

# 2020 Air Quality Annual Status Report (ASR)

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

September 2020

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## **Executive Summary: Air Quality in Our Area** Air Quality in South Staffordshire Council

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas<sup>1,2</sup>.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>3</sup>.

Air Quality is an important consideration in the health of the population of our district. Within South Staffordshire previous reviews and assessments have proved sufficient evidence to be satisfied that the Council's area is only likely to see exceedances of the NO<sub>2</sub> annual mean objective. This was again confirmed as in April 2019 the council commissioned Air Quality Consultants Ltd to carry out a review of air quality across the district and to scrutinise a Development Consent Order application for a Strategic Rail Freight Interchange Hub known as the West Midlands Interchange.

Our current Air Quality Management Area (AQMA No. 5) is located in Hatherton at Oak Farm on the A5 which can be seen further on in this report and at:

https://uk-air.defra.gov.uk/aqma/details?aqma\_ref=1495#809

Air quality within the AQMA remains within objective level as it has now done for 5 years.

There are no new major sources of emissions within the district and no new AQMA's to be designated. There are however a number of developments taking place within the North East of the District and these developments will be considered collectively in relation to modelling of the potential cumulative effects of these developments to provide reassurance to Members and the public that air quality will remain within objective levels. These developments include:

<sup>&</sup>lt;sup>1</sup> Environmental equity, air quality, socioeconomic status and respiratory health, 2010

<sup>&</sup>lt;sup>2</sup> Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

<sup>&</sup>lt;sup>3</sup> Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- The extension of the i54 Business Park
- The Strategic Rail Freight Interchange at Four Ashes
- Industrial Development on the old Royal Ordnance Factory Site at Featherstone
- The outlet Village retail development just over the boundary in Cannock Town Centre
- The new M54/M6 North link road
- Housing allocation:
  - o 160 East of Codsall with another 200 on safeguarded land.
  - 200 North of Penkridge (currently awaiting appeal decision outcome)
  - 80 East of Penkridge (subject to appeal)

Levels of NO<sub>2</sub> over the district remain below objective level.

The air quality within our district is of a good standard on the whole. However, we acknowledge that traffic does contribute to elevated levels of particulate matter and NO<sub>2</sub> within our AQMA, however it should be noted that levels are within objective.

## **Actions to Improve Air Quality**

We have contributed to the improvements in our air quality with the launch of ECO stars on 24<sup>th</sup> February 2016. This helps improve the efficiency of the HGV's travelling throughout our district both now and in future years.

Following a review by air quality consultants we have implemented a number of recommendations. These include the decommissioning of our automatic monitoring site that has been sited in Penkridge for a number of years. This was due to the kit being old and now obsolete. It was realised that the data from this site was no longer reliable. One of the tubes in the area has been retained to ensure that levels remain below objective levels as it is in close proximity to the M6 motorway.

The tubes over the district have been retained with some additional new tubes. Due to concern by local residents and councillors a tube was left in place (SA2) in the old Wedges Mills AQMA to continue to monitor NO<sub>2</sub> at the location to ensure levels remain below objective.

Additional tubes have been put out over the district following the review by the air quality consultants and also to put local residents minds at ease who were concerned with various areas. The new tubes are:

- FA1 Four Ashes next to the busy A449.
- COD1 Tube in Codsall on Histons Hill.
- SCH1 Tube on the high school of Chelsyn Hay.
- CH2 On the main road through Cheslyn Hay.
- CH3 On a property opposite New Horse Road in Cheslyn Hay.
- FE1 Featherstone around the busy crossroad traffic lights on the A460.
- FE2 Featherstone around the busy crossroad traffic lights on the A460.
- FE3 Featherstone around the busy crossroad traffic lights on the A460.

We will also be looking to install a PM monitor in a suitable location within the district. This has been delayed due to a reduction in staff numbers due to retirement and pressure on resources. A PM<sub>2.5</sub> with be considered due to the health impacts noted by DEFRA with it's links to the Public Health Outcomes Framework.

Further tubes were also identified and put up later on in 2019. They will be reported on within the next ASR when suffiicient data has been collected for meaningful analysis. They were again put out in response to recommendations from the Air Quality Consultants due to potential risk of exceedance of the annual mean NO<sub>2</sub> objective. To date levels are well within objective.

Further investigation will take place to look at the risk of two poultry farms in the district at Pilaton and Hatherton to determine the risk of  $PM_{10}$  being exceeded in the area. We will look at the number of birds and distance between the nearest property and the shed using the equation provided in DEFRA Technical Guidance (DEFRA, 2016). This will also be looked at in terms of the biomass installation at one of the farms.

Quarries were also identified by the consultants as posing a potential risk in terms of PM<sub>10</sub>. We will be looking into Calf Heath Quarry, Redhurst Quarry, Seisdon Quarry and 2 quarries in Cheslyn Hay with a view to purchasing a PM<sub>10</sub> monitor and locating it in a suitable area to monitor.

Again, unfortunately due to resources this work hasn't yet begun but we hope to begin shortly.

A piece of equipment 'AQMesh' was purchased to help with monitoring of air quality in the district following concern from residents and the parish council in Cheslyn Hay due to the nearby incinerator. This was not flagged up by the air quality consultants. Unfortunately due to technical difficulties this has not yet been in full use to gather data. We will be looking at whether we should continue with this piece of kit or whether it should be donated to the parish so that they may get it up and running.

## **Conclusions and Priorities**

There are no new developments within the district that will cause Air Quality Objectives to be exceeded now or in the future.

It is planned to renew and update the action plan due to the changes happening in the monitoring and the recent revocation of AQMA's within the district. This has been hindered due to the limited resources within the team.

The main priorities for the local authority this year will be the implementation of particulate matter monitoring around the quarries and chicken farms in the district.

We will continue in signing up companies to our ECOStars scheme over this and neighbouring districts.

There has been no breach of objective level for NO<sub>2</sub> over the district in 2019.

## Local Engagement and How to get Involved

You can obtain further information about air quality within the district at: <a href="https://www.sstaffs.gov.uk/environment/air-quality.cfm">https://www.sstaffs.gov.uk/environment/air-quality.cfm</a>

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## 1 Local Air Quality Management

This report provides an overview of air quality in South Staffordshire Council during 2019. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) 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 an exceedance is considered likely the local authority must 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. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by South Staffordshire Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England can be found in Table E.1 in Appendix E.

## 2 Actions to Improve Air Quality

## 2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by South Staffordshire Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at

https://www.sstaffs.gov.uk/environment/air-quality.cfm

Alternatively, see Appendix D: Map(s) of Monitoring Locations and AQMA, which provides for a map of air quality monitoring locations across the district and that of the tube in relation to the AQMA.

### Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of	Pollutants and Air Quality	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled		Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)				Action Plan			
		Objectives			controlled by Highways England?	At Now Declaration			Name	Date of Publication	Link			
AQMA Oak Farm	2007	NO₂ Annual Mean	Hatherton	An area encompassing a residential property along the A5 opposite a truck stop.	YES	39.3	μg/m3	35.4	μg/m3	Air Quality Action Plan	2008			

South Staffordshire Council confirm the information on UK-Air regarding their AQMA(s) is up to date

## 2.2 Progress and Impact of Measures to address Air Quality in South Staffordshire Council

Defra's appraisal of last year's ASR concluded that our conclusions within the ASR were accepted. There were however a number of recommendations. These included the replacement of our real time analyser. This has not happened and currently there are no plans to replace it. We will look to discuss the potential replacement of the analyser in future years when budgets will allow. It was felt that the AQMesh would be a substitute for the real time analyser as although not as accurate it would provide us with an indication of NO<sub>2</sub> levels in areas over the district. As discussed, this has not happened currently due to technical issues, however following the recommendation it may be that we do keep this on and get it up and running as soon as we can to take a look at the data coming from it.

DEFRA felt that the discussion of the bias factor used was not discussed. This has now been looked at further on in the report in Appendix C. The national bias adjustment factor has been used.

Another recommendation was that the tubes should be left up in the revoked AQMA's to ensure that levels do not increase and rise above objective. This has been done with a tube left in Wedges Mills but not in Woodbank or Essington. It was felt that this was unnecessary as the data showed levels comfortably below objective for a substantial number of years and with no new developments to change the air quality within these AQMA's. As they were next to the motorway it is felt that levels should not increase due to the introduction of continually cleaner technology for cars and the introduction of electric vehicles.

It was pointed out that the Air Quality Action Plan has not progressed. We are fully aware of this and intend to update it at the earliest opportunity.

South Staffordshire Council has taken forward a number of direct measures during the current reporting year of 2019 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

South Staffordshire Council expects the following measures to be completed over the course of the next reporting year:

• Production of an updated Air Quality Action Plan

- Resolution of the technical issues with the AQMesh
- Purchase of 2 PM<sub>2.5</sub> monitors.
- Close monitoring of the air quality around our quarries and chicken farms.

The principal challenges and barriers to implementation that South Staffordshire Council anticipates facing are a restriction of resources both financially and in personnel.

Progress on the following measures has been slower than expected due to: loss of personnel within the team and department.

South Staffordshire Council anticipates that the measures stated above and in Table 2.2 will achieve continued compliance in AQMA 5 – Oak Farm.

## Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
1	ECO Stars Scheme	Vehicle Fleet Efficiency	Drive training and ECO driving aids	2014	South Staffordshire Council, DEFRA, SAQF councils: Stafford, Cannock, Stoke, Lichfield, Newcastle, Tamworth, East Staffs.	DEFRA grant.	AQMA levels below objective		Ongoing. Levels of NO2 are below objective in Oak Farm AQMA.	Ongoing	
2	Continued Integration with planning system	Policy Guidance and Development Control	Air Quality planning and policy guidance	Ongoing	South Staffordshire Council				Ongoing	Ongoing	
3	Continue close working with SAQF	Policy Guidance and Development Control	Air Quality planning and policy guidance	Ongoing	SAQF Councils: Stafford, Cannock, Stoke, Lichfield, Newcastle, Tamworth, East Staffs.				Ongoing	Ongoing	
4	Regulation of industrial processes under the Environmental Permitting Programme to control emissions to air	Environmental Permits	Other	Ongoing	South Staffordshire Council				Ongoing	Ongoing	

# 2.3 PM<sub>2.5</sub> – Local Authority Approach to Reducing Emissions and or Concentrations

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of PM<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Particulate matter, or PM, is the term used to describe particles found in the air, including dust, dirt and liquid droplets. PM comes from both natural and man-made sources, including traffic emissions and Saharan-Sahel dust. These particles can be suspended in the air for long periods of time, and can travel across large distances.

PM less than 10 micrometres in diameter (PM<sub>10</sub>) pose a health concern because they can be inhaled into and accumulate in the respiratory system. PM less than 2.5 micrometres in diameter (PM<sub>2.5</sub>) are referred to as "fine" particles and are believed to pose the greatest health risks, as they can lodge deeply into the lungs and also pass into the bloodstream.

PM<sub>2.5</sub> is the pollutant which has the biggest impact on public health and on which the Public Health Outcomes Framework (PHOF) indicator 3.01<sup>5</sup> is based.

The Royal College of Physicians (RCP) undertook a review in February 2016 <sup>6</sup> where they found that long term exposure to air pollution impairs lung function growth in children, and that outdoor exposure is linked to lung cancer in adults. Within Staffordshire it is estimated that 4.8% of all deaths can be attributed to exposure to PM<sub>2.5</sub>, compared to 5.1% across England (40,000 deaths annually)<sup>4</sup>. Overall, the estimated cost to individuals and society is more than £20 billion annually for the UK.

### 2.3.1 Particulate Matter (PM<sub>2.5</sub>) Levels in Staffordshire and Stoke-on-Trent

A number of the Staffordshire Authorities currently monitor locally for  $PM_{10}$ . Defra's Automatic Urban and Rural Network (AURN) site, Stoke-on-Trent Centre has a dedicated  $PM_{2.5}$  monitor. Table 2.3 presents data on the local level of  $PM_{2.5}$  annual mean concentrations for the Staffordshire Authorities. Where the data is derived from  $PM_{10}$  monitoring this has been adjusted by applying a correction factor of 0.7 to derive the  $PM_{2.5}$  component. The correction factor has been derived from the average of all ratios of  $PM_{2.5}/PM_{10}$  for the years from 2010 to 2014 for forty sites within the Automatic Urban and Rural Network (AURN) where these substances are measured on an hourly basis and follows the guidance published in LAQM (TG16).

<sup>4</sup> Mortality attributable to particulate air pollution Public Health Outcomes Framework

<sup>5</sup> Public Health Outcomes Framework 2016 – 2019 indicator 3.01 Fraction of mortality attributable to particulate air pollution <u>https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/3/gid/1000043/pat/6/par/E12000005/ati/102/are/E10000028/iid/30101/age/230/sex/4</u> <sup>6</sup> ['Every Breath we Take: The Lifelong Impact of Air Pollution; Report of a working Party, February 2016, ISBN 978-1-86016-567-2],

## Table 2.3 Annual Mean PM10 and PM2.5 results of monitoring by Staffordshire Authorities 2015 to2019

	Annual Mean PM10 and PM2.5 Results from monitoring Staffordshire Authorities 2015- 2019												
Authority	Site Type	Monitor Location	OS Grid Ref			5-2013	Year						
					2015	2016	2017	2018	2019				
Newcastle under	Roadside	Queen`s Gardens	E385057	<b>PM</b> 10	22.9	(5)	(5)	(5)	(5)				
Lyme		Cardens	N346137	PM <sub>2.5</sub>	16 <sup>(1)</sup>	(5)	(5)	(5)	(5)				
Cannock Chase	Roadside	Cannock	E401392	<b>PM</b> 10	-	-	14	18	16				
		A5190	N309954	PM <sub>2.5</sub>	-	-	9.8	12.6	11.2				
	Roadside		E386288	<b>PM</b> 10	-	-	23	23	23				
		Bastord	N346802	PM <sub>2.5</sub>	-	-	16 <sup>(1)</sup>	16 <sup>(1)</sup>	16 <sup>(1)</sup>				
	Roadside	A50	E392548	PM 10	20(2)	20(2)	18	19	20				
Stoke on Trent		Roadside Meir	N342572	PM <sub>2.5</sub>	14 <sup>(2)</sup>	14 <sup>(2)</sup>	13 <sup>(1)</sup>	13 <sup>(1)</sup>	<b>1</b> 4 <sup>(1)</sup>				
	Urban Background	Stoke on Trent Central	E388351 N347895	PM 2.5	12	12	9	9	9				
	Roadside	Middleport	E385780	MP10	22	(3)	(3)	(3)	(3)				
			N349376	PM2.5	15 <sup>(1)</sup>	(3)	(3)	(3)	(3)				
East	Roadside	Derby	E424671	<b>PM</b> 10	23	(4)	(4)	(4)	(4)				
Clanordanite		run	1102-1019	PM 2.5	16.1 <sup>(1)</sup>	(4)	(4)	(4)	(4)				

Notes: <sup>(1)</sup>PM<sub>2.5</sub> results are derived from PM10 monitored results corrected with a 0.7 correction factor in accordance with TG16 – Annex B: Derivation of PM<sub>2.5</sub> to PM<sub>10</sub> Ratio. All other results are directly monitored.

<sup>(2)</sup> Valid data capture for 2015 was 59%. The site was commissioned on 22 May 2015.

(3) Middleport monitor was decommissioned at the end 2015

(4) East Staffordshire's monitors were decommissioned 2016

(5) Newcastle under Lyme monitors were decommissioned 2016

As can be seen from the results, concentrations of  $PM_{2.5}$  within the Staffordshire Authorities are below the 2020 EU limit value of  $25\mu g/m^3$ .

## 2.3.2 PM<sub>2.5</sub> and Mortality in Staffordshire & Stoke-on-Trent

Although the levels of PM<sub>2.5</sub> within the County and City of Stoke on Trent are below the 2020 EU Limit value, the impact on adult mortality directly attributable to PM<sub>2.5</sub> is nonetheless still an important public health issue within Staffordshire and Stokeon-Trent. This is revealed in data obtained from Public Health England used to inform Public Health Outcomes Framework indicator 3.01<sup>7</sup>, as shown in Figure 1

The percentage estimated number of deaths attributable to PM<sub>2.5</sub> in adults over 30 has been translated into the estimated number of attributable deaths for each local authority area within Staffordshire, and are shown in Figure 2. The data presented to 2018 is the latest data available at time of publication of this report. Approximately 4.4% of deaths within the County can be attributed to PM<sub>2.5</sub>.

## Figure 1 Estimated number of deaths by local authority area attributable to PM2.5 within Staffordshire for adults over 30 2014 to 2018

District/County	Percentage
Newcastle-under-Lyme	4.2%
Stafford	4.2%
East Staffordshire	4.6%
South Staffordshire	4.6%
Lichfield	4.6%
Staffordshire Moorlands	3.8%
Cannock Chase	4.6%
Tamworth	5.1%
Stoke on Trent	4.4%
Staffordshire County	4.4%
England	5.2%

7 Public Health Outcomes Framework 2016-2019 Indicator 3.01 Fraction of mortality attributable to particulate air pollution https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/520457/At\_a\_glance.pdf

Figure 2 Public Health Outcomes Framework Indicator 3.01- Fraction of annual all cause adult mortality attributable to anthropogenic (human made) particulate air pollution (measured as fine particulate matter, PM<sub>2.5</sub>) for Staffordshire Authorities 2014 to 2018<sup>8</sup>

Estimated numbers of annual all-cause adult mortality attributable to anthropogenic (human-made) particulate air pollution (measured as fine particulate matter, PM<sub>2.5</sub>\*) for Staffordshire 2014 to 2018<sup>8</sup>

\* Fraction of annual all-cause adult mortality attributable to anthropogenic (human-made) particulate air pollution (measured as fine particulate matter, PM<sub>2.5</sub>\*)

		2014			2015			2016	;		201	7	2018		
District/County	Deaths - all causes persons 30+	%*	Estima ted attribut able deaths	Deaths - all causes persons 30+	%*	Estimated attributable deaths	Deaths - all causes persons 30+	%*	Estimated attributable deaths	Deaths - all causes person s 30+	%*	Estimated attributable deaths	Deaths - all causes persons 30+	%*	Estimated attributable deaths
Newcastle- under-Lyme	55	4.7	60	55	4.2	50	1291	4.7	60	1197	4.2	50	1334	4.2	60
Stafford	65	4.8	60	60	4.7	60	1254	4.8	60	1267	4.3	50	1336	4.2	60
East Staffordshire	55	5.1	50	55	4.8	50	1065	5.6	60	1098	5.0	50	1093	4.6	50
South Staffordshire	55	5	50	55	4.7	60	1128	5.1	60	1239	4.5	60	1211	4.6	60
Lichfield	50	5	50	50	4.6	50	1044	5.5	60	1070	4.9	50	1087	4.6	50
Staffordshire Moorlands	45	4.5	50	45	4	40	1110	4.6	50	1127	3.9	40	1108	3.8	40
Cannock Chase	45	5.1	40	45	4.6	40	879	5.4	50	940	4.7	40	976	4.6	50
Tamworth	35	5.4	30	30	4.9	30	615	6	40	634	5.3	30	653	5.1	30
Stoke on Trent	2318	5.0	115	2479	4.9	110	2454	5.0	120	2490	4.4	110	2746	4.4	120
Staffordshire County	400	4.9	400	390	4.5	390	8386	5.2	430	8572	4.5	390	8792	4.4	390

8 Source Public Health England <u>https://fingertips.phe.org.uk/profile/public-health-outcomes-</u> framework/data#page/3/gid/1000043/pat/6/par/E12000005/ati/102/are/E10000028/iid/30101/age/230/sex/4

### 2.3.3 Actions being taken within Staffordshire to reduce PM<sub>2.5</sub>

A number of the Staffordshire Authorities are currently involved in implementing measures to reduce levels of N0<sub>2</sub> within their areas, which are detailed elsewhere in this report. Whilst there is currently no statutory duty imposed on Local Authorities in England to reduce PM<sub>2.5</sub>, a number of the measures are complementary. A mapping exercise completed by the Staffordshire Air Quality Forum members details the measures currently in place which are considered to have an impact in reducing PM<sub>2.5</sub> within the County. These are produced in Table 2.4 below;

## Table 2.4 Actions being taken within Staffordshire to reduce PM2.5

Measures category		Effect on reducing NOx and PM10	Reduces				Local Authority							
	Measure Classification	emission s(low, medium, high)	emission S	Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC				
	Urban Traffic Control systems, Congestion management, traffic reduction	low	~	UTC in Leek Town Centre	UTC in areas of Newcastle Town Centre AQMA and Kidsgrove AQMA	UTC in Stafford Town Centre	Town Centre Regeneration Programme now completed with the exception of Station Street regeneration which starts in March 2020. Many of these will then help improve traffic flow within the AQMA	LDC is liaising with Midlands Connect to increase volume of traffic using M6 Toll to reduce congestion on the A5 as well as lobbying Highways England to upgrade the A38 & A5 to expressways.		UTC in Tamworth Town Centre at Ventura Park				
Traffic Management	Reduction of speed limits, 20mph zones	low	v	20mph zones near some schools in residential areas		20mph zones near some schools in residential areas	20 mph zones near some schools in residential areas		20mph zones in Trysull, Bradley, Kinver and Bilbrook					
	Road User Charging (RUC)/ Congestion charging	low	~			х		M6 Toll	M6 Toll					
	Anti-idling enforcement	low	~			х								
	Other		~			x								
	Workplace Travel Planning	low	~	www.staffordshire.gov.uk/Transpor	rt/Air-quality/Businesses.as	px www.staffordshire.gov.uk/D	oingOurBit/Get-Inspired/Clean-green-a	nd-safe/Clean-green-and-safe.aspx						
	Encourage / Facilitate home-working	low	~			x	x	Homeworking policy adopted	Agile working policy adopted	Homeworking policy adopted				
	School Travel Plans	low	~	https://www.staffordshire.gov.uk/Education/Schooltransport/Active-school-travel/Active-school-travel-team.aspx Funded STPs for school expansions: 14 Newcastle Borough, 8 Staffordshire Moorlands District, 16 Stafford Borough, 9 East Staffordshire Borough, 4 Cannock Chase District, 6 Lichfield District, 3 South Staffordshire District, 19 Tamworth Borough										
	Promotion of cycling	low	~	The Local Cycling and Walking Infrast	ructure Plan is currently under de	evelopment by SCC www.staffordshire	e.gov.uk/DoingOurBit/Get-Inspired/Clean-gree	n-and-safe/Clean-green-and-safe.aspx	South Staffordhire Cycling Scheme	Same as other Staffs authorities				
	Promotion of walking	low	~	The Local Cycling and Walking	Infrastructure Plan is currer	ntly under development by SCC v safe/Clean-green-and-safe	vww.staffordshire.gov.uk/DoingOurBit/0 e.aspx	Get-Inspired/Clean-green-and-	Walking for health scheme	Same as other Staffs authorities				
	Staffordshire Share a Lift Scheme		~	The Staffordshire Left S	cheme is available at: https:	//share-a-lift.co.uk/		A new	provider is currently be	ing sought				
Promoting Travel Alternatives	Promote use of rail and inland waterways	medium	~	North Staffordshire Community Rail Partnership operating along the North Staffordshire Line includes Blythe Bridge Rail Station. The County Council Draft Rail Strategy is available from: http://moderngov.staffordshire.gov.uk/docu ments/s69891/Appendix%201%2010r%20 Rail%20Strategy.pdf	North Staffordshire Community Rail Partnership operating along the North Staffordshire Unter includes Biythe Bridge Rail Station. The County Council Draft Rail Strategy is available from: http://moderngov.staffordshire .gov.uk/documents/s89801/A ppendix%201%20for%20Rail %20Strategy.pdf	North Staffordshire Community Rail Partnership operating along the North Staffordshire Line includes Biythe Bridge Rail Station. The County Council Draft Rail Strategy is available from: http://moderngov.staffordshire.gov.u kr/document/s569891/Apendrx%201 %20for%20Rail%20Strategy.pdf	Improvements at Burton Rail Station nearing completion	Staffordshire County Council has produced a Draft Rail Strategy, April 2016 to improve the way local rail services are managed and operated https://www.staffordshire.gov.u k/transport/transportplanning/R ail-strategy/Rail-Strategy.pdf						

Measures category		Effect on reducing NOx and PM10	Red uce s PM2				Local Authority						
	Measure Classification	emission s(low, medium, high)	.5 emi ssio ns	Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC			
	Local Transport Plans and District Strategies	high	~		www.staffordshi	re.gov.uk/Transport/transportplannin	z/District-integrated-transport-strategies/distri	ictintegratedtransportstrategies.aspx					
	Public transport improvements- interchanges stations and services	low	~	Proposed reinstatement of Leek rail connection	Kidsgrove Station interchange plans	Recent improvements completed at Stafford Rail Station	Improvements at Burton Rail Station nearing completion.	Improvements planned at Lichfield City Station as part of Friarsgate development scheme. There are also plans to improve accessibility to all users at Lichfield Trent Valley Station		Planned improvements at Tamworth station			
Transport Planning	Public cycle hire scheme	low	~		In House cycle to work scheme								
& Infrastruct ure	Cycle network	low	~	www.staff	www.staffordshire.gov.uk/Transport/cycling/cyclemaps.aspx SCC currently looking to implement improved mapping software for future developments								
	Bus route improvements	high	~	Potential bus stop upgraded in Cheadle Town Centre	RTPI routes 3 & 4 Newcastle Town Centre. Improved future bus services to Chatterley Valley	Improved bus priority and interchange on A518, Stafford post- SWAR	Removal of obstructions on New Street.			Improved bus infrastructure route 2 Tamworth-Perrycrofts. RTPI Tamworth Town Centre and Ventura Park. Victoria Road, Tamworth upgraded interchange.			
Alternatives to private vehicle	Bus based Park & Ride	medium	~			Х		New bus central station as part of Friarsgate development scheme					
use	Car Clubs	low	~	✓		х							
Policy Guidance and Development Control	Planning applications to require assessment of exposure / emissions for development requiring air quality impact assessment	high	~	~		http://www.staffordbcgov.uk/ planning/planning-policy/local- plan-2012-2031	http://www.eaststaffsbc.gov.uk/planning /planning-policy/local-plan-2012-2031	https://www.lichfielddc.gov.uk/Counci I/Planning/The-local-plan-and- planning-policy/Planning-policy.aspx		Local & National Validation requirements 2017: http://www.tanwoorth .gov.uk/sites/default/f iles/planning_docs/N ational-and-Local- Validation- requirements- 2017.pdf			
	Air Quality Strategy			In development		2019-2021 Air Quality Strategy							

Measures category		Effect on reducing NOx and PM10	Re duc es PM				Local Authority			
	Measure Classification	emission s(low, medium, high)	2.5 emi ssi ons	Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
	Planning Guidance for developers		~	In development		<u>http://www.stafforddc.gov.uk/p</u> <u>lanning/planning-</u> policy/supplementary- planning-policy-documents_✓	Informal guidance inplace		<u>Sustainable</u> Development	https://www.tamworth. gov.uk/sites/default/fil es/planning_docs/Ta mworth_Design_SPD _July_2019_v1-0.pdf
	Developer Contributions based on damage cost calculation		~			x	Damage cost assessment now required for applicable applications.			
	Planning Policies		~	• Policy T1: Development and Sustainable Transport• Policy SD2: Renewable/Low-Carbon Energy		http://www.staffordbc gov.uk/planning/planni ng-policy/local-plan- 2012-2031	Supplimentary planning document in development	https://www.lichfielddc.gov .uk/Council/Planning/The- local-plan-and-planning- policy/Planning- policy.aspx	<u>Planning</u> policies and guidance	https://www.tamworth .gov.uk/local-plan
	STOR Sites (Short Term Operating Reserve) Energy Generation . Regulation via planning / permitting regime	high	~	~						
	Low Emissions Strategy	high	~	In development		x				

n	Measure	Effect on reducing NOx and PM10 emission	Re duc es PM 2 5	Local Authority										
		s(low, medium, high)	emi ssi ons	Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC				
	Freight Consolidation Centre	medium	~			х								
Freight and Delivery Managem ent	Route Management Plans/ Strategic routing strategy for HGV's	high	~		https://www.staffordshire.gov.uk/transport/transportplanning/localtransportplan/home.aspx									
	Quiet & out of hours delivery	low	~			~								
	Delivery and Service plans	medium	~			x								
	Freight Partnerships for city centre deliveries	high	~			x								
	Driver training and ECO driving aids	medium	~			√								
Vehicle	Promoting low emission public transport	high	~			x								
Fleet Efficiency	Vehicle retrofitting programmes	medium	~			x		Retrofitting of old Council owned HGVs and Buses with pollution abatement equipment will be considered by the Council where technically and financially feasible						
	Fleet efficiency and recognition schemes	medium	~		Staffords	shire and Stoke-on-Trent Eco-Stars htt	p://www.ecostars-uk.com/eco-stars-schemes,							

	Measure Classification	Effect on reducing	Re duc	Local Authority									
Measures category		NOx and PM10 emission s(low, medium, high)	es PM 2.5 emi ssi ons	Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC			
	Low emission zone (LEZ) Clean Air Zone (CAZ)	high	~										
Promoting low emission transport	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	high	~	In development		Waste fleet vehicles comply with Euro VI.							
	Company Vehicle Procurement - Prioritising uptake of Iow emission vehicles	high	~	In development				LDC looking to replacing old vehicles within the fleet with more modern cleaner vehicles, which comply with the prevailing EURO standard. This will be extended to all Council owned vehicles.					
	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	high	~	In development		Procurement of EV on staff carparks							
	Priority parking for LEV's	high	~			✓		Electric Vehicle charging spaces					
	Taxi Licensing conditions	medium	~			V							
	Taxi emission incentives	medium	~			$\checkmark$							
	Introduction/increas e of environment charges through permit systems and economic instruments (Permit fees set centrally)	medium	*			~							
Environmental permits	Measures to reduce pollution through IPPC Permits going beyond BAT	medium	~	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211863/env-permitting-general-guidance-a.pdf (Chapter 15)									
	Large Combustion Plant Permits and National Plans going beyond BAT	high	~										
	Other		~										

Measures category	ures Effect on PY reducing NOx and PM10		Reduc es	Local Authority									
	Measure Classification	emissions (low, medium, high)	PM2.5 emissi ons	Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC			
	Smoky Diesel Hotline		~			https	://www.gov.uk/report-smoky-vehicle						
	A5 and M6 Partnership		*			x		Strategy for the A5 2011- 2026	Strategy for the A5 2011-2026				
	Domestic Smoke Control advice and Enforcement		✓	<u>۷_</u>	-	https://www.staffordbc.gov.uk/ environment/smoke- control.cfm	Provided via ESBC Website & other literature	<u>https://www.lichfielddc.gov.</u> <u>uk/home-garden/bonfires-</u> <u>barbecues-smoke/1</u>	https://www.sstaffs.go v.uk/environment/smo ke-control-areas.cfm				
	Garden Bonfires - Advice and nuisance enforcement		~	Z	-	http://www.staffordbc.gov.uk/e nvironmental- health/pollution/bonfires	Provided via ESBC Website & other literature	https://www.lichfielddc.gov. uk/home-garden/bonfires- barbecues-smoke/1	https://www.sstaffs.go v.uk/crime- nuisances/bonfires- and-smoke.cfm	http://www.ta mworth.gov.u k/air-quality			
Other measures	Commercial burning advice and enforcement		*	~	-	http://www.staffordbc.gov.uk/e nvironmental- health/pollution/bonfires	Provided via ESBC Website & other literature	https://www.lichfielddc.gov. uk/home-garden/bonfires- barbecues-smoke/1		http://www.ta mworth.gov.u k/air-quality			
	Multi agency working with Fire Service and Environment Agency for trade burning		~	× -	-	4		Information shared as appropriate		Information shared as appropriate			
	Multi agency working with Staffordshire Fire Service and Local Authority Building Controlregarding chimney fires and complaints about DIY domestic heating systems		~	-	-	*		Information shared as appropriate					
	Stoke-on-Trent Low Carbon District Heat Network		✓	-	-	~							

### 2.3.4 PM<sub>2.5</sub> in Staffordshire & Stoke-on-Trent - Next steps

As PM<sub>2.5</sub> is an issue requiring collaboration between the district, county and city authorities within Staffordshire, the following actions are proposed in addition to those outlined in the action plan. Progress on these and the action plan will be detailed in the 2020 ASR.

✓To agree a target for reducing Fraction of All Cause Mortality from PM<sub>2.5</sub> in each district, city and county authority by 2020

 $\checkmark$  To agree a target for reducing PM<sub>2.5</sub> exposure (calculated from PM<sub>10</sub> exposure / background maps / local monitoring where available)

✓To maintain compliance with the 2020 EU limit value of 25µg/m3

✓ To include Public Health Outcome Framework Indicator 3.01 in the Staffordshire and District Authority and City Council Joint Strategic Needs Assessment for 2019/2020 onwards and to report progress to the relevant Health and Wellbeing Boards.

✓ To continue to identify risks affecting  $PM_{2.5}$  which need to be addressed at a national level e.g. ✓A number of authorities within Staffordshire are receiving applications for STOR (Short Term Operating Reserve) sites to supplement power to the National Electricity Grid at times of peak demand. These sites typically operate during the autumn / winter months and can be high emitters of PM.

### Air Quality Monitoring Data and Comparison 3 with Air Quality Objectives and National Compliance

#### Summary of Monitoring Undertaken 3.1

## **3.1.1 Automatic Monitoring Sites**

South Staffordshire Council did not undertake automatic (continuous) monitoring during 2019. This followed involvement of an air quality consultant used on a large planning application within our area on air quality who advised on the unreliability of the monitor that was old and no longer giving data that could was useable or reliable. The site was therefore decommissioned and is no longer in use.

## 3.1.2 Non-Automatic Monitoring Sites

South Staffordshire Council undertook non- automatic (passive) monitoring of NO2 at 11 sites during 2019. Table A. in Appendix A shows the details of the sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. "annualisation" and/or distance correction), are included in Appendix C.

## 3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias<sup>4</sup>, "annualisation" (where the data capture falls below 75%), and distance correction<sup>5</sup>. Further details on adjustments are provided in Appendix C.

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

Table A.1 in Appendix A compares the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past 5 years with the air quality objective of  $40\mu g/m^3$ . Note that the concentration data presented in Table A.1 represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

 <sup>&</sup>lt;sup>4</sup> <u>https://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html</u>
 <sup>5</sup> Fall-off with distance correction criteria is provided in paragraph 7.77, LAQM.TG(16)

For diffusion tubes, the full 2019 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

There has been no exceedance of objective level at any of the sites over the district including the one in place within the air quality management area at Oak Farm.

Additional tubes were put in place ovder the district in 2019 due to concerns by residents and local concillors. The tubes have demonstrated levels of nitrogen dioxide well within limits posing no concerns which is as suspected.

Extra tubes were put up in Featherstone just to confirm that all the increased traffic at the crossroads there was not causing a problem. The tubes demonstrate levels within objective level.

5 year trend graphs for HA2 - Oak Farm and PE2 in Penkridge demonstrate a very slight upward trend although levels are comfortably below objective level. Obviously this will be monitored closely within the coming years. The other tube SA2 – Wedges Mills (previously an AQMA) shows a stable level with no upward trend over the previous 5 years, well below objective which is why the AQMA was revoked. A tube was left in place following concerns from residents.

The remianing new tubes have been graphed to show that all levels at all locations are well within objective level, these will be left in place to observe any trends.

## **Appendix A: Monitoring Results**

## Table A.1 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?	Height (m)
HA2	HA2	Roadside	394776	309756	NOx	Y	Adjacent	1	Ν	3
PE2	PE2	Roadside	393177	313866	NOx	Ν	10	11	Ν	3
SA2	SA2	Roadside	396716	308742	NOx	Ν	Adjacent	2	Ν	3
FA1	FA1	Roadside	391200	307806	NOx	Ν	Adjacent	1	Ν	3
COD1	COD1	Roadside	387026	303194	NOx	Ν	Adjacent	3	N	3
SCH1	SCH1	Roadside	397228	307107	NOx	Ν	Adjacent	10	Ν	3
CH1	CH1	Roadside	397329	307058	NOx	Ν	Adjacent	1	Ν	3
CH2	CH2	Roadside	397974	307161	NOx	Ν	Adjacent	1	N	3
FE1	FE1	Roadside	394374	305417	NOx	N	Adjacent	2	N	3
FE2	FE2	Roadside	394429	305465	NOx	N	10	2	N	3
FE3	FE3	Roadside	394450	305440	NOx	N	Adjacent	2	N	3

### Notes:

(1) Om if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

## Table A.1 – Annual Mean NO2 Monitoring Results

	X OS Grid	Y OS Grid		Monitoring	Valid Data Capture	Valid Data	NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> ) <sup>(3) (4)</sup>						
Site ID	RefRefSite TypeMonitoringTor(Easting)(Northing)Site TypeTypeMonitoring(I)(Northing)(Northing)(Northing)Period (%)		Monitoring Period (%)	Capture 2019 (%) (2)	2015	2016	2017	2018	2019				
HA2	374776	309756	Roadside	Diffusion Tube	100%	100%	30.9	37.9	33.3	33.2	34.2		
PE2	393177	313866	Roadside	Diffusion Tube	100%	100%	27.0	31.1	25.4	28.7	30.0		
SA2	396716	308742	Roadside	Diffusion Tube	100%	100%	30.9	32.6	29.1	29.4	30.3		
FA1	391200	307806	Roadside	Diffusion Tube	100%	100%	N/A	N/A	N/A	N/A	25.3		
COD1	387026	303194	Roadside	Diffusion Tube	100%	100%	N/A	N/A	N/A	N/A	17.6		
SCH1	397228	307107	Roadside	Diffusion Tube	100%	83%	N/A	N/A	N/A	N/A	17.5		
CH1	397329	307058	Roadside	Diffusion Tube	100%	83%	N/A	N/A	N/A	N/A	26.8		
CH2	397974	307161	Roadside	Diffusion Tube	100%	83%	N/A	N/A	N/A	N/A	21.8		
FE1	394374	305417	Roadside	Diffusion Tube	100%	100%	N/A	N/A	N/A	N/A	27.1		
FE2	394429	305465	Roadside	Diffusion Tube	100%	100%	N/A	N/A	N/A	N/A	36.1		
FE3	394450	305440	Roadside	Diffusion Tube	100%	100%	N/A	N/A	N/A	N/A	22.8		

☑ Diffusion tube data has been bias corrected

☑ Annualisation has been conducted where data capture is <75%

Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance adjustment

### Notes:

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(4) Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

## Annual Mean Notrogen Dioxide Levels - 5 Year Trend Analysis AQMA 5 Oak Farm Year

### Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations





## **Appendix B: Full Monthly Diffusion Tube Results for 2019**

				NO <sub>2</sub> Mean Concentrations (μg/m³)													
									Annual Mean								
Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.93) and Annualised (1)	Distance Corrected to Nearest Exposure (2)
HA2	374776	309756	47.7	43.5	34.2	33.7	33.1	32.4	35.1	32.0	35.1	33.0	47.3	33.6	36.7	34.2	-
PE2	393177	313866	35.2	33.3	19.9	36.1	27.0	25.7	24.6	22.1	29.4	28.7	43.2	28.1	29.4	27.4	-
SA2	396716	308742	-	45.5	28.8	26.8	26.1	27.5	28.3	29.3	32.7	36.3	40.4	36.6	32.6	30.3	-
FA1	391200	307806	41.6	36.6	24.1	19.4	21.4	22.7	24.3	23.1	27.1	31.7	27.4	27.3	27.2	25.3	-
COD1	387026	303194	27.0	24.3	16.3	20.0	15.2	15.1	14.7	12.7	16.9	18.3	28.2	17.9	18.9	17.6	-
SCH1	397228	307107	34.3	-	-	15.0	13.9	14.3	13.9	13.3	18.4	20.3	23.9	21.9	18.9	17.5	-
CH1	397329	307058	26.4	31.9	16.7	29.9	27.6	28.5	31.5	-	31.7	32.2	32.3	-	28.9	26.8	-
CH2	397974	307161	38.8	44.3	-	24.1	16.3	15.0	15.7	14.4	19.6	24.2	31.9	13.6	23.4	21.8	-
FE1	394374	305417	37.7	39.4	202	32.9	21.9	23.2	24.3	21.9	25.0	31.8	42.2	28.8	29.1	27.1	-
FE2	394429	305465	45.9	47.5	37.0	33.8	32.4	33.4	38.2	36.2	38.0	40.0	47.8	36.0	38.9	36.1	-
FE3	394450	305440	31.9	34.9	26.5	20.0	17.8	19.6	22.2	21.7	24.4	25.8	-	-	24.5	22.8	-

### Table B.1 - NO<sub>2</sub> Monthly Diffusion Tube Results - 2019

□ Local bias adjustment factor used

☑ National bias adjustment factor used

□ Annualisation has been conducted where data capture is <75%

□ Where applicable, data has been distance corrected for relevant exposure in the final column

### Notes:

Exceedances of the NO<sub>2</sub> annual mean objective of  $40\mu g/m^3$  are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in bold and underlined.

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest relevant public exposure.

## Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

### QA/QC of diffusion tube monitoring

Quality Assurance and Control is undertaken within the AIR NO<sub>2</sub> Proficiency Testing Scheme. This was started in April 2014 and combines the LGC Standards STACKS and the HSL WASP schemes.

Staffordshire County Council Scientific Service has demonstrated results which were considered to be GOOD for precision. Between 75-100% SATISFACTORY for data provided.

The national bias adjustment factor was used on the tubes data as we no longer have triplicate tubes to use and contribute to the local adjustment. Those authorities using the same laboratory and technique to analyse the tubes we feel that this is the most appropriate choice. In June 2020 the adjustment factor was 0.93.

No annualization was carried out on the data as there was enough results throughout the year.

In terms of tube FE2, this is not at a representative location and is road side. This is because it was installed purely to take a look at the sort of levels we were getting road side and not because there are any properties in that area that close to the road. All other tubes are representative except for PE2. Again, this has not been distance corrected as it is the remaining tube that was located next to what was the automatic monitoring site and therefore left in just for interest of the levels there.

Although the Wedges Mills AQMA was revoked a tube remains in place so that levels can still be monitored following concern of residents. However, it can be seen that the levels are still within objective level.

## Appendix D: Map(s) of Monitoring Locations and AQMA

















### AQMA No.5 – Oak Farm, Hatherton

This area is located along the A5 between junction 12 of the M6 and Cannock.

© Crown copyright. All rights reserved 100019681. 2009 Figure 1.1d : AQMA No.5 – Oak Farm

# Appendix E: Summary of Air Quality Objectives in England

## Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective <sup>6</sup>							
Fonutant	Concentration	Measured as						
Nitrogen Dioxide	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean						
$(NO_2)$	40 μg/m <sup>3</sup>	Annual mean						
Particulate Matter	50 μg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean						
( <b>F</b> IVI10)	40 μg/m <sup>3</sup>	Annual mean						
	350 μg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean						
Sulphur Dioxide (SO <sub>2</sub> )	125 μg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean						
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean						

 $<sup>^{6}</sup>$  The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

## **Glossary of Terms**

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO <sub>2</sub>	Nitrogen Dioxide
NOx	Nitrogen Oxides
PM10	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5 $\mu$ m or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide