

### **AIR QUALITY STATEMENT**

on behalf of

PEEL HOLDINGS (LAND AND PROPERTY) LTD

for

## **ELTON RESERVOIR AREA (BURY)**

**REPORT DATE: MARCH 2019** 

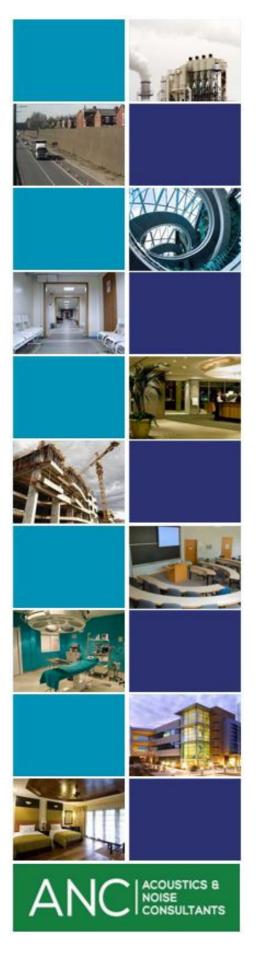
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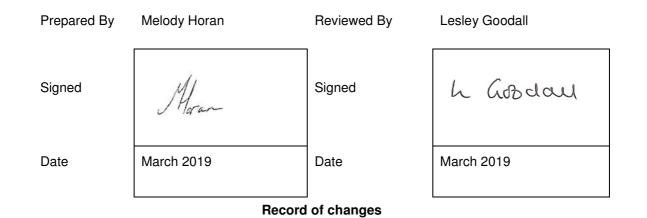
## Summary

Miller Goodall Ltd (MG) has, on behalf of Peel Investments (North) Ltd, undertaken a desk top assessment of air quality around 558 acres of land to the south west of Bury which has been identified for residential use. The study has been undertaken to support the promotion of the land through the Greater Manchester Spatial Framework process.

The study reviews the presence of air quality management areas and existing air quality monitoring in relation to the land. The Local Authority has identified areas close to the land where the air quality objective for annual levels of nitrogen dioxide are currently breached and has declared Air Quality Management Areas (AQMAs). It has also identified mitigation measures to address this issue within an Air Quality Action Plan.

The study concludes that air quality should not be a barrier to residential development on the land except for the areas in close proximity to the AQMAs themselves.

In relation to the impact of the development on air quality, information is limited and significance will need to be assessed via detailed modelling at a later date and mitigation measures considered. However, the size of this site does indicate that air quality impacts are likely to occur and mitigation will be required.



Version	Date	Change	Initials
1	18th April 2017	First draft	AV
2	March 2019	Changes to site outline, updated NNPF and LA monitoring	MH

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## **1** Introduction

- 1.1 This air quality report is submitted in support of a proposed housing allocation within the Greater Manchester Spatial Framework for a site located to the south west of Bury town centre known as Elton Reservoir Area (Bury). The site lies within the administrative boundary of Bury Metropolitan Borough Council (BMBC).
- 1.2 The report provides a review of the existing air quality in proximity to the proposed development site and assesses the potential impact of the proposed development on local air quality.
- 1.3 Air pollution in urban areas is generally dominated by emissions from road vehicles. The quantity and composition of vehicle emissions is dependent on the type of fuel used, engine type, size and efficiency, vehicle speeds and the type of exhaust emissions abatement equipment employed.
- 1.4 The main pollutants of health concern from road traffic exhaust releases are nitrogen dioxide (NO<sub>2</sub>) and fine particulates normally assessed as the fraction of airborne particles of mean aerodynamic diameter less than ten micrometres (PM<sub>10</sub>), since these pollutants are most likely to approach their respective air quality objectives in proximity to major roads and in congested areas. This assessment has therefore focused on the impact of the proposed development on concentrations of NO<sub>2</sub> and PM<sub>10</sub>.

## 2 Site Description

- 2.1 The site is 226 ha in size and is located approximately 1.6 km to the south west of Bury town centre. It is primarily agricultural land with two reservoirs, Elton Reservoir and Withins Reservoir. The site location is shown in **Appendix A.**
- 2.2 The site is bounded by Radcliffe to the south and Bury to the north east. The A58 runs through the northern section of the site. Existing dwellings and Ainsworth Rd lie to the west of the site and Bury Road and the Manchester, Bolton and Bury Canal run along the eastern side of the site as does the Metrolink line.

## **3** Proposed Development

3.1 The proposed allocation for the site is residential in nature, comprising circa 3,500 houses.

## 4 Policy Context

### 4.1 The Air Quality Strategy

4.1.1 European Union (EU) legislation forms the basis for current UK air quality policy. The EU Air Quality Framework Directive 96/62/EC on Ambient Air Quality Assessment and Management came into force in September 1996<sup>1</sup>. This is a framework for tackling air quality through European-wide air quality limit values in a series of daughter directives, prescribing how air quality should be assessed and managed by the Member States. Directive

<sup>&</sup>lt;sup>1</sup> European Parliament (1996) Council Directive 96/62/EC on Ambient Air Quality Assessment and Management.

96/62/EC and the first three daughter objectives were combined to form the new EU Directive 2008/50/EC<sup>2</sup> on Ambient Air Quality and Cleaner Air for Europe, which came into force June 2008.

- 4.1.2 The Environment Act 1995 required the preparation of a national Air Quality Strategy (AQS) which set air quality standards and objectives for specified pollutants. The Act also outlined measures to be taken by local planning authorities (LPAs) in relation to meeting these standards and objectives (the Local Air Quality Management (LAQM) system).
- 4.1.3 The UK AQS was originally adopted in 1997 and has been reviewed and updated since then to take account of changing EU Legislation, technical and policy developments and the latest information on health effects of air pollution. The strategy was revised and reissued in 2000 as the AQS for England, Scotland, Wales and Northern Ireland. This was subsequently amended in 2003 and was last updated in July 2007<sup>3</sup>.
- 4.1.4 The standards and objectives relevant to the LAQM framework have been prescribed through the Air Quality (England) Regulations (2000) and the Air Quality (England) (Amendment) Regulations 2002; the Air Quality Standards Regulations 2010 set out the combined Daughter Directive limit values and interim targets for Member State compliance.
- 4.1.5 The current air quality standards and objectives (for the purpose of LAQM) are presented in **Table 1**. Pollutant standards relate to ambient pollutant concentrations in air, set on the basis of medical and scientific evidence of how each pollutant affects human health. Pollutant objectives, however, incorporate target dates and averaging periods which take into account economic considerations, practicability and technical feasibility.

Dellutent		To be		
Pollutant	Concentration	Measured As*	Achieved by	
Nitrogen dioxide (NO2)	200 µg/m <sup>3</sup>	1-hour mean not to be exceeded more than 18 times per year	31/12/2005	
	40 μg/m <sup>3</sup>	Annual mean	31/12/2005	
Particles (PM <sub>10</sub> )	50 μg/m³	24-hour mean not to be exceeded more than 35 per year	31/12/2004	
· ·	40 μg/m <sup>3</sup>	Annual mean	31/12/2004	

# Table 1: Air Quality Strategy Objectives (England) for the Purposes of Local Air Quality Management

Note:\*how the objectives are to be measured is set out in the UK Air Quality (England) Regulations (2000).

4.1.6 Where an air quality objective is unlikely to be met by the relevant deadline, local authorities must designate those areas as Air Quality Management Areas (AQMAs) and take action to work towards meeting the objectives. Following the designation of an AQMA, local authorities are required to develop an Air Quality Action Plan (AQAP) to work towards meeting the objectives and to improve air quality locally.

<sup>&</sup>lt;sup>2</sup> European Parliament (2008) Council Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe.

<sup>&</sup>lt;sup>3</sup> Department for Environment, Food and Rural Affairs (DEFRA) (2007) 'The Air Quality Strategy for England,

Scotland, Wales and Northern Ireland'

4.1.7 Possible exceedances of air quality objectives are generally assessed in relation to those locations where members of the public are likely to be regularly present and are likely to be exposed for a period of time appropriate to the averaging period of the objective.

### 4.2 National Planning Policy Framework

4.2.1 The NPPF advises that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). One of these is an environmental objective (Para 8 c) which is described as follows;

"to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

#### 4.2.2 At para 170 we are advised that

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

4.2.3 In direct reference to air quality Para 181 states;

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

### 4.3 Greater Manchester Spatial Framework

- 4.3.1 In August 2014 the 10 Local Planning Authorities in Greater Manchester (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan) agreed to prepare a joint Development Plan Document to set out the approach to housing and employment land across Greater Manchester for the next 20 years. This is known as the Greater Manchester Spatial Development Framework (GMSF).
- 4.3.2 An update, the 2019 draft GMSF, was published for consultation in January 2019. The Elton Reservoir Area (Bury) is identified within the draft GMSF which states that the development of this site will need to:
  - Deliver a broad mix of around 3,500 houses to diversify the type of accommodation in the Bury and Radcliffe areas, including higher densities of development in areas with good accessibility and with potential for improved public transport connectivity, particularly in the southern areas of the site;
  - Make provision for affordable housing in accordance with local planning policy requirements;
  - Make provision for recreation to meet the needs of the prospective residents in accordance with local planning policy requirements;
  - Make provision for significant new and improved highways infrastructure to enable the proposed level of development to be accommodated, including:
    - A north-south spine road connecting Bury and Bolton Road (A58) to Bury Road, Radcliffe; 225 GMCONSULT.ORG Spatial Framework – Revised Draft 2019
    - A connection from the spine road to Spring Lane, Radcliffe via the former Coney Green High School site; and
    - o Other off-site highway works where these are necessary to ensure acceptable traffic movement;
  - Make provision for major investment in public transport, including a requirement to provide a new Metrolink stop and park and ride facilities in the Warth area in order to enable more sustainable transport choices;
  - Make provision for two new two form entry primary schools to meet the needs of the prospective schoolaged residents;
  - Make provision for a new secondary school to meet the needs of the prospective school-aged residents;
  - Make provision for new local centres including a range of appropriate retail and community facilities;
  - Ensure the design and layout allows for effective integration with surrounding communities including the incorporation of linkages and connections that allow for sustainable modes of travel such as new walking and cycling routes, including links and connections to Inner Radcliffe and Radcliffe town centre;
  - Make provision for a large amount of new, upgraded and publicly accessible green infrastructure throughout the area, including the enhancement of the existing assets at Elton and Withins Reservoirs and the Manchester, Bolton and Bury Canal;
  - Minimise impacts on and provide net gains for biodiversity assets within the site;
  - Develop a satisfactory management plan for areas of green infrastructure, biodiversity features and other areas of open space;
  - Upgrade the recreation, leisure and tourism offer of the wider area;
  - Enable more trips to be made by walking and cycling by retaining, extending and enhancing strategic recreation routes on the former Bury to Bolton railway line and beside the Manchester, Bolton and Bury Canal, together with improvements to the network of pedestrian and cycle routes and public rights of way across the site, facilitating new connections to surrounding urban areas;

- Ensure that any development is safe from potential flood risk from any source and incorporate measures to mimic natural drainage through the use of green sustainable urban drainage to control the rate of surface water run-off; and
- Ensure that heritage assets and features of archaeological value are fully considered
- The delivery of the allocation and its associated infrastructure will be expected to be supported by a comprehensive masterplan to be agreed with the local planning authority.

### 4.4 Local Planning Policy

4.4.1 The Bury Unitary Development Plan (UDP) was adopted in 1997. The Council is now working to replace the adopted UDP with a new document called the Bury Local Plan. Until the new Local Plan is produced the UDP will continue be used to make planning decisions. Policy EN7/1-Atmospheric Pollution states:

"In seeking to limit atmospheric pollution the Council will not permit development which:

- would result in unacceptable levels of atmospheric pollution; and/or
- is not compatible with the achievement of the Council's long term air quality standards".

### 5 Review of Baseline Conditions in Relation to the Site

#### 5.1 Data Sources

5.1.1 The air quality assessment of the proposed development was undertaken with reference to information from a number of sources, as detailed in **Table 2**.

Data Source	Reference
Greater Manchester Combined Authority (GMCA)	GMCA (2015) Air Quality Annual Status Report
Department for Environment Food and Rural Affairs (Defra)	Defra (2016) Local Air Quality Management Technical Guidance TG(16)
Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM)	EPUK and IAQM (January 2017) Land Use Planning and Development Control: Planning for Air Quality (v1.2)
Defra's LAQM Support Tools	Local Air Quality Management 1 km x 1 km grid background pollutant maps
Institute of Air Quality Management (IAQM)	IAQM (2014) Assessment of Dust from Demolition and Construction

#### **Table 2: Key Information Sources**

### 5.2 Local Air Quality Management

- 5.2.1 There are several locations along major roads within the Bury area where air quality does not meet the national objectives that aim to protect people's health and the environment. The first Air Quality Management Area (AQMA) was declared in 1999, following further work it was re-defined in 2005 for exceedances of the annual mean nitrogen dioxide. The GMCA consolidated all AQMAs within the region into one AQMA in 2016. The AQMA in Bury encompasses most of the major roads in the borough and some larger areas in the vicinity of the M62, M66 and A58. The AQMA in relation to the development site is shown in **Appendix C.**
- 5.2.2 The 2015 GMCA Annual Status Report (ASR) concluded that the annual mean nitrogen dioxide concentrations in the AQMA remain above the air quality objective and therefore the AQMA should remain.

### 5.3 Air Quality Monitoring

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

5.3.1 BMBC undertake monitoring of NO<sub>2</sub> across its authority. There are four diffusion tubes and two automatic monitoring stations within approximately 3km of the site boundary. The neighbouring authority of Bolton Metropolitan Borough Council (BMBC) also has one diffusion tube located within 3km of the site boundary. The results and locations of all monitoring locations are shown in **Table 3** and **Appendix C**.

Site ID and Type	Location		Annual Mean NO <sub>2</sub> Concentrations (µg/m <sup>3</sup> )				
She ib and Type			2013	2014	2015	2016	2017
Bury Radcliffe (Automatic)	378190	407480	26	29	27	28	27
Bury Whitefield (Automatic)	380637	406972	-	-	25	30	28
BU5 (Diffusion Tube)	380236	406427	32.1	35.4	36.04	35.5	28.3
BU6 (Diffusion Tube)	379659	410881	37.5	39.1	43.63	40.8	36.5
BU7 (Diffusion Tube)	381887	411223	25.8	26.7	29.36	28.5	24.3
BU8 (Diffusion Tube)	380756	412693	30.9	30.7	33.68	32.0	28.7
Bolton 48 (Diffusion Tube)	375397	407455	29.8	28.9	25.4	28.7	36.6
Annual Mean NO2 air quality objective					40 µg/m³		

#### Table 3: Annual Mean NO<sub>2</sub> Concentrations from Monitoring Sites Within The Study Area.

5.3.2 The monitoring results in **Table 3** indicate that concentrations increased at the majority of the sites between 2013 and 2014 and then fell again, to below 2013 concentrations in 2015. Annual mean NO<sub>2</sub> concentrations have been below the annual mean objective at all monitoring locations since 2013, except at BU6 in 2016. The results also indicate that the short-term objective for NO<sub>2</sub> is unlikely to be exceeded at the monitoring site as annual mean concentrations are less than 60 µgm<sup>3 4</sup>.

<sup>&</sup>lt;sup>4</sup> Defra Local Air Quality Management (LAQM) Technical Guidance (TG16) April 2016

#### Particulate Matter (PM<sub>10</sub>)

5.3.3 BC undertakes monitoring of PM<sub>10</sub> using two automatic monitoring stations as shown in **Appendix C.** The results are shown below in **Table 4.** 

 Table 4: Annual Mean PM<sub>10</sub> Monitoring Data from the nearest Automatic Monitoring Site to the

 Study Area

Site ID and Type	Location		Annual Mean PM <sub>10</sub> Concentrations (μg/m <sup>3</sup> )				
	LOCA		2013	2014	2015	2016	2017
Bury Radcliffe (Automatic)	378190	407480	23	22	18	18	16
Bury Whitefield (Automatic)	380637	406972	-	-	17	15	15
Annual Mean PM <sub>10</sub> air quality objective					40 µg/m³		

5.3.4 The results show that levels of PM<sub>10</sub> at both stations have been well below the annual average objective in all monitored years.

### 5.4 Background Concentrations

5.4.1 There are no background monitoring locations in the vicinity of the proposed development site or at receptor locations included in the air quality assessment. Background concentrations of NO<sub>2</sub> and PM<sub>10</sub> in 2017 were therefore obtained from the background concentration maps provided by Defra for the grid squares covering the proposed development and receptor locations<sup>5</sup>. These are shown in **Table 5** below.

#### Table 5: Background Pollutant Concentrations Obtained for the 1km x 1km Grid Squares Covering the Site for 2019\*

Grid	NO <sub>2</sub>	<b>PM</b> <sub>10</sub>		
Square	(µg/m³)	(µg/m³)		
377500,410500	13.3	11.0		
378500,410500	14.6	11.5		
379500,410500	19.4	12.9		
377500,409500	13.8	11.4		
378500,409500	13.3	11.2		
379500,409500	13.6	11.2		
377500,408500	14.6	11.7		
378500,408500	13.4	11.1		
379500,408500	14.3	11.6		

<sup>&</sup>lt;sup>5</sup> http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2015

Grid	NO <sub>2</sub>	<b>PM</b> <sub>10</sub>	
Square	(µg/m³)	(µg/m³)	
378500,407500	16.5	12.0	

\* Background concentrations obtained from the latest 2015 based background maps

5.4.2 The background concentrations shown in **Table 5** show that the concentrations of NO<sub>2</sub> and PM<sub>10</sub> are well below the annual mean objectives at all grid squares covering the site.

## 6 Impact of the Development on Local Air Quality

- 6.1 The development is not located within an AQMA however development associated traffic will pass through the AQMA. A development of this size will introduce a significant number of traffic movements to the area. IAQM guidance states that a detailed air quality assessment is required if the development introduces either 100 AADT movements within or adjacent to an AQMA or 500 movements outside an AQMA. Due to the size of the development, a detailed air quality assessment will, therefore, be required to quantify the impact of the development on local air quality and the AQMA. It is likely that the development will have a significant impact on local air quality, therefore, mitigation will be required.
- 6.2 The draft GMSF recognises that the delivery of around 3,500 new homes is likely, if not addressed, to lead to unacceptable adverse impacts on existing infrastructure and, therefore, also on local air quality. For example, it is likely that the increase in car-borne journeys would have negative impacts on the local highways network, largely arising from the increase in traffic seeking to pass through Bury Bridge at peak times. Consequently, fundamental to the delivery of residential development in this area will be the provision of a major investment in the local road network, with the possibility of connecting Bolton Road to Bury Road. This would provide an alternative to Bury Bridge for traffic travelling south towards Manchester from the west Bury area. Notwithstanding this, any proposals for development of the site will be required to fully assess the impacts on traffic generation on existing highways and, where necessary, to incorporate the required improvements to roads and junctions. The Bury to Manchester Metrolink line runs along the eastern edge of this area and, in order to reduce reliance on the car, any development on the site will be given to provision of a new Metrolink stop and any associated park and ride facilities in line with the recommendations within the draft GMSF.
- 6.3 Improvements in traffic flow on the local network will help to reduce congestion which would lead to improvements in local air quality. Encouraging the use of public transport will also potentially lead to fewer car trips and will reduce reliance on the car, thus improving local air quality.

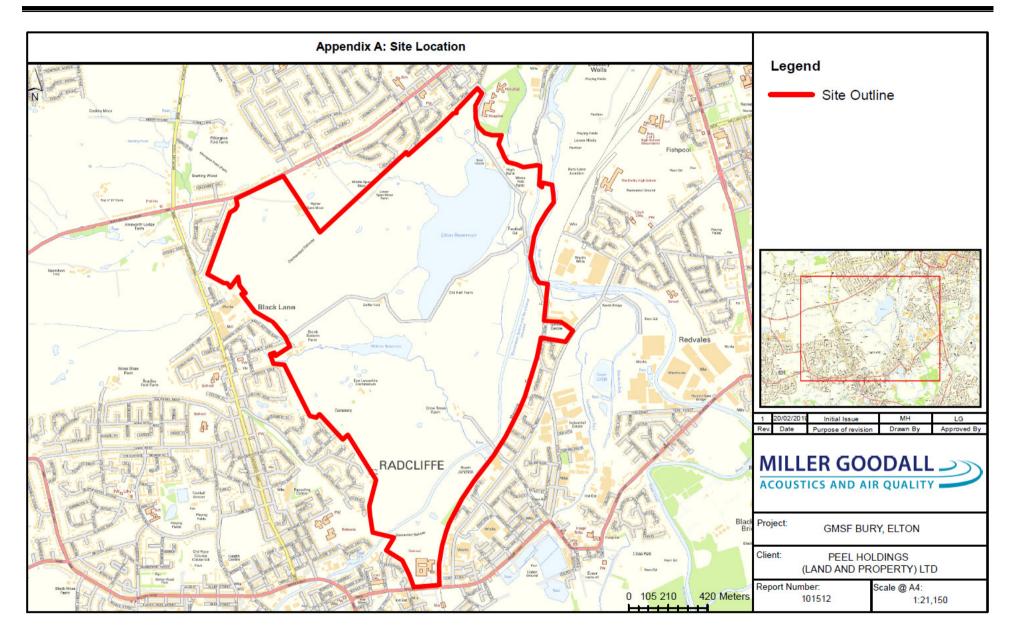
## 7 Impact of Local Air Quality on the Development

7.1 There is an AQMA adjacent to the southern site boundary, along Spring Lane. New residential properties should not be located closer to major roads than existing residential properties. The development itself, has the potential to increase pollutant concentrations on the roads surrounding the development, therefore, detailed modelling will inform the distances from roads which are suitable for residential development.

## 8 Summary and Conclusions

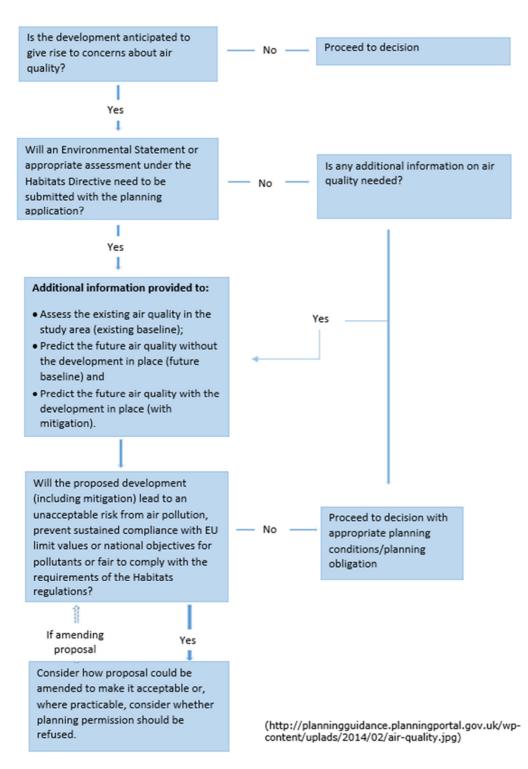
- 8.1 The information available indicates that air quality is not a barrier to residential development on most of the land under consideration. However, the nature of the proposal is such that increases in road traffic movements through the AQMA are likely. This can be fully considered at a detailed design/planning application stage and mitigation considered/provided where necessary.
- 8.2 It is recommended that;
  - No residential properties should be located further forward than current residential properties along the A58 Bolton Road and Bury Road within the scheme at this stage. This may be reviewed if detailed air quality modelling is undertaken. This would be undertaken at a more advanced stage of proposals such as to support a planning application submission (which could include via Environmental Impact Assessment) and would then inform the detailed masterplan proposals for the land areas.
  - Full assessment of the likely impact of new traffic associated with development of the land on local air quality and in particular the existing AQMAs can be undertaken at an appropriate stage eg associated with a planning application submission.
  - Careful consideration be given to transport infrastructure associated with the scheme.

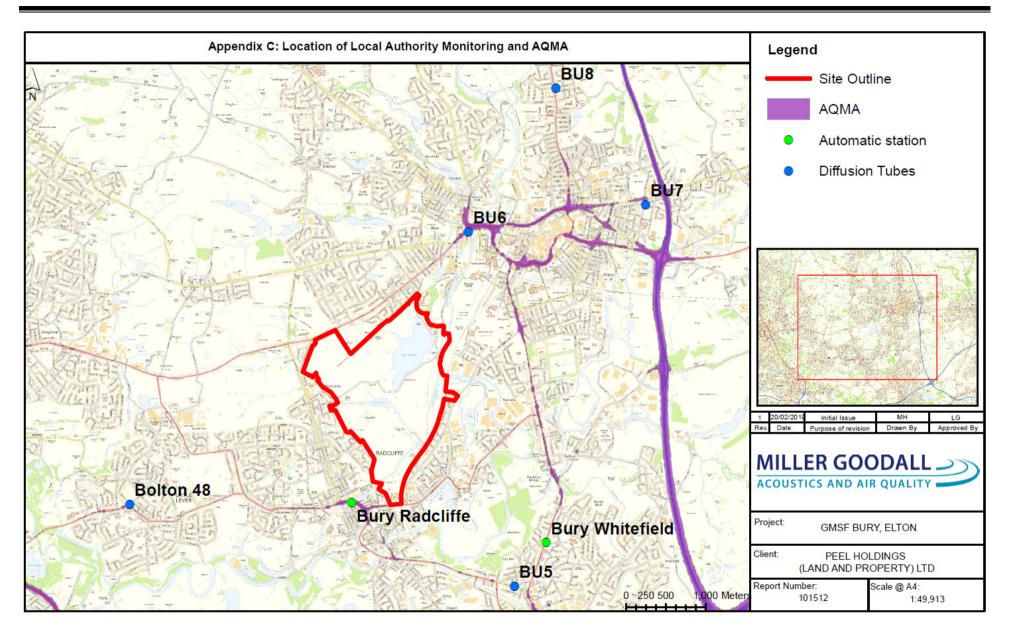
### **APPENDICES**



### **Appendix B- Planning Practice Guidance**

How considerations about air quality fit into the development management process.





### **Glossary of Terms**

**AADT** Annual Average Daily Traffic flow

**Air Quality Standard** Pollutant standards relate to ambient pollutant concentrations in air, set on the basis of medical and scientific evidence of how each pollutant affects human health and the environment

**Air Quality Objective** Pollutant Objectives incorporate future dates by which a standard is to be achieved, taking into account economic considerations, practicability and technical feasibility

**Annual Mean** A mean pollutant concentration value in air which is calculated on a yearly basis, yielding one annual mean per calendar year. In the UK air quality regulations, the annual mean for a particular substance at a particular location for a particular calendar year is:

(a) in the case of lead, the mean of the daily levels for that year;

(b) in the case of nitrogen dioxide, the mean of the hourly means for that year;

(c) in the case of  $PM_{10}$ , the mean of the 24-hour means for that year.

**Annoyance (Dust)** Loss of amenity due to dust deposition or visible dust plumes, often related to people making complaints, but not necessarily sufficient to be a legal nuisance.

AQAP Air Quality Action Plan

AQEG Air Quality Expert Group

AQMA Air Quality Management Area

AQMP Air Quality Management Plan

AQO Air Quality Objective

AQS Air Quality Strategy for England, Scotland, Wales and Northern Ireland

**Background Concentrations** The term used to describe pollutant concentrations which exist in the ambient atmosphere, excluding local pollution sources such as roads and stacks

**CO** Carbon monoxide

**Construction** Any activity involved with the provision of a new structure (or structures), its modification or refurbishment. A structure will include a residential dwelling, office building, retail outlet, road, etc.

**Construction Impact Assessment** An assessment of the impacts of demolition, earthworks, construction and trackout. In this Guidance, specifically the air quality impacts.

**Defra** Department for Environment, Food and Rural Affairs

**Demolition** Any activity involved with the removal of an existing structure (or structures). This may also be referred to as de-construction, specifically when a building is to be removed a small part at a time.

**Deposited Dust** that is no longer in the air and which has settled onto a surface. Deposited dust is also sometimes called amenity dust or nuisance dust, with the term nuisance applied in the general sense rather than the specific legal definition.

DMRB Design Manual for Roads and Bridges

**DMP** Dust Management Plan; a document that describes the site-specific methods to be used to control dust emissions.

**Dust** Solid particles that are suspended in air, or have settled out onto a surface after having been suspended in air. The terms dust and particulate matter (PM) are often used interchangeably, although in some contexts one term tends to be used in preference to the other. In this guidance the term 'dust' has been used to include the particles that give rise to soiling, and to other human health and ecological effects. Note: this is different to the definition given in BS 6069, where dust refers to particles up to 75  $\mu$ m in diameter.

Earthworks Covers the processes of soil-stripping, ground-levelling, excavation and landscaping.

**Effects** The consequences of the changes in airborne concentration and/or dust deposition for a receptor. These might manifest as annoyance due to soiling, increased morbidity or morality due to exposure to  $PM_{10}$  or  $PM_{2.5}$  or plant dieback due to reduced photosynthesis. The term 'significant effect' has a specific meaning in EIA regulations. The opposite is an insignificant effect. In the context of construction impacts any effect will usually be adverse, however, professional judgement is required to determine whether this adverse effect is significant based in the evidence presented.

**EPAQS** Expert Panel on Air Quality Standards

**EPUK** Environmental Protection UK

HGV Heavy Goods Vehicle

**Impacts** The changes in airborne concentrations and/or dust deposition. A scheme can have an 'impact' on airborne dust without having any 'effects', for instance if there are no receptors to experience the impact.

**LAQM** Local Air Quality Management

LDF Local Development Framework

LGV Light Goods Vehicle

**Mg**/m<sup>3</sup> Microgrammes (of pollutant) per cubic metre of air. A measure of concentration in terms of mass per unit volume. A concentration of 1  $\mu$ g/m<sup>3</sup> means that one cubic metre of air contains one microgramme (millionth of a gramme) of pollutant

NO<sub>2</sub> Nitrogen Dioxide

**NOx** A collective term used to represent the mixture of nitrogen oxides in the atmosphere, as nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>)

**NPPF** National Planning Policy Framework

**Nuisance** The term nuisance dust is often used in a general sense when describing amenity dust. However, this term also has specific meanings in environmental law:

Statutory nuisance, as defined in S79(1) of the Environmental Protection Act 1990 (as amended from time to time).

Private nuisance, arising from substantial interference with a person's enjoyment and us of his land.

Public nuisance, arising from and act or omission that obstructs, damages or inconveniences the right of the community.

Each of these applying in so far as the nuisance relates to the unacceptable effects of emissions. It is recognised that a significant loss of amenity may occur at lower levels of emission than would constitute a statutory nuisance.

Note: as nuisance has a specific meaning in environmental law, and to avoid confusion, it is recommended that the term is not used in a more general sense.

 $PM_{2.5}$  The fraction of particles with a mean aerodynamic diameter equal to, or less than, 2.5 µm. More strictly, particulate matter which passes through a size selective inlet as defined in the reference method for the sampling and measurement of PM<sub>2.5</sub>, EN 14907, with a 50% efficiency cut-off at 2.5 µm aerodynamic diameter

 $PM_{10}$  The fraction of particles with a mean aerodynamic diameter equal to, or less than, 10 µm. More strictly, particulate matter which passes through a size selective inlet as defined in the reference method for the sampling and measurement of PM<sub>10</sub>, EN 12341, with a 50% efficiency cut-off at 10 µm aerodynamic diameter

#### **RSS** Regional Spatial Strategy

**Running Annual Mean** A mean pollutant concentration value in air which is calculated on an hourly basis, yielding one running annual mean per hour. The running annual mean for a particular substance at a particular location for a particular hour is the mean of the hourly levels for that substance at that location for that hour and the preceding 8759 hours

**Trackout** The transport of dust and dirt from the construction/demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy duty vehicles (HDVs) leave the construction/demolition site with dusty materials, which may then spill onto the road, and/or when HDVs transfer dust and dirt onto the road having travelled over muddy ground on site.

