and the 2010 and 2011 Progress Reports again concluded that the risk of the air quality objectives considered in those assessments being exceeded was also negligible. Again, referring to the above pollutants.

This report has been produced in accordance with Technical Guidance LAQM.TG (09) issued by the Department for Environment, Food and Rural Affairs (DEFRA) under sections 84 and 88 of the Environment Act 1995. Local authorities are required to have regard to this guidance when carrying out any of their duties under or by virtue of, Part IV of the Act.

**This Updating and Screening Assessment concludes that:**

This USA considers only Nitrogen dioxide (NO<sub>2</sub>). The risk of the NO<sub>2</sub> air quality objectives considered in the current USA being exceeded is negligible.

Since the first round of assessments carried out in 2000 Craven District Council has not carried out monitoring of any of the following pollutants: Carbon monoxide, Benzene, 1,3 butadiene, Lead, Sulphur dioxide or Particulate Matter (PM<sub>10</sub>) and as such does not consider there is a requirement to include reference to these pollutants in this report.

Future actions:

1. To continue monitoring only NO<sub>2</sub> in key locations throughout 2012.
2. The decision has been made not to carry out Detailed Assessments at this time. This decision will be kept under review and any relevant emerging information will be considered with the intention of progressing to a Detailed Assessment should circumstances dictate.
3. To monitor and review any significant changes to the road network, traffic levels and industrial uses within the Craven district.
4. To maintain links with relevant services within the Craven district, and external agencies such as the Environment Agency, the Highways Authority and other Local Authorities on issues impacting local air quality.

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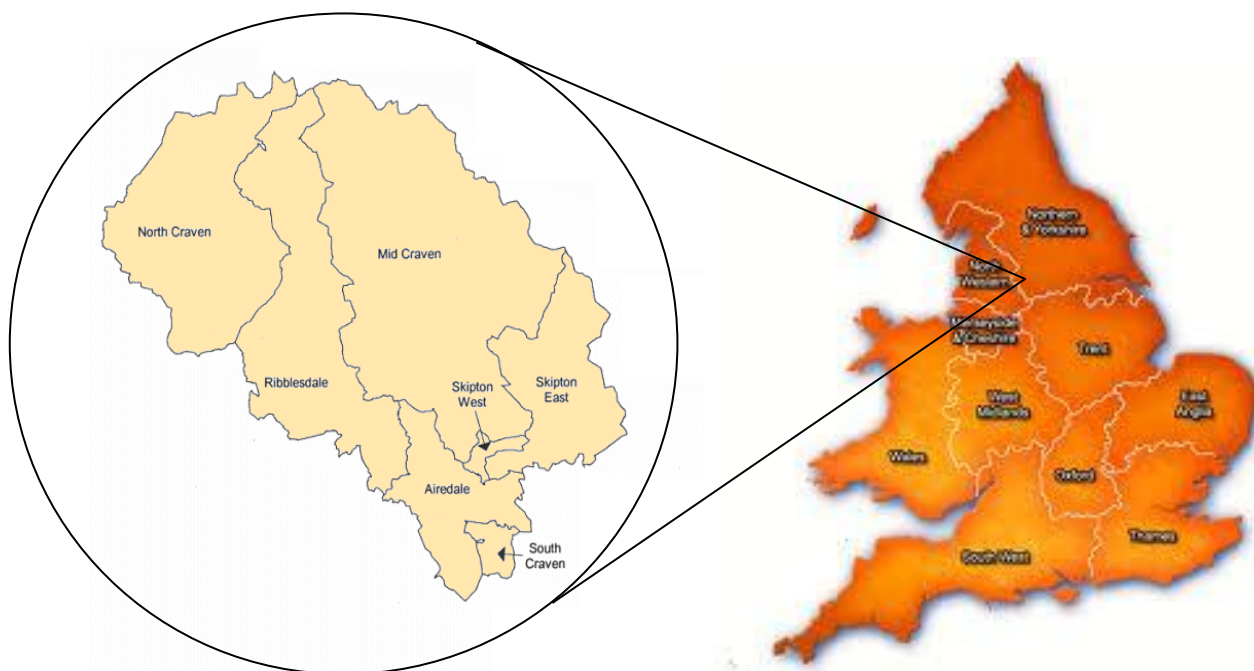




# 1 Introduction

## 1.1 Description of Local Authority Area

The Craven district is situated at the western side of North Yorkshire, England's largest county. The area is flanked by City of Bradford Metropolitan District to the south-east, Harrogate Borough Council to the east, the Yorkshire Dales National Park to the north, Lancaster City Council to the north west, Ribblesdale Borough Council to the west, and Pendle Borough Council to the south and south-west (see map).



Map of Craven District

### Geography

Craven's outstanding landscape is reflected in the designation of two thirds of the district within the Yorkshire Dales National Park. The district includes the upper reaches of Wharfedale, Ribblesdale, Airedale and part of Lonsdale. With great limestone ridges and caverns between the dales, fells and moors rising to the higher Pennines, culminating in the 'Three Peaks' (Ingleborough, Pen-y-Ghent and Wharfedale).

## **Major Sources of pollutants**

With no major industrial processes in the district, the main contributing factor to the air quality of Craven is from the road network. The district is served by transport links of both strategic and historic importance. It contains the key trunk roads of the A65 linking the conurbations of West Yorkshire to the Dales and further afield to the Lake District and the A59 linking Harrogate to the east of the district to Pendle in the west.

## **1.2 Purpose of Report**

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on 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 is 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.

The objective of this USA is to identify any matters that have changed since the last review in 2011 which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. This USA provides an update of any outstanding information requested previously in Review and Assessment reports.

## **1.3 Air Quality Objectives**

The air quality objectives applicable to LAQM in England are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of micrograms per cubic metre  $\mu\text{g}/\text{m}^3$  (milligrams 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 LAQM in England

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide (CO)	10.0 $\text{mg}/\text{m}^3$	Running 8-hour mean	31.12.2003
Lead (Pb)	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide (NO <sub>2</sub> )	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM <sub>10</sub> ) (gravimetric)	50 $\mu\text{g}/\text{m}^3$ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide (SO <sub>2</sub> )	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

The first round of review and assessment was split into four stages. Progression to the subsequent stage was dependant, upon the result of the previous stage. Stages 1 and 2 carried out in 1999/2000 concluded that the risk of the air quality objectives for all seven of the specified pollutants; (Carbon monoxide, Benzene, 1,3 Butadiene, Lead, Nitrogen dioxide, Sulphur dioxide and PM<sub>10</sub>) being exceeded in the Craven district was negligible therefore it was not necessary to progress to Stage 3 or Stage 4. No further monitoring for Carbon monoxide, Benzene, 1,3 Butadiene, Lead, Sulphur dioxide or PM<sub>10</sub> has been carried out since the first round of the review and assessment process. The results from the first round indicated that there was no significant risk of the air quality objective being exceeded and it was subsequently decided not to carry out further monitoring for these particular pollutants.

Subsequent assessments carried out from 2003 to 2011 concluded that the risk of the air quality objectives considered in those reviews and assessments being exceeded were also negligible.

Craven District Council continues to monitor NO<sub>2</sub> at 10 locations across the district. Results from all these location have been collated and analysed over the last 12 months (January to December 2011) with the annual mean figures calculated for each, with results indicating that the risk of the national air quality objectives being exceeded is negligible at all these sites.

Table 1.2 shows the outcome of the last 12 years NO<sub>2</sub> monitoring along with any actions that were taken. As can be seen at no time over this period has the national air quality objective for NO<sub>2</sub> been exceeded. No AQMA's have been declared and there has been no requirement to proceed to a Detailed Assessment at any of the monitoring locations.

## Outcomes and Actions Taken 1999 to 2011

Table 1.2

Nitrogen dioxide (NO <sub>2</sub> )						
Year						
USA	Progress Report	Date Submitted	Outcome (All locations)	AQMA Declared	Action Taken (Monitoring)	Accepted by DEFRA
1999		June 2000	Objective not exceeded	No	On-going	✓
2000		June 2001	Objective not exceeded	No	On-going	✓
2001		June 2002	Objective not exceeded	No	On-going	✓
2002		June 2003	Objective not exceeded	No	On-going	✓
	2003	Nov 2004	Objective not exceeded	No	On-going	✓
	2004	June 2005	Objective not exceeded	No	On-going	✓
2005		June 2006	Objective not exceeded	No	On-going	✓
	2006	April 2007	Objective not exceeded	No	On-going	✓
	2007	June 2008	Objective not exceeded	No	On-going	✓
2008		June 2009	Objective not exceeded	No	On-going	✓
	2009	May 2010	Objective not exceeded	No	On-going	✓
	2010	May 2011	Objective not exceeded	No	On-going	✓

## **2 New Monitoring Data**

### **2.1 Summary of Monitoring Undertaken - NO<sub>2</sub>**

Diffusion tube results for January to December 2011 indicate that the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> has not been exceeded at any of the 11 monitoring sites during this period (see Appendix 2). With the exception of one month's monitoring in February 2011 at location NA\*S10 (where the tube was removed and disposed of by a contractor erecting scaffolding against a wall) all of the sites produced 100% data capture success. All locations will continue to be monitored with the intention that should results produce relevant emerging information this will then be considered with a view to proceeding to a Detailed Assessment and consideration given to declaring an Air Quality Management Area (AQMA) in the relevant part of the district.

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

Craven District Council does not have any automatic monitoring sites.

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

Non-Automatic monitoring is carried out through the use of NO<sub>2</sub> diffusion tubes provided and analysed by Environmental Scientific Group and are typically exposed for four week periods, using a 50% TEA in acetone method to coincide with harmonized practical guidance. Tube locations including Ordnance Survey grid references are listed in Table 2.1.2 below. For full details of locations, including maps please refer to Appendix 6.

**Table 2.1.2 Details of Non-Automatic Monitoring Sites**

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
NA*S1	Roadside	386466	458168	NO <sub>2</sub>	N	N	Y (2m)	5m	Y
NA*S2	Roadside	383452	458133	NO <sub>2</sub>	N	N	Y (2m)	3m	Y
NA*S3	Roadside	381596	463580	NO <sub>2</sub>	N	N	Y (1m)	2m	Y
NA*S4	Roadside	399043	451760	NO <sub>2</sub>	N	N	Y (1m)	6m	Y
NA*S5	Roadside	399054	451606	NO <sub>2</sub>	N	N	Y (2m)	2m	Y
NA*S6	Roadside	399179	451607	NO <sub>2</sub>	N	N	Y (5m)	5m	Y
NA*S7	Roadside	398828	451244	NO <sub>2</sub>	N	N	Y (4m)	6m	Y
NA*S8	Roadside	400794	445148	NO <sub>2</sub>	N	N	Y (1m)	4m	Y
NA*S9	Roadside	401096	445196	NO <sub>2</sub>	N	N	Y (1m)	6m	Y
NA*S10	Roadside	400569	444987	NO <sub>2</sub>	N	N	Y (1m)	3m	Y
NA*S11	Roadside	397631	452127	NO <sub>2</sub>	N	N	Y (1m)	1m	Y

## 2.2 Comparison of Monitoring Results with AQ Objectives

NO<sub>2</sub> diffusion tubes are provided and analysed by Environmental Scientific Group (ESG) and are typically exposed for four week periods, using a 50% TEA in acetone preparation method to accord with harmonized practical guidance.

The following (table, 2.2.1) confirm ESG undertake LAQM activities and have participated in the recent HSL WASP NO<sub>2</sub> PT Rounds, detailing the percentage of results submitted which were subsequently determined to be satisfactory based upon a z-score of  $< \pm 2$  as defined above.

**Table 2.2.1: Laboratory summary performance for WASP NO<sub>2</sub> PT Rounds 109 – 113**

Table 2.2.1

Laboratory	Performance – Recent WASP NO <sub>2</sub> PT Rounds R109 April - June 2010 to R113 April-June 2011				
	R109	R110	R111	R112	R113
Environmental Services Group (ESG)	100%	100%	100%	100%	100%

Source: [http://laqm.defra.gov.uk/documents/WASP-NO2-Scheme-for-Rounds-105-113-\(April-2009---June-2011\).pdf](http://laqm.defra.gov.uk/documents/WASP-NO2-Scheme-for-Rounds-105-113-(April-2009---June-2011).pdf)



## 2.3 Nitrogen Dioxide (NO<sub>2</sub>)

NO<sub>2</sub> is an irritant gas, which has serious and sometimes fatal effects when inhaled at the very high concentrations. There is evidence that it has more subtle effects on health at lower concentrations that may occur in ambient air. The main source of NO<sub>2</sub> is vehicle exhaust gases, however, industrial sources and combustion (both industrial and domestic) also contribute to its presence in the ambient air.

### 2.3.1 Air Quality Objectives

The Air Quality Objectives for NO<sub>2</sub> are (a) 200µg/m<sup>3</sup> not to be exceeded more than 18 times a year measured as a 1-hour mean, and (b) an annual mean of 40µg/m<sup>3</sup> not to be exceeded.

NO<sub>2</sub> and Nitric oxide (NO) are both oxides of nitrogen, and are collectively referred to as Nitrogen oxides (NO<sub>x</sub>). All combustion processes produce NO<sub>x</sub> emissions, largely in the form of NO, which is then converted to NO<sub>2</sub>, mainly as a result of reaction with ozone in the atmosphere.

Nitrogen oxides are produced in combustion processes, partly from nitrogen compounds in fuel, but mostly by direct combination of atmospheric oxygen and nitrogen in flames. Nitrogen oxides are produced naturally by lightning, and also, to a small extent, by microbial processes in soils. Man-made emissions of nitrogen oxides dominate total emissions in Europe, with the UK emitting about 2.2 million tonnes of NO<sub>2</sub> each year. Of this, about one-quarter is from power stations, one-half from motor vehicles, and the rest from other industrial and domestic combustion processes. Unlike emissions of sulphur dioxide, emissions of nitrogen oxides are only falling slowly in the UK, as emission control strategies for stationary and mobile sources are offset by increasing numbers of road vehicles (Apis 2012).

The contribution of road transport to NO<sub>x</sub> emissions has declined significantly as a result of various policy measures, and further reductions are expected up until 2012 and beyond. Other significant sources of NO<sub>x</sub> emissions include the electricity supply

industry and other industrial and commercial sectors, which accounted for about 21% and 16% respectively in 1999. Emissions from both sources have also declined dramatically, due to the fitting of low NO<sub>x</sub> burners, and the increased use of natural gas plant. Industrial sources make only a very small contribution to annual mean NO levels, although breaches of the hourly NO<sub>2</sub> objective may occur under rare, extreme meteorological conditions, due to emissions from these sources.

In practice, meeting the annual mean objective in 2005, and the limit value in 2010, is expected to be considerably more demanding than achieving the 1-hour objective. National studies have indicated that the annual mean objective was likely to be achieved at all urban background locations outside of London by 2005, but that the objective may be exceeded more widely at roadside sites throughout the UK in close proximity to busy road links. Projections for 2010 indicate that the EU limit value may still be exceeded at urban background sites in London, and at roadside locations in other cities.

## **2.3.2 Conclusion from the previous Review and Assessment**

### **2.3.2.1 Diffusion Tube Monitoring Data**

The Council continues to monitor Nitrogen dioxide (NO<sub>2</sub>) at sites across the district. Results from all the site have been analysed and collated over the last 12 months (January to December 2011) with the annual mean calculated for each. Table 2.3 details the national bias (Diffusion Tube Bias Factors Version V03\_12) adjusted results (local figures not available) which indicate that again the annual mean objective of 40µg/m<sup>3</sup> has not been exceeded at any of the monitoring sites during this period. All monitoring site locations are representative of relevant public exposure.

The 2011 results for NO<sub>2</sub> meet the national air quality objective of 40µg/m<sup>3</sup> or less when expressed as a bias adjusted annual mean (to be achieved by 31st December 2005, (refer to table 2.3.3) at all locations. No exceedences were identified at any location. Attached at Appendix 2 (tabulated) and Appendix 3 (graph format) are the full monitoring results for the period January to December 2011, including the annual running mean, of all the monitoring sites, these are all roadside locations, some with

near-by residential properties, where pollution levels from traffic emissions are considered to be greatest.

Results of the 2011 monitoring program show that once again NO<sub>2</sub> levels across the district remain below the national objective figure of 40µg/m<sup>3</sup>. Furthermore no sites recorded a level of 60µg/m<sup>3</sup> indicating that there has not been any exceedences of the 1-hour means objective of 200µg/m<sup>3</sup>. A table showing comparisons of the diffusion tube data for years 2007 to 2011 (Table 2.3.4) is included in this report, please refer to page 13. Appendix 4 shows a comparison of actual NO<sub>2</sub> results for the 10 year period 2002 to 2011 covering all the monitoring sites.

### 2.3.2.2 Estimated Background Concentrations

Table 2.3.2 details the estimated background concentrations for oxides of nitrogen in the Craven district follows:

Table 2.3.2

Year	NO <sub>x</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> (µg/m <sup>3</sup> )
2011	8.75	5.58
2012	8.51	5.41
2013	8.28	5.23

Source: <http://laqm.defra.gov.uk/maps/maps2008.html>

**Table 2.3.3 Results of Nitrogen Dioxide Diffusion Tubes in 2011 – Bias Adjusted**

Site ID	Grid Reference	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2011 (%)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.84) <sup>2</sup>
							2011 ( $\mu\text{g}/\text{m}^3$ )
NA*S1	386466,458168	Roadside	N	N	100%	N	18
NA*S2	383452,458133	Roadside	N	N	100%	N	20
NA*S3	381596,463580	Roadside	N	N	100%	N	24
NA*S4	399043,451760	Roadside	N	N	100%	N	26
NA*S5	399054,451606	Roadside	N	N	100%	N	29
NA*S6	399179,451607	Roadside	N	N	100%	N	25
NA*S7	389928,451244	Roadside	N	N	100%	N	29
NA*S8	400794,445148	Roadside	N	N	100%	N	28
NA*S9	401096,445196	Roadside	N	N	100%	N	14
NA*S10	400569,444987	Roadside	N	N	91.67% <sup>1</sup>	N	26
NA*S11	397631,452127	Roadside	N	N	100%	N	22

<sup>1</sup> Represents only 11 months data capture.

<sup>2</sup> Source: <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html> (National Diffusion Tube Bias Factor Spreadsheet, Version 03/12)

For specific details of the locations of each tube please refer to the maps at Appendix 6.

Table 2.3.4 shows comparisons of the diffusion tube data for years 2007 to 2011. Results continue to show a fairly static or downward trend at all locations. The NO<sub>2</sub> monitoring programme will continue in 2012.

**Table 2.3.4 Results of Nitrogen Dioxide Diffusion Tubes (2007 to 2011)**

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) µg/m <sup>3</sup>				
			2007 <sup>1</sup> (Bias Adjustment Factor = 0.88)	2008 <sup>1</sup> (Bias Adjustment Factor = 0.83)	2009 <sup>2</sup> (Bias Adjustment Factor = 0.82)	2010 <sup>2</sup> (Bias Adjustment Factor = 0.84)	2011 <sup>3</sup> (Bias Adjustment Factor = 0.84) <sup>4</sup>
NA*S1	Roadside	N	N/A	N/A	25	24	18
NA*S2	Roadside	N	N/A	N/A	26	21	20
NA*S3	Roadside	N	27	28	29	35	24
NA*S4	Roadside	N	28	32	31	30	26
NA*S5	Roadside	N	38	37	36	35	29
NA*S6	Roadside	N	27	27	26	29	25
NA*S7	Roadside	N	34	33	29	33	29
NA*S8	Roadside	N	30	31	31	34	28
NA*S9	Roadside	N	N/A	N/A	N/A	N/A	14
NA*S10	Roadside	N	32	34	35	36	26
NA*S11	Roadside	N	N/A	28	25	22	22

<sup>1</sup> Using a 10% TEA in water preparation method. <sup>2</sup> Using a 20% TEA in water preparation method. <sup>3</sup> Using a 50% TEA in acetone preparation method

<sup>4</sup> Source: <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html> (National Diffusion Tube Bias Factor Spreadsheet, Version V03/12)

### Local Monitoring Data – Summary of Compliance with AQS Objective

Craven District Council has examined the results from the monitoring program for NO<sub>2</sub> across the district. Concentrations are all below the objective of 40µg/m<sup>3</sup>, therefore there is no need to proceed to a Detailed Assessment at this time. Should future results produce relevant emerging information this position will be reconsidered.

# **PM<sub>10</sub> and Other Pollutants**

## **2.4 PM<sub>10</sub>**

Craven District Council do not carry out routine monitoring for PM<sub>10</sub> Particulate Matter, as previous reviews have ruled out problems with this pollutant. However, the Council does have a particulate matter monitor kit to be used in case of complaint about dust nuisance. No PM<sub>10</sub> monitoring was carried out in 2011 in relation to LAQM.

Craven District Council's, Environmental Protection Team is not currently required to monitor PM<sub>2.5</sub> (particulates less than 2.5 micron), as DEFRA intends to make use of the existing national monitoring networks to obtain the information required by the European Union. This will be reviewed in light of any further guidance.

## **2.5 Other Pollutants**

None of the other 5 pollutants (Carbon monoxide, Benzene, 1,3 butadiene, Lead and Sulphur dioxide) with air quality objectives contained in the Regulations are routinely monitored in the district as previous reviews and assessments have found levels to be insignificant. There have been no developments since the last Air Quality Progress Report in May 2011 which would indicate that this situation has changed.

## 3 Road Traffic Sources

The threshold for vehicles movements in narrow congested streets with residential properties within 2 metres of the kerb has been reduced from 10,000 to 5,000 vehicles per day. An analysis of the available Annual Average Daily Traffic (AADT) provided by North Yorkshire County Council Highways (NYCC) and local knowledge did not identify any properties in the district that met this criteria (see Box 5.3, Section A1 of the LAQM.TG(09)). See Appendix 5 regarding the AADT predicted traffic flows (produced from limited information supplied by the Environmental Services Group at NYCC Highways).

### Requirement for DMRB calculations

Due to the limited information available from the Environmental Services Department of NYCC Highways Department regarding traffic flow data (see Appendix 5) and the fact that the NO<sub>2</sub> annual running means results for all locations (along with the previous 10 years results, see Appendix 4) were all well below the national air quality objectives of 40µg/m<sup>3</sup> it was deemed unnecessary to provide DMRB calculations for the purpose of this report.

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

No significant changes to traffic flow on roads in Craven have occurred since the last Air Quality Progress Report in May 2011.

Craven District Council confirms there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties within 2 metres of the kerb, and with traffic speed below 15mph throughout most of the day, 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**

There has been no significant increase in vehicle movements at Skipton bus station (the main bus station in the district) since the last Air Quality Progress Report in May 2011. Relevant exposure is over 90m from the bus station. It is therefore not necessary to assess this source further.

Craven 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.**

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

### **3.4 Junctions**

Craven 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**

Craven District Council confirms that there are no new/proposed roads.

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

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

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

Craven District Council confirms that there are no relevant bus stations in the Local Authority area.



## **4 Other Transport Sources**

### **4.1 Airports**

Craven District Council confirms that there are no airports in the Local Authority area.

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

#### **4.2.1 Stationary Trains**

Craven 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**

Craven 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)**

Craven 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**

Craven 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**

Craven 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**

Craven 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 Craven District Council area.

## **5.3 Petrol Stations**

The largest petrol stations in residential areas have been examined. The two largest are those at Tesco and Morrison's supermarkets, both in the centre of Skipton. There are no residential properties within 50 metres of either site. Because there is no exposure within 10 metres of any of the pumps, there will be no requirement to assess this source further. Note, in Appendix 7, nine filling stations in the district are regulated by Craven District Council, all have vapour recovery systems to eliminate emission to atmosphere during bulk delivery with the two largest, Tesco's and Morrison's filling stations compliant with Stage II vapour recovery system at point of delivery (vehicle tanks). Both stations have a throughput in excess of 3.5 million litres in a 12 month period. Appendix 7 details all 27 Permitted Processes within the Craven district that are permitted under Part I of the Environmental Protection Act 1995.

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

## **5.4 Poultry Farms**

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

## 6 Commercial and Domestic Sources

### 6.1 Biomass Combustion – Individual Installations

Since the last review and assessment Craven District Council have identified one new biomass plant installed in the district, at the new Skipton (HML) Building Society premises located on Gargrave Road, Skipton. The biomass plant has a power rating of 150kW. Following procedures set out in Box 5.8 D.1a of Technical Guidance LAQM.TG(09) the biomass plant emission rates for both NO<sub>2</sub> (116(mg/Nm<sup>3</sup>))<sup>##</sup> and PM<sub>10</sub> (mg/Nm<sup>3</sup>)<sup>##</sup> were assessed are lesser than the calculated background-adjusted emission rates. Background figures for both NO<sub>2</sub> and PM<sub>10</sub> were obtained from the estimated background air pollution maps available from the [airquality.co.uk](http://airquality.co.uk) link below<sup>#</sup>

<sup>#</sup> Source: <http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html>

<sup>##</sup> Source: Figures obtained from Technical specifications, Plant Model KWB TSD 150

Craven District Council has assessed the biomass combustion plant referred to at 6.1 and concluded that it will not be necessary to proceed to a Detailed Assessment.

### 6.2 Biomass Combustion – Combined Impacts

Craven District Council has assessed the biomass combustion plant referred to at 6.1 and concluded that it will not be necessary to proceed to a Detailed Assessment.

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

This was considered in the 2009 USA and subsequently in both the 2010 and 2011 Progress Reports when no significant solid fuel burning areas were identified. The position remains unchanged in 2012. The built up areas of Skipton, Glusburn and Sutton-in-Craven are covered by 14 smoke control areas (details of which can be found on the Council's website at the following address;

<http://www.cravenc.gov.uk/article/1797/Smoke-Control-Areas>.

Craven District Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

## **7 Fugitive or Uncontrolled Sources**

No relevant exposures are present within 200 metres of any of the quarries or landfill sites within Craven District. Appendix 7 details the Permitted Processes, including the quarry sites within Craven district that are permitted under Part I of the Environmental Protection Act 1995. Where required, quarry operators have installed on-site wheel wash facilities that all vehicles are required to use before leaving site, vehicles are also required to 'sheet-up' before leaving a site, reducing the risk of dust emission or deposits on the public highway. There have been no complaints or concerns relating to dust emissions regarding any of the quarries or landfill sites within the district.

Craven District Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

## **8 Conclusions and Proposed Actions**

### **8.1 Conclusions from New Monitoring Data**

There have been no significant changes or developments likely to have a negative effect on air quality in Craven since the 2009 USA or the subsequent Progress Reports in 2010 and 2011.

At the time of the 2012 USA, Craven District Council followed the previous decision made in the 2011 and 2010 Progress Report and also the 2009 USA not to move to a Detailed Assessment for any of the key pollutants. This situation is constantly under review and any relevant emerging information will be considered with a view to proceeding to a Detailed Assessment if and when required.

All previous reports have indicated that the Government's objectives are continuing to be met. National measures to reduce emissions by road vehicles appear to be having the desired effect of reducing air pollution and ensuring compliance with the Government's objectives. The Council continues to monitor NO<sub>2</sub> levels across the district. Concentrations of NO<sub>2</sub> are predicted to continue to meet the 2005 objectives.

This report supplements previous reports by providing updated data and details about all diffusion tube locations and shows trends over the past 10 years.

The next USA is due in April 2015.

### **8.2 Conclusions from Assessment of Sources**

The findings of checking for new or significantly changed sources, i.e. road transport, other transport, industrial installations, commercial/domestic, fugitive emissions, residential or commercial activities have not identified any potential exceedences within Craven or neighbouring districts.

### 8.3 Proposed Actions

- To continue monitoring NO<sub>2</sub> in key locations throughout 2012 and carry out Detailed Assessments if deemed necessary.
- New developments will be considered in respect of their impact on air quality especially where pollutant levels are likely to fall below national standards.
- To monitor and review any significant changes to the road network, traffic levels and industrial uses.
- To maintain links with relevant services within Craven District Council, and external agencies (e.g. Environment Agency, Highways Authority, other Local Authorities etc) on issues impacting on local air quality.

This USA has not identified the need to proceed to a Detailed Assessment or the need for additional or re-locating of any of the existing NO<sub>2</sub> monitoring sites



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## **QA : QC Data**

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

Craven District Council do not operate any automatic monitoring station.

### **QA/QC of diffusion tube monitoring**

NO<sub>2</sub> diffusion tubes have been analysed in accordance with ESG's standard operating procedure HS/WI/1015 issue 15. This method meets the guidelines set out in DEFRA's 'Diffusion Tubes for Ambient NO<sub>2</sub> Monitoring: Practical Guidance.'

Tubes are prepared by spiking acetone: triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow auto-analyser with ultraviolet detection. All samples were received in good condition, unless otherwise stated in the comments field of results table. Please note:

- (i) As set out in the practical guidance, the results were initially calculated assuming an ambient temperature of 11°C, the reported values have been adjusted to 20°C to allow for direct comparison with EU limits.
- (ii) The reported results have not been bias adjusted.

This analysis of diffusion tube samples to determine the amount of NO<sub>2</sub> present on the tube is within the scope of our UKAS schedule. Any further calculations and assessments requiring exposure details and conditions fall outside the scope of ESG's accreditation.

## WASP inter-comparison scheme

In the WASP inter-comparison scheme for comparing spiked NO<sub>2</sub> diffusion tubes, (see below) ESG is currently ranked as a **Category Good** laboratory.

The following table lists those UK laboratories undertaking LAQM activities that have participated in recent HSL WASP NO<sub>2</sub> PT rounds and the percentage (%) of results submitted which were subsequently determined to be **satisfactory** based upon a z-score of  $< \pm 2$  as defined above.

WASP Round	WASP R105	WASP R106	WASP R107	WASP R108	WASP R109	WASP R110	WASP R111	WASP R112	WASP R113
Round conducted in the period	April – June 2009	June – August 2009	Oct – Dec 2009	Jan – March 2010	April – June 2010	June – August 2010	Oct – Dec 2010	Jan – March 2011	April – June 2011
Aberdeen Public Analysts	100 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Bristol City Council	100 %	100 %	100 %	75 %	100 %	100 %	100 %	100 %	100 %
Cardiff Scientific Services	100 %	100 %	100 %	100 %	50 %	100 %	75 %	100 %	100 %
Edinburgh City Council	75 %	100 %	100 %	100 %	100 %	75 %	100 %	100 %	100 %
Environmental Services Group, Didcot (formerly Bureau Veritas Laboratories, Glasgow) [1]	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Exova (formerly Clyde Analytical)	75 %	75 %	100 %	100 %	50 %	50 %	100 %	100 %	100 %
Glasgow Scientific Services	75 %	100 %	100 %	50 %	100 %	100 %	100 %	100 %	100 %
Gradko International [2]	100 %	100 %	100 %	100 %	87.5 %	100 %	100 %	100 %	100 %
Environmental Services Group, Didcot (formally Harwell Scientific) [1]	100 %	50 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Kent Scientific Services	100 %	100 %	100 %	100 %	100 %	100 %	100 %	50 %	100 %
Kirklees MBC	25 %	100 %	75 %	100 %	100 %	100 %	0 %	100 %	0 %
Lambeth Scientific Services	75 %	100 %	0 %	50 %	100 %	100 %	100 %	50 %	25 %
Lancashire County Analysts [3]	75 %	75 %	100 %	100 %	75 %	50 %	100 %	75 %	-
Milton Keynes Council	75 %	100 %	75 %	100 %	25 %	50 %	100 %	100 %	75 %
Northampton Borough Council	100 %	100 %	75 %	100 %	100 %	100 %	100 %	100 %	100 %
South Yorkshire Council Laboratory [4]	100 %	75 %	100 %	25 %	-	-	-	-	-
South Yorkshire Air Quality Samplers [5]	-	-	-	-	100 %	100 %	100 %	100 %	100 %
Staffordshire County Council	100 %	75 %	100 %	100 %	100 %	50 %	100 %	100 %	100 %
Tayside (formerly Dundee CC)	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Walsall MBC [6]	100 %	100 %	-	-	100 %	100 %	100 %	-	-
West Yorkshire Analytical Services	75 %	100 %	100 %	100 %	100 %	100 %	100 %	75 %	75 %

[1] Bureau Veritas laboratory and Harwell Scientifics now part of ESG Group. NO<sub>2</sub> analysis now carried out at ESG laboratory facility in Didcot.

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

[3] Lancashire County Analysts - no longer involved in NO<sub>2</sub> diffusion tube measurements from R113.

[4] South Yorkshire Council Laboratory - no longer involved in NO<sub>2</sub> diffusion tube measurements from R109.

[5] South Yorkshire Air Quality Samplers - new participant from R109.

[6] Walsall MBC - Results for WASP R107, R108 and R112 not submitted. No longer involved in NO<sub>2</sub> diffusion tube measurements from R113.

Environmental Scientifics Group (ESG) provided the following information with regard to the NO<sub>2</sub> diffusion tubes they supply and analyse

“ESG run a QC every 10 samples, with an a 95% confidence acceptance criteria of +/- 2.18%”

“ESG carry the highest ranking of 'Satisfactory' from WASP - Z-scores of less than 2 fall in this category, our current best 4 from 5 is 0.18 (one of the lowest if not the lowest in the scheme)”

# Diffusion Tube Bias Adjustment Factors

NO<sub>2</sub> Diffusion tubes used by Craven District Council are supplied and analysed by Environmental Scientifics Group. The preparation method is 50% in acetone to coincide with harmonized practical guidance. The bias adjustment factor of 0.84 was derived using the national bias diffusion tube bias factors, version number 03/12 excel spreadsheet obtained from the following source: <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html> (Diffusion Tube Bias Factors Spreadsheet Version number 03/12). The factor is derived from 22 local authority co-location studies.

National Diffusion Tube Bias Adjustment Factor Spreadsheet							Spreadsheet Version Number: 03/12				
Follow the steps below <b>in the correct order</b> to show the results of <b>relevant</b> co-location studies							This spreadsheet will be updated at the end of September 2012				
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods											
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet											
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.							<a href="#">LAQM Helpdesk Website</a>				
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.							Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.				
Step 1:	Step 2:	Step 3:	Step 4:								
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor <sup>3</sup> shown in blue at the foot of the final column.								
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data <sup>2</sup> .	If you have your own co-location study then see footnote <sup>1</sup> . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQM/Helpdesk@uk.bureauveritas.com or 0800 0327953								
Analysed By <sup>1</sup>	Method To undo your selection, choose (All) from the pop-up list	Year <sup>2</sup> To undo your selection, choose (All)	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m <sup>3</sup> )	Automatic Monitor Mean Conc. (Cm) (µg/m <sup>3</sup> )	Bias (B)	Tube Precision <sup>4</sup>	Bias Adjustment Factor (A) (Cm/Dm)	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Dover District Council	12	42	37	14.0%	G	0.88	
Environmental Scientific Groups	50% TEA in acetone	2011	UB	Medway Council	12	22	26	-15.6%	G	1.19	
Environmental Scientific Groups	50% TEA in acetone	2011	R	North East Lincolnshire Council	10	52	48	8.9%	G	0.92	
Environmental Scientific Groups	50% TEA in acetone	2011	R	North East Lincolnshire Council	9	38	35	7.5%	G	0.93	
Environmental Scientific Groups	50% TEA in acetone	2011	R	North East Lincolnshire Council	12	41	31	32.8%	G	0.75	
Environmental Scientific Groups	50% TEA in acetone	2011	UB	North East Lincolnshire Council	12	22	21	7.5%	P	0.93	
Environmental Scientific Groups	50% TEA in acetone	2011	B	Medway Council	9	32	20	55.3%	G	0.64	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Wrexham County Borough Council	12	22	19	11.8%	G	0.89	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Medway Council	9	36	30	19.0%	G	0.84	
Environmental Scientific Groups	50% TEA in acetone	2011	K	Marylebone Road Intercomparison	11	121	99	21.5%	G	0.82	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Castlereagh Borough Council	11	48	40	20.9%	G	0.83	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Down District Council	12	51	36	39.0%	G	0.72	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Lisburn City Council	12	30	20	49.6%	G	0.67	
Environmental Scientific Groups	50% TEA in acetone	2011	R	North Down Borough Council	11	45	27	66.7%	G	0.60	
Environmental Scientific Groups	50% TEA in Acetone	2011	K	Suffolk Coastal District Council	12	51	43	18.7%	G	0.84	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Dumfries and Galloway Council	12	38	32	20.0%	G	0.83	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Rugby Borough Council	10	34	34	-0.3%	G	1.00	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Wycombe District Council	10	43	39	11.5%	G	0.90	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Tunbridge Wells Borough Council	12	59	43	38.5%	P	0.72	
Environmental Scientific Groups	50% TEA in acetone	2011	R	LB New ham	12	40	47	-14.3%	G	1.17	
Environmental Scientific Groups	50% TEA in acetone	2011	UB	Canterbury City Council	11	17	15	17.8%	G	0.85	
Environmental Scientific Groups	50% TEA in acetone	2011	R	Canterbury City Council	12	39	34	15.5%	G	0.87	
Environmental Scientific Groups	50% TEA in acetone	2011		<b>Overall Factor<sup>3</sup> (22 studies)</b>					<b>Use</b>	<b>0.84</b>	

Source: <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html> (National Diffusion Tube Bias Factor Spreadsheet, Version 03/12)

## **Short-term to Long-term Data adjustment**

Only 1 month's analysis at location NA\*S10 was missing therefore Short-term to Long-term Data adjustment is not necessary.

## **Tube Exposure Procedure**

Craven District Council exposed NO<sub>2</sub> diffusion tubes according to the method described in "Nitrogen Dioxide Passive Diffusion Tubes – Instructions for storage and Exposure" by Environmental Scientifics Group. Guidance is also available in "Diffusion Tubes for Ambient NO<sub>2</sub> Monitoring: Practical Guidance" by AEA for DEFRA. Available at the following link;

[http://laqm.defra.gov.uk/documents/0802141004\\_NO2\\_WG\\_PracticalGuidance\\_Issue1a.pdf](http://laqm.defra.gov.uk/documents/0802141004_NO2_WG_PracticalGuidance_Issue1a.pdf)

## **Air Quality Action Plan Update 2012**

### **Local / Regional Air Quality Strategy / Policy**

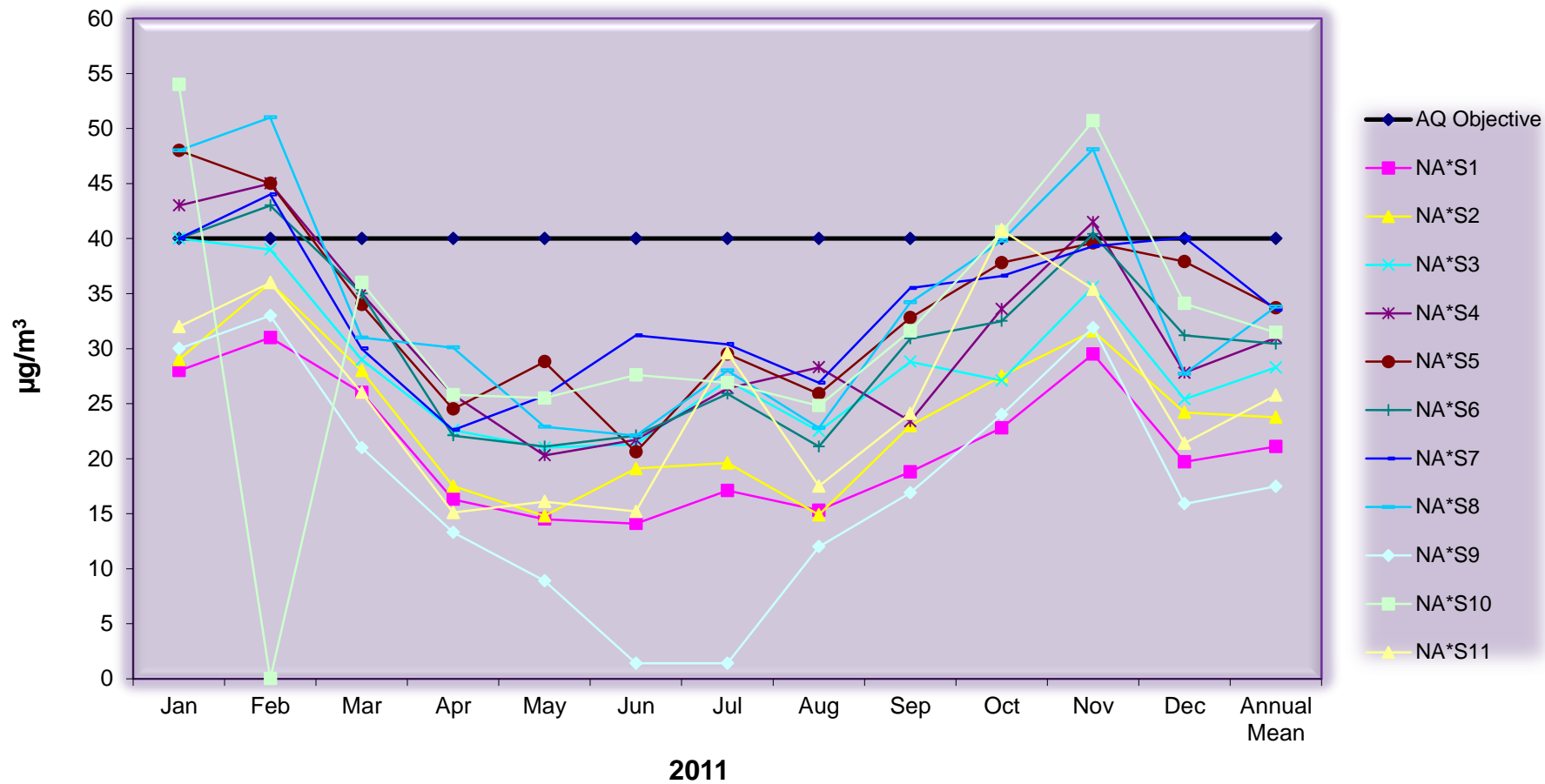
Craven District Council is required by Part IV of the Environment Act 1995 to work towards meeting the air quality objectives contained within the legislation. This Action Plan which forms part of Craven District Council's wider Climate Change Strategy is produced to show what the Council is doing to achieve this.

In 2011 a review of the Craven District Council Action Plan was undertaken. The review concluded that Craven District Council continues to meeting the air quality objectives for NO<sub>2</sub> and the decline in levels which the Government predicted would be achieved by the introduction of cleaner, leaner engines appears to be being achieved throughout Craven. Craven District Council is committed to meeting the national air quality objectives as defined in LAQM TG(09). For details of Craven District Council's Air Quality and Climate Change Strategy please refer to the following available at: <http://craven.storm50.com/CHttpHandler.ashx?id=1861&p=0>

### Nitrogen dioxide (NO<sub>2</sub>) Annual Diffusion Tube Results – 2011

Site	Tube analysis method 50% TEA in acetone	Data Capture (%)	January to December 2011 (Results in µg/m <sup>3</sup> ) - Actual											
	Location		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			<b>Annual Running Mean Objective - 40µg/m<sup>3</sup></b>											
NA*S1	6 Hartley Green, A65, Long Preston		28	31	26	16	15	14	17	15	19	23	30	20
	Annual Running Mean	100	24	24	25	23	23	23	23	22	22	22	22	21
NA*S2	Magna Large Book Print, A65, Long Preston		29	36	28	18	15	19	20	15	23	28	32	24
	Annual Running Mean	100	24	25	27	26	26	25	25	25	25	26	24	24
NA*S3	Settle Down Café Duke Street, Settle		40	39	29	23	21	21	27	23	29	27	36	25
	Annual Running Mean	100	31	31	31	30	30	29	29	29	28	27	29	28
NA*S4	Rackham's High Street, Skipton		43	45	35	26	20	22	26	28	23	34	42	28
	Annual Running Mean	100	33	33	34	33	33	31	31	32	31	31	32	31
NA*S5	E W Smith, 9 Newmarket Street, Skipton		48	45	34	25	29	21	30	26	33	38	40	38
	Annual Running Mean	100	37	37	37	36	36	35	34	34	33	34	34	34
NA*S6	Yorkshire Housing, 60 Newmarket St, Skipton		40	43	35	22	21	22	26	21	31	33	40	31
	Annual Running Mean	100	35	36	36	35	33	33	32	31	32	32	31	30
NA*S7	42 Keighley Rd, Skipton		40	44	30	23	26	31	30	27	36	37	39	40
	Annual Running Mean	100	33	33	33	32	32	32	32	32	32	33	33	34
NA*S8	18 Station Road, Cross Hills		48	51	31	30	23	22	28	23	34	40	40	28
	Annual Running Mean	100	38	38	38	37	37	36	36	35	34	35	35	33
NA*S9	5 Churchill Way, Cross Hills,		30	33	21	13	9	1	1	12	17	24	32	16
	Annual Running Mean	100	36	35	34	31	29	27	24	23	22	20	20	17
NA*S10	46 Main Street, Cross Hills		54	0	36	26	26	28	27	25	32	41	51	34
	Annual Running Mean	91.67	38		35	33	33	32	31	31	30	30	32	31
NA*S11	1 Aireville Grange, Gargrave Road, Skipton		32	36	26	15	16	15	30	18	24	41	35	21
	Annual Running Mean	100	24	25	25	24	24	24	25	25	25	26	26	26

## Nitrogen dioxide (NO<sub>2</sub>) Diffusion Tube Monitoring Results Actual Annual Running Mean (ARM) - January to December 2011



Comparison of Annual Running Mean - NO <sub>2</sub> Years 2002 to 2011												
Craven District Council		NO <sub>2</sub> - Annual Running Mean Results 2002 to 2011 (µg/m <sup>3</sup> ) - Actual										
Diffusion Tube Location	Tube Ref	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
		Air Quality Objective - Annual Mean 40µg/m <sup>3</sup>										
6 Hartley Green, A65, Long Preston	NA*S1								24	24	21	
Magna Large Book Print, A65, Long Preston	NA*S2								25	21	24	
Settle Down Café Duke Street, Settle	NA*S3	28	34	30	30	28	27	28	31	35	28	
Rackhams, High Street, Skipton	NA*S4	31	33	30	29	27	28	32	32	30	31	
E W Smith, 9 Newmarket Street, Skipton	NA*S5	39	40	38	37	38	38	37	35	35	34	
Yorkshire Housing, 60 Newmarket Street, Skipton	NA*S6								39	37	35	30
42 Keighley Road, Skipton	NA*S7								27	28	29	34
18 Station Road, Cross Hills	NA*S8	30	33	32	30	28	34	33	34	33	33	
5 Churchill Way, Cross Hills	NA*S9										14	
46 Main Street, Cross Hills	NA*S10	27	30	31	36	31	35	34	37	36	31	
1 Aireville Grange, Gargrave Road, Skipton	NA*S11								28	25	22	26



### Annual Average Daily Traffic (AADT) Actual and Predicted Flows

Craven District Traffic Flows and Forecast				
Road	Location	2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>2</sup>
A65	North of Long Preston	10983	10825	10850
B6480	Station Road/Duke Street, Settle	4556	4118	4027
A6131	High Street, Skipton	Data not available	Data not available	Data not available
A6069	Otley Road/Newmarket Street, Skipton	4008	4042	4054
A6131	Keighley Road, Skipton	13620	13480	13609
B6172	Station Road, Cross Hills	Data not available	Data not available	Data not available
A6068	Main Street, Cross Hills	Data not available	Data not available	Data not available
	Gargrave Road, Skipton	Data not available	Data not available	Data not available

<sup>1</sup> Annual Average Daily Traffic (AADT) recorded over each 12 month period.

<sup>2</sup> Predicted daily traffic flow for 2012. Some figure not available

Both sets of figures; provided by the Environmental Services Department of North Yorkshire County Council Highways.

### Maps and Location of Nitrogen dioxide (NO<sub>2</sub>) Diffusion Tubes

Site Ref	NA*S1	Type	Roadside
Site Address	6 Hartley Green, A65 Long Preston, North Yorkshire, BD23 4NF		
Grid Reference	383466, 458168	Owner Contact	
Tube Location	Façade Mount	Telephone	
			
<b>Health &amp; Safety</b> <b>Use of ladder</b> <b>Pedestrians around ladder</b>			
Distance from Kerb	5m		
Distance from Facade	150mm		
Height above road	2.50m		
Exposure	Residential		

<b>Site Ref</b>	<b>NA*S2</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>Magna Large Print Books, A65 Long Preston, North Yorkshire, BD23 4NF</b>		
<b>Grid Reference</b>	<b>383452, 458133</b>	<b>Owner Contact</b>	<b>Derek Cressey</b>
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	<b>01729 840328</b>



<b>Health &amp; Safety</b>			
<b>Use of ladder</b>			
<b>Pedestrians around ladder</b>			
<b>Distance from Kerb</b>	<b>3m</b>		
<b>Distance from Facade</b>	<b>150mm</b>		
<b>Height above road</b>	<b>2.50m</b>		
<b>Exposure</b>	<b>Residential Office workers</b>		

Site Ref	NA*S3	Type	Roadside
Site Address	Settle Down Café, 11 Duke Street Settle, North Yorkshire, BD24 9DU		
Grid Reference	381596, 463580	Owner Contact	
Tube Location	Façade Mount	Telephone	01729 822480



<b>Health &amp; Safety</b> <b>Use of ladder</b> <b>Narrow pavement, pedestrians near ladder.</b>			
Distance from Kerb	1.50m		
Distance from Facade	150mm		
Height above road	3.00m		
Exposure	<b>Pedestrians</b> <b>Residents in flats above shops</b> <b>Workers in nearby shops and offices</b>		

<b>Site Ref</b>	<b>NA*S4</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>Rackham's, 33 High Street Skipton, North Yorkshire, BD23 1DT</b>		
<b>Grid Reference</b>	<b>399043, 451760</b>	<b>Owner Contact</b>	
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	<b>01756 792363</b>



**Health & Safety**  
**Use of ladder**  
**Pedestrians around ladder**

<b>Distance from Kerb</b>	<b>9.75m</b>	<b>Distance from setts</b>	<b>3.45m</b>
<b>Distance from Facade</b>	<b>150mm</b>		
<b>Height above road</b>	<b>2.70m</b>		
<b>Exposure</b>	<b>Pedestrians Workers in shops &amp; offices</b>		

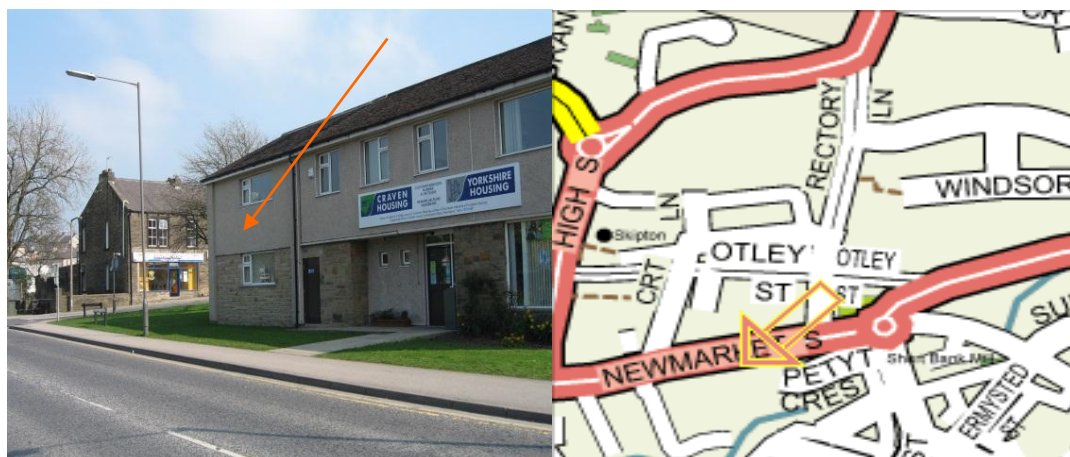
<b>Site Ref</b>	<b>NA*S5</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>E W Smith, 9 Newmarket Street Skipton, North Yorkshire, BD23 2HX</b>		
<b>Grid Reference</b>	<b>399054,451606</b>	<b>Owner Contact</b>	<b>01756 798833</b>
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	<b>Mr Smith</b>



<b>Health &amp; Safety</b>			
<b>Use of ladder (should be located inside small fenced area)</b>			
<b>Distance from Kerb</b>	<b>1.45m</b>		
<b>Distance from Facade</b>	<b>150mm</b>		
<b>Height above road</b>	<b>3.0m</b>		
<b>Exposure</b>	<b>Pedestrians Workers in shops and offices</b>		



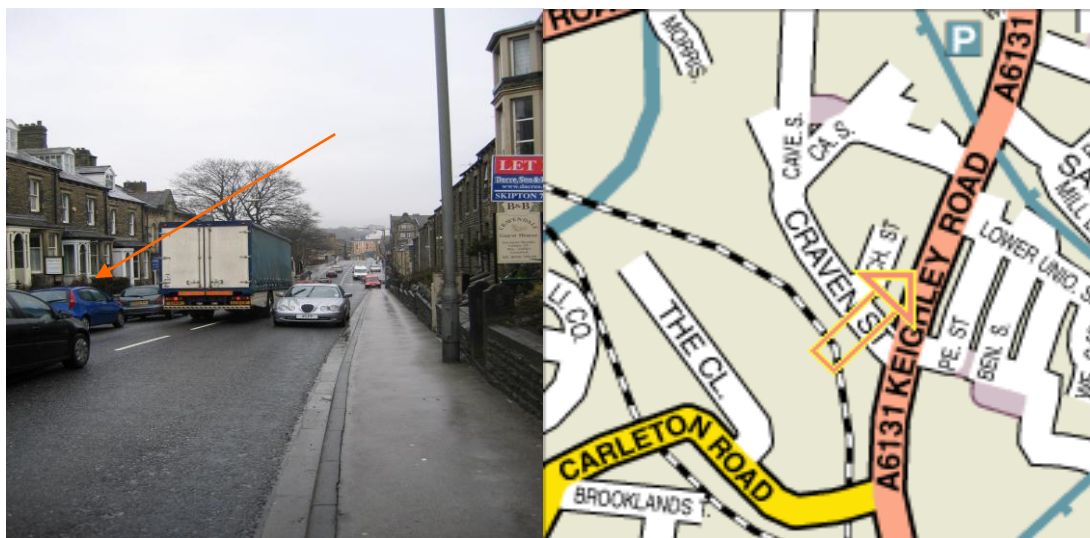
<b>Site Ref</b>	<b>Na*S6</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>Yorkshire Housing, 60 Newmarket Street Skipton, North Yorkshire, BD23 2JB</b>		
<b>Grid Reference</b>	<b>399179, 451607</b>	<b>Owner Contact</b>	
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	<b>01756 704500</b>



**Health & Safety**  
**Use of ladder**

<b>Distance from Kerb</b>	<b>5.00m</b>		
<b>Distance from Facade</b>	<b>100mm</b>		
<b>Height above road</b>	<b>2.75m</b>		
<b>Exposure</b>	<b>Residential Pedestrians Office workers</b>		

<b>Site Ref</b>	<b>NA*S7</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>42 Keighley Road, Skipton North Yorkshire, BD23 2NB</b>		
<b>Grid Reference</b>	<b>398828, 451244</b>	<b>Owner Contact</b>	
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	



**Health & Safety**

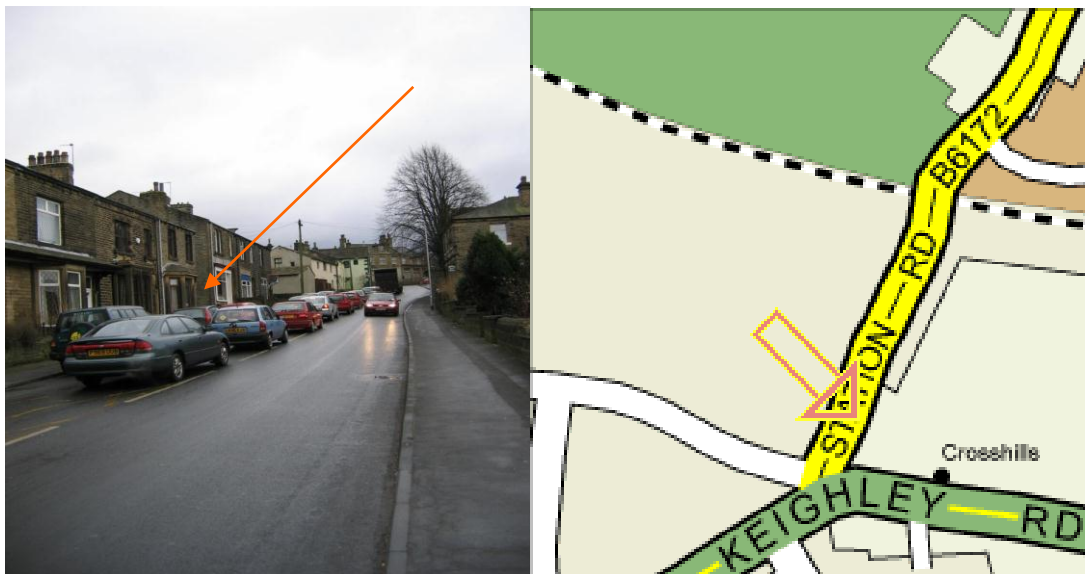
**Use of ladder**

**Yard surface slippery when wet**

<b>Distance from Kerb</b>	<b>6.10m</b>		
<b>Distance from Facade</b>	<b>100mm</b>		
<b>Height above road</b>	<b>3.40m</b>		
<b>Exposure</b>	<b>Residential Pedestrians</b>		



<b>Site Ref</b>	<b>NA*S8</b>	<b>Type</b>	Roadside
<b>Site Address</b>	<b>18 Station Road, Cross Hills Keighley, West Yorkshire, BD20 7EH</b>		
<b>Grid Reference</b>	<b>400794, 445148</b>	<b>Owner Contact</b>	
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	



<b>Health &amp; Safety</b>			
Use of ladder			
<b>Distance from Kerb</b>	<b>3.50m</b>		
<b>Distance from Facade</b>	<b>140mm</b>		
<b>Height above road</b>	<b>3.75m</b>		
<b>Exposure</b>	<b>Residential Pedestrians Workers in offices</b>		

<b>Site Ref</b>	<b>NA*S9</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>5 Churchill Way Cross Hills, Keighley West Yorkshire, BD20 7DN</b>		
<b>Grid Reference</b>	<b>401124, 445202</b>	<b>Owner Contact</b>	<b>Mrs Myers</b>
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	



**Health & Safety**  
**None**

<b>Distance from Kerb</b>	<b>6.0m</b>		
<b>Distance from Facade</b>	<b>100mm</b>		
<b>Height above road</b>	<b>2.00m</b>		
<b>Exposure</b>	<b>Residential Pedestrians</b>		

<b>Site Ref</b>	<b>NA*S10</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>46 Main Street, Cross Hills Keighley, West Yorkshire, BD20 8TQ</b>		
<b>Grid Reference</b>	<b>400569, 444987</b>	<b>Owner Contact</b>	
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	<b>01535 634115</b>



<b>Health &amp; Safety</b>			
<b>Use of ladder</b>			
<b>Pedestrian around ladder</b>			
<b>Distance from Kerb</b>	<b>2.75m</b>		
<b>Distance from Facade</b>	<b>150mm</b>		
<b>Height above road</b>	<b>2.82m</b>		
<b>Exposure</b>	<b>Residents in flats above shops Pedestrians Workers in shops &amp; offices</b>		

<b>Site Ref</b>	<b>NA*S11</b>	<b>Type</b>	<b>Roadside</b>
<b>Site Address</b>	<b>1 Aireville Grange, Gargrave Road, Skipton North Yorkshire, BD23 1UB</b>		
<b>Grid Reference</b>	<b>397631, 452127</b>	<b>Owner Contact</b>	<b>Mrs Pennington</b>
<b>Tube Location</b>	<b>Façade Mount</b>	<b>Telephone</b>	<b>01756 798645</b>



<b>Health &amp; Safety</b> <b>Use of ladder</b> <b>Climbing on to small wall</b>			
<b>Distance from Kerb</b>	<b>2m</b>		
<b>Distance from Facade</b>	<b>100mm</b>		
<b>Height above road</b>	<b>3.00m</b>		
<b>Exposure</b>	<b>Residential Pedestrians</b>		

### Craven District Permitted Processes under Part I of the Environmental Protection Act 1995

PROCESS ADDRESS	PROCESS TYPE
Ribblesdale Motors Ltd Station Road Settle	Waste Oil Burner
John Fox Classic Cars Unit 9, Sowarth Ind Estate, Settle	Waste Oil Burner
Skipton Vehicle Services Engine Shed Lane Skipton, BD23 1UP	Waste Oil Burner
Joda Freight Ltd Midlands Works, Station Road, Cross Hills, Keighley, BD20 7DT	Waste Oil Burner
Arcow Quarry, Helwith Bridge, Horton in Ribblesdale Settle, BD24 0EW	Quarry
Halton East Quarry Harrogate Road Skipton, BD23 6AD	Roadstone coating
Horton Quarry Horton in Ribblesdale Settle, BD24 0HR	Quarry
Dry Rigg Quarry Horton-in-Ribblesdale Settle, BD24 0EL	Quarry
Swinden Quarry Linton Skipton, BD23 6BE	Quarry
Skipton Rock Quarry Harrogate Road Skipton, BD23 6BJ	Roadstone coating
Skirwith Quarry Ingleton, LA6 3AW	Quarry
Craven Bereavement Services Waltonwrays Crematorium Carleton Road Skipton, BD23 3BT	Crematoria
Fibrelite Ltd Snaygill Industrial Estate Skipton, BD23 2QR	Polyurethane (Styrene)
Readymix Huddersfield Ltd Snaygill Industrial Estate Skipton, BD23 2QR	Cement (concrete batching)

PROCESS ADDRESS	PROCESS TYPE
Charvo Ltd Snaygill Industrial Estate Skipton, BD23 2QR	Coatings of Metals & Plastics
Hanson Batching Plant Skipton Rock Quarry Embsay, Skipton, BD23 6BJ	Cement (Concrete batching)
Skipton Ford Airedale Business Centre Keighley Road Skipton, BD23 2UB	Vehicle Re-spraying
Fleet painting Ltd Progress Works Engine Shed Lane Skipton, BD23 1UP	Vehicle Re-spraying
Wm Morrison Supermarket Plc Broughton Road Skipton BD23 1RT	Petrol
Tesco Stores Ltd Craven Street Skipton, BD23 2AG	Petrol
Cross Hills Service Station Station Road Cross Hills, BD20 7DT	Petrol
Three Peaks Services A65 New Road Ingleton, LA6 3DL	Petrol
Snax 24 Ltd Station Road Cross Hills, BD20 7EH	Petrol
Whitefriars Self Service Church Street Settle, BD24 9JD	Petrol
Threshfield Garage Threshfield Skipton, BD23 5PL	Petrol
Johnson Cleaners UK Ltd 73 High Street Skipton, BD23 1DS	Dry Cleaners
White Rose of Yorkshire Ltd 56-58 Brougham Street Skipton, BD23 2JN	Dry Cleaners

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