

Air Quality Assessment

Barlow Moor Road, Manchester

Client: Barlow Moor Property Ltd

Reference: 5002r1

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Report Issue

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Executive Summary

Redmore Environmental Ltd was commissioned by Barlow Moor Property Ltd to undertake an Air Quality Assessment in support of a planning application for a mixed-use development at 296-298 Barlow Moor Road, Manchester.

The proposals comprise the conversion of an existing building to provide retail use on the ground floor, offices on the first and second floor and residential units on the third floor.

The proposals have the potential to cause air quality impacts as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site during operation, as well as expose future residents to any existing air quality issues. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and consider potential effects as a result of the scheme.

Potential impacts during the operational phase of the development may occur due to road traffic exhaust emissions associated with vehicles travelling to and from the site. An assessment was therefore undertaken using standard screening criteria to determine the potential for trips generated by the development to affect local air quality. Due to the size and nature of the scheme, air quality impacts were not predicted to be significant. As such, mitigation to control impacts is not considered necessary.

The potential for the exposure of future residents to poor air quality was assessed based on the results of a desk-top study. This indicated that concentrations are likely to be below the relevant criteria at the development location. As such, the site is considered suitable for the proposed use from an air quality perspective.

Based on the assessment results, air quality issues are not considered a constraint to planning consent for the proposal.

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Appendix 1 - Curricula Vitae

1.0 INTRODUCTION

1.1 Background

1.1.1 Redmore Environmental Ltd was commissioned by Barlow Moor Property Ltd to undertake an Air Quality Assessment in support of a planning application for a mixed-use development at 296-298 Barlow Moor Road, Manchester.

1.1.2 The proposals have the potential to cause air quality impacts as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site during operation, as well as expose future residents to any existing air quality issues. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and consider potential effects as a result of the scheme.

1.2 Site Location and Context

1.2.1 The site is located at 296-298 Barlow Moor Road, Manchester, at approximate National Grid Reference (NGR): 382176, 392884. Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The proposals comprise the conversion of an existing building to provide retail use on the ground floor, offices on the first and second floor and residential units on the third floor. It should be noted there are no parking spaces associated with the development.

1.2.3 Manchester City Council (MCC) has declared an Air Quality Management Area (AQMA) due to exceedences of the annual mean Air Quality Objective (AQO) for nitrogen dioxide (NO₂). The development is located within the AQMA. Subsequently, there is the potential that the proposals may introduce future residents to exceedences of the relevant AQO. As such, concentrations at the site have been assessed in the following report in order to consider location suitability for the proposed end-use and define any requirement for mitigation. Potential impacts associated with the operation of the scheme have also been considered as necessary.

2.0 LEGISLATION AND POLICY

2.1 UK Legislation

2.1.1 The Air Quality Standards Regulations (2010) came into force on 11th June 2010 and include Air Quality Limit Values (AQLVs) for the following pollutants.

- NO₂;
- Sulphur dioxide;
- Lead;
- Particulate matter with an aerodynamic diameter of less than 10µm (PM₁₀);
- Particulate matter with an aerodynamic diameter of less than 2.5µm;
- Benzene; and,
- Carbon monoxide.

2.1.2 Target Values have also been provided for several additional pollutants.

2.1.3 Part IV of the Environment Act (1995) requires UK government to produce a national Air Quality Strategy (AQS) which contains standards, objectives and measures for improving ambient air quality. The most recent AQS was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published in July 2007¹. The AQS sets out Air Quality Objectives (AQOs) that are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedences over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

2.1.4 Table 1 presents the AQOs for pollutants considered within this assessment.

¹ The AQS for England, Scotland, Wales and Northern Ireland, DEFRA, 2007.

Table 1 Air Quality Objectives

Pollutant	Air Quality Objective	
	Concentration (µg/m ³)	Averaging Period
NO ₂	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM ₁₀	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum

2.1.5 Table 2 summarises the advice provided in DEFRA guidance² on where the AQOs for pollutants considered within this report apply.

Table 2 Examples of Where the Air Quality Objectives Apply

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
Annual mean	All locations where members of the public might be regularly exposed Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access Hotels, unless people live there as their permanent residence Gardens of residential properties Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
24-hour mean	All locations where the annual mean objective would apply, together with hotels Gardens of residential properties	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term

² Local Air Quality Management Technical Guidance (TG16), DEFRA, 2021.

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets) Those parts of car parks, bus stations and railway stations etc which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer	Kerbside sites where the public would not be expected to have regular access

2.2 **Local Air Quality Management**

2.2.1 Under Section 82 of the Environment Act (1995) (Part IV) Local Authorities (LAs) are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM). This review and assessment of air quality involves comparing present and likely future pollutant concentrations against the AQOs. If it is predicted that levels at locations of relevant exposure, as summarised in Table 2 are likely to be exceeded, the LA is required to declare an AQMA. For each AQMA the LA is required to produce an Air Quality Action Plan (AQAP), the objective of which is to reduce pollutant concentrations in pursuit of the AQOs.

2.3 **National Planning Policy**

2.3.1 The revised National Planning Policy Framework³ (NPPF) was published in July 2021 and sets out the Government's planning policies for England and how these are expected to be applied.

2.3.2 The purpose of the planning system is to contribute to the achievements of sustainable development. In order to ensure this, the NPPF recognises three overarching objectives including the following of relevance to air quality:

"c) - An environmental objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving

³ NPPF, Ministry of Housing, Communities and Local Government, 2021.

biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

2.3.3 Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. It states 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, or 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 [...]"

2.3.4 The NPPF specifically recognises air quality as part of delivering sustainable development and states that:

"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."

2.3.5 The implications of the NPPF have been considered throughout this assessment.

2.4 National Planning Practice Guidance

2.4.1 The National Planning Practice Guidance⁴ (NPPG) web-based resource was launched by the Department for Communities and Local Government on 6th March 2014 and updated on 1st November 2019 to support the NPPF and make it more accessible. The air quality pages are summarised under the following headings:

1. What air quality considerations does planning need to address?
2. What is the role of plan-making with regard to air quality?
3. Are air quality concerns relevant to neighbourhood planning?
4. What information is available about air quality?
5. When could air quality be relevant to the planning development management process?
6. What specific issues may need to be considered when assessing air quality impacts?
7. How detailed does an air quality assessment need to be?
8. How can an impact on air quality be mitigated?

2.4.2 These were reviewed and the relevant guidance considered as necessary throughout the undertaking of this assessment.

2.5 Local Planning Policy

2.5.1 The Manchester Local Development Framework consists of a series of planning documents of which the Core Strategy⁵ is central. This was adopted by MCC on 11th July 2012 and provides policies which guide the determination of planning applications within the city.

2.5.2 A review of the Core Strategy indicated the following policies of relevance to the assessment:

"Policy EN 16

Air Quality

⁴ <http://planningguidance.planningportal.gov.uk>.

⁵ Core Strategy, MCC, 2012.

The Council will seek to improve the air quality within Manchester, and particularly within Air Quality Management Areas, located along Manchester's principal traffic routes and at Manchester Airport. Developers will be expected to take measures to minimise and mitigate the local effect of emissions from traffic generated by the development, as well as emissions created by the use of the development itself, including from Combined Heat and Power and biomass plant.

When assessing the appropriateness of locations for new development the Council will consider the effects on air quality, alongside other plan objectives. This includes cumulative effects, particularly in Air Quality Management Areas."

"Policy DM 1

Development Management

All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:-

[...]

Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation. This could also include proposals which would be sensitive to existing environmental conditions, such as noise."

2.5.3 The implications of the above policies were taken into consideration throughout the undertaking of the assessment.

3.0 **METHODOLOGY**

3.1 **Introduction**

3.1.1 The proposed development has the potential to cause air quality impacts during the operational phase, as well as expose future residents to poor air quality. These issues have been assessed in accordance with the following methodology.

3.2 **Potential Development Impacts**

3.2.1 The development has the potential to increase concentrations of NO₂ and PM₁₀ as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site during the operational phase. A screening assessment was therefore undertaken using the criteria contained within the Institute of Air Quality Management (IAQM) 'Land-Use Planning & Development Control: Planning for Air Quality'⁶ guidance to determine the potential for trips generated by the development to affect local air quality.

3.2.2 The following criteria are provided to help establish when an assessment of potential impacts on the local area is likely to be considered necessary:

A. If any of the following apply:

- 10 or more residential units or a site area of more than 0.5ha; or,
- more than 1,000m² of floor space for all other uses or a site area greater than 1ha.

B. Coupled with any of the following:

- the development has more than 10 parking spaces; or,
- the development will have a centralised energy facility or other centralised combustion process.

3.2.3 Should these criteria not be met, then the IAQM guidance⁷ considers air quality impacts associated with a scheme to be **not significant** and no further assessment is required.

⁶ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

⁷ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

3.2.4 Should screening of the relevant data indicate that the above criteria are met, then potential impacts at sensitive receptor locations can be assessed by calculating the change in pollutant concentrations as a result of the proposed development. The significance of predicted impacts can then be determined in accordance with the methodology outlined in the IAQM guidance⁸.

3.3 Potential Future Exposure

3.3.1 The proposed development comprises residential land use. This is considered a location of relevant exposure for long term and short term AQOs in accordance with the advice provided within DEFRA guidance⁹, as summarised in Table 2. Existing air quality conditions at the site were therefore assessed through consideration of the following factors:

- AQMA designations;
- Local monitoring results; and,
- Background pollutant concentration predictions.

3.3.2 The findings were subsequently used to determine the potential for AQO exceedence at the development location. Should the assessment indicate significant uncertainty over air quality conditions at the site then further quantitative methods, such as detailed dispersion modelling, could be utilised to refine the predictions.

⁸ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

⁹ Local Air Quality Management Technical Guidance (TG16), DEFRA, 2021.

4.0 BASELINE

4.1 Introduction

- 4.1.1 Existing air quality conditions in the vicinity of the development site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

4.2 Local Air Quality Management

- 4.2.1 As required by the Environment Act (1995), MCC has undertaken Review and Assessment of air quality within their area of jurisdiction. This process has indicated that annual mean NO₂ concentrations are above the AQO within the city. As such, a number of roads within Manchester have been included within the Greater Manchester Combined Authority (GMCA) AQMA. This is described as follows:

"This is the part of the Greater Manchester Combined Authority AQMA located within the Manchester City Council area."

- 4.2.2 The development is partly located within the AQMA. As such, there is the potential for the exposure of future residents to elevated pollution levels and vehicles travelling to and from the site to increase pollution levels in this sensitive area. These issues have been considered throughout the assessment.
- 4.2.3 MCC has concluded that concentrations of all other pollutants considered within the AQS are currently below the relevant AQOs. As such, no further AQMA's have been designated.

4.3 Air Quality Monitoring

- 4.3.1 Monitoring of pollutant concentrations is undertaken by MCC throughout their area of jurisdiction. Recent results recorded in the vicinity of the development are shown in Table 3. Exceedences of the relevant AQO are shown in **bold**.

Table 3 Monitoring Results

Monitoring Site		Monitored NO ₂ Concentration (µg/m ³)		
		2017	2018	2019
MA37NO	Princess Road	42.6	39.3	38.7

4.3.2 As shown in Table 3, annual mean NO₂ concentrations were above the relevant AQO at MA37NO - Princess Road in 2017. As this monitor is located at a roadside location within an AQMA, elevated concentrations are expected. It should be noted that in recent years concentrations have fallen below the AQO. Reference should be made to Figure 2 for a map of the survey position.

4.3.3 MCC do not undertake monitoring of PM₁₀ concentrations within the vicinity of the site.

4.4 Background Pollutant Concentrations

4.4.1 Predictions of background pollutant concentrations on a 1km by 1km grid basis have been produced by DEFRA for the entire of the UK to assist LAs in their Review and Assessment of air quality. The proposed development site is located in grid square NGR: 382500, 392500. Data for this location was downloaded from the DEFRA website¹⁰ for the purpose of the assessment and is summarised in Table 4.

Table 4 Background Pollutant Concentration Predictions

Pollutant	Predicted 2021 Background Pollutant Concentration (µg/m ³)
NO ₂	14.80
PM ₁₀	11.27

4.4.2 As shown in Table 4, predicted background NO₂ and PM₁₀ concentrations are below the relevant AQOs at the development site.

¹⁰ <http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>.

5.0 **ASSESSMENT**

5.1 **Introduction**

- 5.1.1 There is the potential for air quality impacts as a result of the operation of the proposed development, as well as exposure of future residents to any existing air quality issues at the site. These factors are considered in the following Sections

5.2 **Potential Development Impacts**

- 5.2.1 Any vehicle movements associated with the development will generate exhaust emissions on the local and regional road networks. However, the development comprises less than 10 residential units and 1,000m² of floor space, as well as providing less than 10 parking spaces. As such, potential air quality impacts associated with operational phase road vehicle exhaust emissions are predicted to be **not significant**, in accordance with the IAQM¹¹ screening criteria shown in Section 3.2.

5.3 **Potential Future Exposure**

- 5.3.1 The scheme comprises land use sensitive to long and short term pollutant concentrations. As such, the proposed development has the potential to introduce new receptors into an area of poor air quality. Existing conditions at the site are therefore considered in the following Sections.

AQMA Designation

- 5.3.2 The site is partly located within an AQMA which has been declared due to exceedences of the annual mean AQO for NO₂.
- 5.3.3 Although the site is located within the AQMA, it is likely that there are some locations within the designation that do not experience exceedences of the relevant AQO. This is shown in the 2019 monitoring results, as reported in the MCC Annual Status Report¹², which indicates compliance with the annual mean AQO for NO₂ at 25 out of 39 sites

¹¹ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

¹² LAQM Air Quality Annual Status Report, June 2021

within the AQMA, as well as the 24-hour mean PM₁₀ and the 1-hour mean NO₂ AQOs at the relevant monitors.

- 5.3.4 In summary, although AQO exceedences are considered possible at the site based on the AQMA, they are not certain.

Local Monitoring Results

- 5.3.5 As shown in Table 3, there is one monitor located in the vicinity of the development. This recorded concentrations below the annual mean NO₂ AQO in 2018 and 2019. The survey position is located approximately 1.5m south-west of the development on the A5103 - Princess Road. During 2019, the Annual Average Daily Traffic (AADT) flow on Princess Road was 77,446¹³ which is significantly higher than 17,927 recorded on the A5145 - Barlow Moor Road, adjacent to the site. It is therefore considered likely that NO₂ levels at the development would be lower than the concentrations recorded at this survey location. As such, exceedences of the relevant AQO are considered unlikely at the development location.

Background Pollutant Concentration Predictions

- 5.3.6 As shown in Table 4, predicted background pollutant concentrations for the site were well below the AQOs during 2021.
- 5.3.7 Based on the predicted background concentrations, exceedences of the AQOs are considered unlikely at the development location.

Summary

- 5.3.8 It is considered likely that pollutant concentrations are below the relevant AQO at the proposed development site for the following reasons:
- Although the site is within an AQMA, recent monitoring has indicated compliance with the relevant AQOs at a number of locations within the designation;

¹³ <https://roadtraffic.dft.gov.uk/manualcountpoints/37809>

- Analysis of local monitoring results in the context of the site location and survey positions has indicated likely compliance with the AQOs for NO₂ at the development; and,
- Predicted background concentrations are well below the relevant AQOs.

5.3.9 Based on the assessment results, exposure of future occupants to exceedences of the relevant AQOs is not considered likely. As such, the site is considered suitable for the proposed use from an air quality perspective.

5.4 **Mitigation**

5.4.1 As air quality impacts associated with the proposals were predicted to be **not significant** and exposure of residents to exceedences of the AQOs was not predicted, further mitigation to control effects is not considered necessary. However, a number of mitigation measures have been included within the development in accordance with the requirements of the IAQM document 'Land-Use Planning & Development Control Planning for Air Quality'¹⁴ to encourage the use of sustainable transport modes, manage vehicle flow and reduce pollution around the site. Table 5 describes the good practice principles detailed in the IAQM guidance along with how each has been addressed with regards to the proposals.

Table 5 Good Practice Design Principles

Phase	Principle	Action
Design Phase	New developments should not contravene the Council's Air Quality Action Plan ¹⁵ , or render any of the measures unworkable	It is confirmed that the proposed development will not contravene MCC's Air Quality Action Plan, or render any of the measures unworkable
	Wherever possible, new developments should not create a new "street canyon", or a building configuration that inhibits effective pollution dispersion	As the proposals comprise redevelopment of an existing building the scheme will not create a new street canyon

¹⁴ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

¹⁵ Greater Manchester Air Quality Action Plan 2016-2021, GMCA, 2016.

Phase	Principle	Action
	Delivering sustainable development should be the key theme of any application	The proposals have been designed to encourage sustainable behaviours, such as active and public transport, due to its close proximity to local public transport facilities and amenities
	New development should be designed to minimise public exposure to pollution sources, e.g. by locating habitable rooms away from busy roads, or directing combustion generated pollutants through or chimney stacks	As shown previously, exposure of future residents to exceedences of the relevant AQOs was not predicted
Operational Phase	The provision of at least 1 Electric Vehicle (EV) "rapid charge" point per 10 residential dwellings and/or 1,000m ² of commercial floor space. Where on-site parking is provided for residential dwellings, EV charging points for each parking space should be made	The proposals do not include any parking spaces
	Where development generates significant additional traffic, provision of a detailed Travel Plan (with provision to measure its implementation and effect) which sets out measures to encourage sustainable means of transport (public, cycling and walking) via subsidised or free-ticketing, improved links to bus stops, improved infrastructure and layouts to improve accessibility and safety	A Travel Plan can be produced for the development if requested by MCC
	All gas-fired boilers to meet a minimum standard of <40mgNO_x/kWh. All gas-fired CHP plant to meet a minimum emissions standard of: • Spark ignition engine: 250mgNO_x/Nm³; • Compression ignition engine: 400mgNO_x/Nm³; • Gas turbine: 50mgNO_x/Nm³. A presumption should be to use natural gas-fired installations. Where biomass is proposed within an urban area it is to meet minimum emissions standards of: Solid biomass boiler: 275mgNO_x/Nm³ and 25mgPM/Nm³	Any boilers to be included in the development will be provisioned in accordance with the relevant requirements

5.4.2 It is considered the above methods would further reduce potential impacts associated with the proposals. Specific mitigation suited to the development may be stipulated as a planning condition if deemed necessary by the LA.

6.0 CONCLUSION

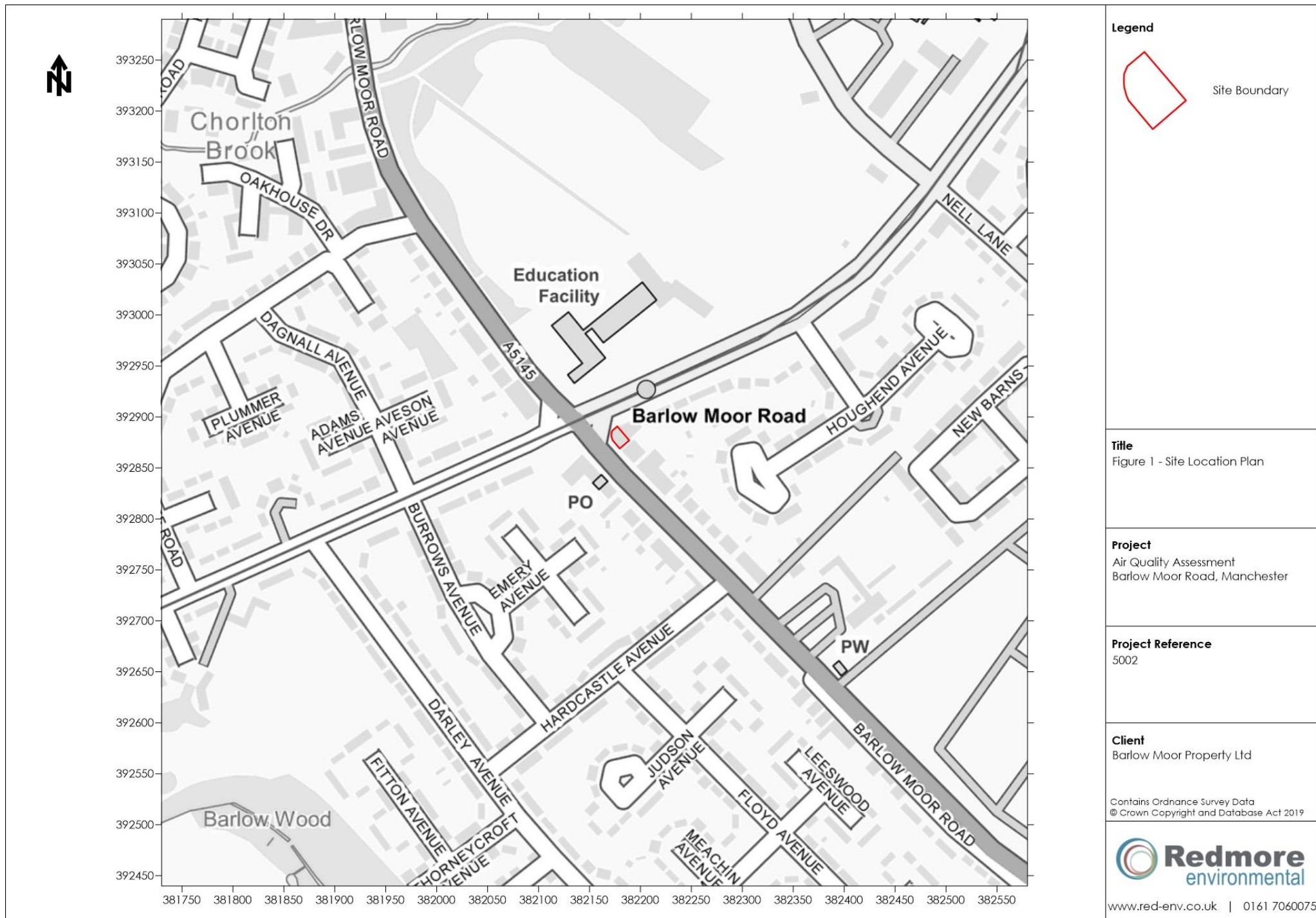
- 6.1.1 Redmore Environmental Ltd was commissioned by Barlow Moor Property Ltd to undertake an Air Quality Assessment in support of a planning application for a mixed-use development at 296-298 Barlow Moor Road, Manchester.
- 6.1.2 The proposals have the potential to cause air quality impacts as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site during operation, as well as expose future residents to any existing air quality issues. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and consider potential effects as a result of the scheme.
- 6.1.3 Potential impacts during the operational phase of the proposed development may occur due to road traffic exhaust emissions associated with vehicles travelling to and from the site. These were assessed against the screening criteria provided within the IAQM¹⁶ guidance document. Due to the scale and nature of the proposals, impacts were predicted to be **not significant**.
- 6.1.4 The potential for exposure of future occupants to exceedences of the AQOs was assessed based on AQMA designations, local monitoring results and predicted background concentrations. This indicated that concentrations of NO₂ and PM₁₀ are likely to be below the relevant AQOs at the development location. As such, the site is considered suitable for the proposed use from an air quality perspective.
- 6.1.5 Based on the assessment results, air quality issues are not considered a constraint to planning consent for the development.

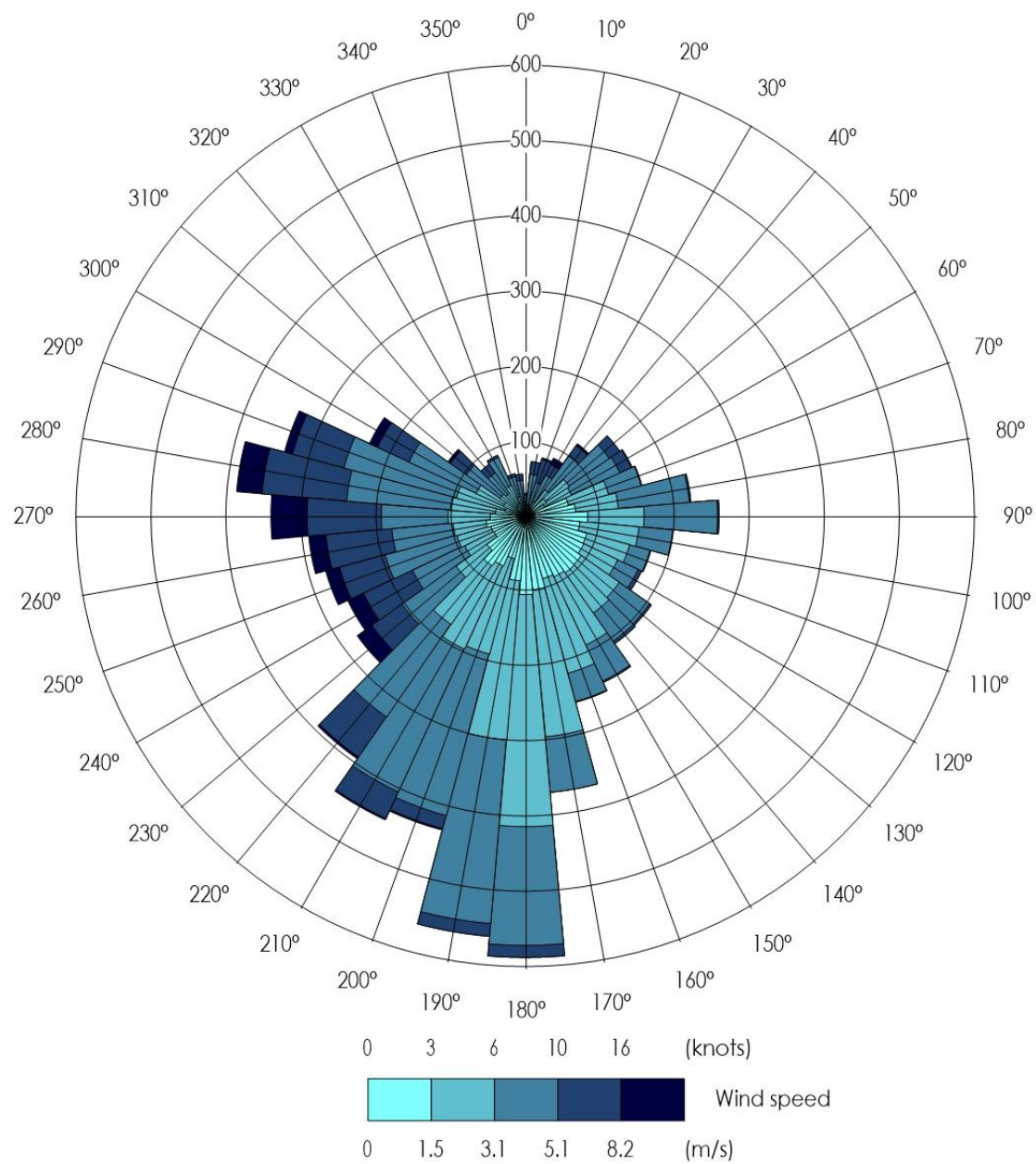
¹⁶ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

7.0 **ABBREVIATIONS**

AADT	Annual Average Daily Traffic
AQAP	Air Quality Action Plan
AQLV	Air Quality Limit Value
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Strategy
DEFRA	Department for Environment, Food and Rural Affairs
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LA	Local Authority
LAQM	Local Air Quality Management
MCC	Manchester City Council
NGR	National Grid Reference
NO ₂	Nitrogen dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Policy Guidance
PM ₁₀	Particulate matter with an aerodynamic diameter of less than 10µm

Figures





Legend

Title

Figure 3 - Wind Rose of 2019
Manchester Airport Meteorological
Data

Project

Air Quality Assessment
Barlow Moor Road, Manchester

Project Reference

5002

Client

Barlow Moor Property Ltd



www.red-env.co.uk | 0161 7060075

Date: 22nd October 2021

Ref: 5002

Appendix 1 - Curricula Vitae

KEY EXPERIENCE:

Jethro is a Chartered Environmentalist and Director of Redmore Environmental with specialist experience in the air quality and odour sectors. His key capabilities include:

- Production and management of Air Quality, Dust and Odour Assessments for a wide-range of clients from the retail, residential, infrastructure, commercial and industrial sectors.
- Production and co-ordination of Environmental Permit applications for a variety of industrial sectors.
- Detailed dispersion modelling of road vehicle and industrial emissions using ADMS-Roads, ADMS-5, AERMOD-PRIME and BREEZE-ROADS. Studies have included impact assessment of ground level pollutant and odour concentrations and assessment of suitability of development sites for proposed end-use.
- Project management and co-ordination of Environmental Impact Assessments and scoping reports for developments throughout the UK.
- Provision of expert witness services at Planning Inquiries.
- Design and project management of pollutant monitoring campaigns.
- Co-ordination and management of large-scale multi-disciplinary projects and submissions.
- Provision of expert advice to local government and international environmental bodies, as well as involvement in production of industry guidance.

SELECT PROJECTS SUMMARY:

Industrial

Shanks Waste Management - Odour Assessments of two waste management facilities to support Environmental Permit Applications.

Tatweer Petroleum - dispersion modelling of Bahrain oil field.

Doha South Sewage Treatment Works - AQA for works extension in Qatar.

IRIS Environmental Appraisal Report Reviews, Isle of Man Government - odour assessment reviews.

Lankem, Greater Manchester - Environmental Permit Application for chemical manufacturing plant.

Newport Docks Bulk Drying, Pelleting and CHP Facility - air quality EIA for gas CHP.

Springshades, Leicester - Environmental Permit Variation Application for textile manufacturing plant.

Valspar, Chester - Odour Assessment and production of Odour Management Plan for a paint manufacturing plant in response to neighbour complaints.

Agrivert - dispersion modelling of odour and CHP emissions from numerous AD plants.

James Cropper Paper Mill, Cumbria - air quality EIA, Environmental Permit Variation and Human Health Risk Assessment for new biomass boiler adjacent to SSSI.

Rigg Approach, Leyton - Air Quality Assessment in support of waste transfer site.

Lynchford Lane Waste Transfer Station - biomass facility energy recovery plant.

Barnes Wallis Heat and Power, Cobham - biomass facility adjacent to AQMA.

Residential

Wood St Mill, Bury - residential development adjacent to scrap metal yard.

Hyams Lane, Holbrook - Odour Assessment to support residential development adjacent to sewage works.

North Wharf Gardens, London - peer review of EIA undertaken for large residential development.

Loxford Road, Alford - Air Quality EIA for residential development, included consideration of impacts from associated package sewage works

Elephant and Castle Leisure Centre - baseline AQA for redevelopment.

Carr Lodge, Doncaster - EIA for large residential development.

Queensland Road, Highbury - residential scheme including CHP.

Bicester Ecotown - dispersion modelling of energy centre.

Castleford Growth Delivery Plan - baseline air quality constraints assessment for town redevelopment.

York St, Bury - residential development adjacent to AQMA.

Temple Point Leeds - residential development adjacent to M1.

Commercial and Retail

Etihad Stadium - Air Quality EIA for the extension to the capacity of the Etihad Stadium, Manchester.

Wakefield College - redevelopment of city centre campus in AQMA.

Manchester Airport Cargo Shed - commercial development.

Manchester Airport Apron Extension - EIA including aircraft emission modelling.

National Youth Theatre, Islington - redevelopment to provide new arts space and accommodation.