Air Quality Management Strategy

Tib Street, Manchester

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Executive Summary

Redmore Environmental Ltd was commissioned by Baniprop Ltd to undertake an Air Quality Management Strategy in support of a mixed-use development at 88 Tib Street, Manchester.

An Air Quality Management Strategy was undertaken to:

- Assess potential impacts associated with fugitive dust emissions during the construction phase of the proposed development;
- Assess potential impacts associated with road transport emissions during the operational phase of the proposed development;
- Assess risk of future occupant exposure to any existing air quality issues; and,
- Identify any requirement for relevant mitigation measures.

Potential construction phase air quality impacts from fugitive dust emissions were assessed as a result of demolition, earthworks, construction and trackout activities. It is considered that the use of the identified site-specific control measures would provide suitable mitigation for a development of this size and nature and reduce potential impacts to an acceptable level.

During the operational phase of the development there is the potential for air quality impacts as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site. These were assessed using standard screening criteria. Due to the scale of the proposals, road traffic exhaust impacts were not predicted to be significant.

There is the potential for the exposure of future residents to elevated pollution levels. Dispersion modelling was therefore undertaken in order to predict concentrations across the proposed site as a result of emissions from the highway network. Results were subsequently verified using local monitoring data.

The results of the dispersion modelling assessment indicated that predicted pollutant levels were below the relevant criteria across the development at residential floor level. As such, the site is considered suitable for the proposed end use from an air quality perspective.

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

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1.0 INTRODUCTION

1.1 Instruction

1.1.1 Redmore Environmental Ltd was commissioned by Baniprop Ltd to undertake an Air Quality Management Strategy in support of a mixed-use development at 88 Tib Street, Manchester.

1.1.2 The development may lead to the exposure of future residents to any existing air quality issues at the site, as well as adverse air quality impacts at sensitive locations during the construction and operational phases. As such, an Air Quality Management Strategy was produced in order to determine baseline conditions, consider location suitability for the proposed end-use and assess potential effects associated with the scheme.

1.2 Site Location and Context

1.2.1 The site is located at 88 Tib Street, Manchester, M4 1LG, at approximate National Grid Reference (NGR): 384549, 398600. Reference should be made to Figure 1 for a map of the site and surrounding area.

1.2.2 The proposals comprise the erection of a four storey building with retail space at ground floor and four residential apartments from first to fourth floor level.

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 (NO_2). The development is located within the AQMA. As such, there is the potential for future residents to be exposed to elevated pollution levels, as well as adverse impacts within this sensitive area. MCC has therefore requested that an Air Quality Management Strategy is produced in support of the development. This is detailed in the following report.

2.0 LEGISLATION AND POLICY

2.1 Legislation

2.1.1 The Air Quality Standards Regulations (2010) and subsequent amendments include Air Quality Limit Values (AQLVs) for the following pollutants:

- NO_2;
- Sulphur dioxide;
- Lead;
- Particulate matter with an aerodynamic diameter of less than 10µm (PM_{10});
- Particulate matter with an aerodynamic diameter of less than 2.5µm ($PM_{2.5}$);
- Benzene; and,
- Carbon monoxide.

2.1.2 Air Quality Target Values have also been provided for several additional pollutants. It should be noted that the AQLV for $PM_{2.5}$ stated in the Air Quality Standards Regulations (2010) was amended in the Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020).

2.1.3 The Air Quality Strategy (AQS) was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published on 28th April 2023[1]. The document contains standards, objectives and measures for improving ambient air quality, including a number of AQOs. These 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 The Environmental Improvement Plan 2025[2] was published in December 2025, providing long term and Interim Targets in order to reduce population exposure to $PM_{2.5}$. The Concentration Target for 2040 was adopted in the Environmental Targets (Fine Particulate Matter) (England) Regulations (2023).

[1] AQS: Framework for Local Authority Delivery, DEFRA, 2023.

[2] Environmental Improvement Plan 2025, DEFRA, 2025.

2.1.5 Table 1 presents the AQOs, Interim Target and Concentration Target for pollutants considered within this assessment.

Table 1 Air Quality Objectives/ Interim Target/ Concentration Target

Pollutant	Air Quality Objective/ Interim Target/ Concentration Target	
	Concentration (µg/m³)	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
$PM_{2.5}$	10(a)	Annual mean
	10(b)	Annual mean

Note: (a) Interim Target to be achieved by 2030.
(b) Concentration Target to be achieved by 2040.

2.1.6 Table 2 summarises the advice provided in DEFRA guidance[3] 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

[3] Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
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
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 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 Dust

2.3.1 The main requirements with respect to dust control from industrial or trade premises not regulated under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments, such as construction sites, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

> "any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance."

2.3.2 Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the LA is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practicable means.

2.4 National Planning Policy

2.4.1 The revised National Planning Policy Framework[4] (NPPF) was published in December 2024 and amended in February 2025. The document sets out the Government's planning policies for England and how these are expected to be applied.

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

2.4.3 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

[4] NPPF, Ministry of Housing, Communities and Local Government, 2024.

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 […]"

2.4.4 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."

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

2.5 National Planning Practice Guidance

2.5.1 The National Planning Practice Guidance[5] (NPPG) web-based resource was launched by the Department for Communities and Local Government 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?

[5] https://www.gov.uk/guidance/air-quality--3.

7. How detailed does an air quality assessment need to be?
8. How can an impact on air quality be mitigated?

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

2.6 Regional Planning Policy

2.6.1 The Places for Everyone Plan (PfEP)[6] was produced by the Greater Manchester Combined Authority (GMCA) and adopted by MCC on 21st March 2024.

2.6.2 A review of the PfEP indicated the following policies of relevance to air quality that have been considered throughout this assessment:

> "Policy JP:S5: Clean Air
>
> A comprehensive range of measures will be taken to support improvements in air quality, focusing particularly on locations where people live, where children learn and play, where there are impacts on the green infrastructure network and where air quality targets are not being met, including:
>
> 1. Locating and designing development, and focusing transport investment, so as to reduce reliance on forms of transport that generate air pollution;
> 2. Determining planning applications having regard to the most recent development and planning control guidance published jointly by the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK), and the most recent IAQM Guidance on the Assessment of Dust from Demolition and Construction, or relevant successor guidance, including the requirement for developers to submit construction management plans as appropriate;
> 3. Requiring applications for developments that could have an adverse impact on air quality to submit relevant air pollution data so that adverse impacts on air quality can be fully assessed and development only permitted where they are acceptable and/or suitable mitigation can be provided;

[6] PfEP, GMCA, 2024.

4. Restricting developments that would generate significant point source pollution such as some types of industrial activity and energy generation;
5. Significantly expanding the existing commercial network of electric vehicle charging points, both for public and private use, including as part of new developments;
6. Implementing the Clean Air Plan and associated measures;
7. Facilitating the more sustainable distribution of goods within the urban area, including through accommodating urban consolidation centres and urban distribution centres that use ultra-low-emission vehicles, and local delivery facilities to reduce repeat delivery attempts;
8. Designing streets to avoid trapping air pollution at ground level, including through the appropriate location and scale of buildings and trees;
9. Controlling traffic and parking within and around schools, early years sites and other locations that are particularly sensitive to air quality;
10. Promoting actions that help remove pollutants from the air, such as enhancing the green infrastructure network and using innovative building materials that capture air pollutants; and,
11. Development should be located in areas that maximise the use of sustainable travel modes and be designed to minimise exposure to high levels of air pollution, particularly for vulnerable users."

"Policy JP-P1 Sustainable Places

We aim to become one of the most liveable city regions in the world, consisting of a series of beautiful, healthy and varied places, each having the following key attributes that all development, wherever appropriate, should be consistent with:

[…]

15. Comfortable and inviting, with indoor and outdoor environments:

A. Offering a high level of amenity that minimises exposure to pollution; and,

[…]."

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

2.7 Local Planning Policy

2.7.1 The Manchester Local Development Framework consists of a series of planning documents of which the Core Strategy Development Plan Document (DPD)[7] is central. This was adopted by MCC on 11th July 2012.

2.7.2 Review of the Core Strategy DPD indicated the following policies of relevance to the assessment:

> "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."
>
> "Policy EN 16
>
> Air Quality
>
> The Council will seek to improve the air quality within Manchester."

[7] Core Strategy DPD, MCC, 2012.

2.7.3 It should be noted that MCC issued an addendum to the Core Strategy[8] in 2024. This confirms that the remaining text of Policy EN16 have been superseded by PfE Policy JP-S5, as referenced in Section 2.6.

2.7.4 MCC has also produced the 'Air Quality & Planning Technical Guidance' Document[9] which provides guidance on assessing the impact of proposed development on air quality.

2.7.5 The above policies and guidance were taken into consideration throughout the undertaking of the assessment.

2.8 Greater Manchester Clean Air Plan

2.8.1 The UK Government has instructed a number of LAs to take rapid action to reduce harmful roadside levels of NO_2 within their areas of jurisdiction in the quickest possible timeframe. The GMCA and Transport for Greater Manchester (TfGM) have collaborated to develop a Clean Air Plan (CAP) to ensure Greater Manchester achieves compliance with the relevant AQOs for NO_2 by 2026 at the latest. The initial CAP proposal included implementation of a Class C charging Clean Air Zone. The GMCA has subsequently updated the CAP proposals[10] to comprise an investment-led, non-charging approach. This was approved by the UK Government on 23rd January 2025. The implications of the CAP were taken into account during the undertaking of this assessment.

8 Addendum to Manchester Core Strategy 2024, MCC, 2024.

9 Air Quality & Planning Technical Guidance, MCC, 2022.

10 Case for a New GM Clean Air Plan, GMCA and TfGM, 2022.

3.0 METHODOLOGY

3.1 Introduction

3.1.1 The proposed development has the potential to cause air quality impacts during the construction and operational phases, as well as expose future residents to elevated pollution levels. These factors were assessed in accordance with the following methodology.

3.2 Construction Phase Assessment

3.2.1 There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction V2.2'[11].

3.2.2 Activities on the proposed construction site have been divided into four types to reflect their different potential impacts. These are:

- Demolition;
- Earthworks;
- Construction; and,
- Trackout.

3.2.3 The potential for dust emissions was assessed for each activity that is likely to take place and considered three separate dust effects:

- Annoyance due to dust soiling;
- Harm to ecological receptors; and,
- The risk of health effects due to a significant increase in exposure to PM_{10}.

3.2.4 The assessment steps are detailed below.

[11] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

Step 1 - Screen the Need for an Assessment

3.2.5 Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 250m from the boundary or 50m from the construction vehicle route up to 250m from the site entrance, then the assessment proceeds to Step 2. Additionally, should ecological receptors be identified within 50m of the site or the construction vehicle route up to 250m from the site entrance, then the assessment also proceeds to Step 2.

3.2.6 Should sensitive receptors not be present within the relevant distances then **negligible** impacts would be expected and further assessment is not necessary.

Step 2 - Assess the Risk of Dust Impacts

3.2.7 Step 2 assesses the risk of potential dust impacts. A site is allocated a risk category based on two factors:

- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large (Step 2A); and,
- The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity (Step 2B).

3.2.8 The two factors are combined in Step 2C to determine the risk of dust impacts without mitigation applied.

3.2.9 Step 2A defines the potential magnitude of dust emission through the construction phase. The relevant criteria are summarised in Table 3.

Table 3 Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
Large	Demolition	• Total building volume greater than 75,000m^3 • Potentially dusty construction material (e.g. concrete) • On site crushing and screening • Demolition activities greater than 12m above ground level

Magnitude	Activity	Criteria
	Earthworks	• Total site area greater than 110,000m^2 • Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) • More than 10 heavy earth moving vehicles active at any one time • Formation of bunds greater than 6m in height
	Construction	• Total building volume greater than 75,000m^3 • On site concrete batching • Sandblasting
	Trackout	• More than 50 Heavy Duty Vehicle (HDV) trips per day • Potentially dusty surface material (e.g. high clay content) • Unpaved road length greater than 100m
Medium	Demolition	• Total building volume 12,000m^3 to 75,000m^3 • Potentially dusty construction material • Demolition activities 6m to 12m above ground level
	Earthworks	• Total site area 18,000m^2 to 110,000m^2 • Moderately dusty soil type (e.g. silt) • 5 to 10 heavy earth moving vehicles active at any one time • Formation of bunds 3m to 6m in height
	Construction	• Total building volume 12,000m^3 to 75,000m^3 • Potentially dusty construction material (e.g. concrete) • On site concrete batching
	Trackout	• 20 to 50 HDV trips per day • Moderately dusty surface material (e.g. high clay content) • Unpaved road length 50m to 100m
Small	Demolition	• Total building volume less than 12,000m^3 • Construction material with low potential for dust release (e.g. metal cladding or timber) • Demolition activities less than 6m above ground levels • Demolition during wetter months
	Earthworks	• Total site area less than 18,000m^2 • Soil type with large grain size (e.g. sand) • Less than 5 heavy earth moving vehicles active at any one time • Formation of bunds less than 3m in height

Magnitude	Activity	Criteria
	Construction	• Total building volume less than 12,000m^3 • Construction material with low potential for dust release (e.g. metal cladding or timber)
	Trackout	• Less than 20 HDV trips per day • Surface material with low potential for dust release • Unpaved road length less than 50m

3.2.10 Step 2B defines the sensitivity of the area around the development to potential dust impacts. The sensitivities of specific receptors are shown in Table 4.

Table 4 Construction Dust - Sensitivities of People and Ecological Receptors

Receptor Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	• Users expect high levels of amenity • High aesthetic or value property • People expected to be present continuously for extended periods of time • Locations where members of the public are exposed over a time period relevant to the AQO for PM_{10}. e.g. residential properties, hospitals, schools and residential care homes	• Internationally or nationally designated site e.g. Special Area of Conservation
Medium	• Users would expect to enjoy a reasonable level of amenity • Aesthetics or value of their property could be diminished by soiling • People or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land e.g. parks and places of work	• Nationally designated site e.g. Sites of Special Scientific Interest
Low	• Enjoyment of amenity would not reasonably be expected • Property would not be expected to be diminished in appearance • Transient exposure, where people would only be expected to be present for limited periods. e.g. public footpaths, playing fields, shopping streets, farmland, short term car parks and roads	• Locally designated site e.g. Local Nature Reserve

3.2.11 The criteria for determining the sensitivity of the area to dust soiling effects on people and property is summarised in Table 5.

Table 5 Construction Dust - Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		Less than 20	Less than 50	Less than 100	Less than 250
High	More than 100	High	High	Medium	Low
	10 - 100	High	Medium	Low	Low
	1 - 10	Medium	Low	Low	Low
Medium	More than 1	Medium	Low	Low	Low
Low	More than 1	Low	Low	Low	Low

3.2.12 Table 6 outlines the criteria for determining the sensitivity of the area to human health impacts.

Table 6 Construction Dust - Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Background Annual Mean PM_{10} Concentration	Number of Receptors	Distance from the Source (m)			
			Less than 20	Less than 50	Less than 100	Less than 250
High	Greater than 32µg/m^3	More than 100	High	High	High	Medium
		10 - 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low
	28 - 32µg/m^3	More than 100	High	High	Medium	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24 - 28µg/m^3	More than 100	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	Less than 24µg/m^3	More than 100	Medium	Low	Low	Low
		10 - 100	Low	Low	Low	Low

Receptor Sensitivity	Background Annual Mean PM_{10} Concentration	Number of Receptors	Distance from the Source (m)			
			Less than 20	Less than 50	Less than 100	Less than 250
		1 - 10	Low	Low	Low	Low
Medium	Greater than 32µg/m³	More than 10	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	28 - 32µg/m³	More than 10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28µg/m³	More than 10	Low	Low	Low	Low
		1 -10	Low	Low	Low	Low
	Less than 24µg/m³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Low	-	1 or more	Low	Low	Low	Low

3.2.13 Table 7 outlines the criteria for determining the sensitivity of the area to ecological impacts.

Table 7 Construction Dust - Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	Less than 20	Less than 50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

3.2.14 Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts.

3.2.15 Table 8 outlines the risk category from demolition activities.

Table 8 Construction Dust - Dust Risk Category from Demolition Activities

Receptor Sensitivity	Distance from the Source (m)		
	Large	Medium	Small
High	High	Medium	Medium
Medium	High	Medium	Low
Low	Medium	Low	Negligible

3.2.16 Table 9 outlines the risk category from earthworks, construction and trackout activities.

Table 9 Construction Dust - Dust Risk Category from Earthworks, Construction and Trackout Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

Step 3 - Site-specific Mitigation

3.2.17 Step 3 requires the identification of site-specific mitigation measures within the IAQM guidance[12] to reduce potential dust impacts based upon the relevant risk categories identified in Step 2. For sites with **negligible** risk, mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

Step 4 - Determine Significant Effects

3.2.18 Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of

[12] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be **not significant**.

3.2.19 The determination of significance relies on professional judgement and reasoning should be provided as far as practicable. The IAQM guidance[13] suggests the provision of details of the assessor's qualifications and experience. These are provided in Appendix 2.

3.3 Operational Phase Assessment

Potential Development Impacts

3.3.1 The development has the potential to increase concentrations of NO_2, PM_{10} and $PM_{2.5}$ as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site. An assessment was therefore undertaken using the criteria contained within the IAQM 'Land-Use Planning & Development Control: Planning for Air Quality'[14] guidance to determine the potential for trips generated by the development to affect local air quality.

3.3.2 The following criteria are provided to help establish when an assessment of potential road traffic 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 1,000m^2 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.

[13] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

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

3.3.3 Should these criteria not be met, then the IAQM guidance[15] considers air quality impacts associated with a scheme to be **not significant** and no further assessment is required.

Potential Future Exposure

3.3.4 The proposals have the potential to expose future residents to elevated pollution levels. In order to assess NO_2, PM_{10} and $PM_{2.5}$ concentrations across the development site, detailed dispersion modelling was undertaken. Reference should be made to Appendix 1 for a full description of the assessment input data.

3.3.5 The dispersion modelling results were compared against the relevant AQOs and Concentration Target in order to determine the potential for exposure of future residents to elevated pollutant concentrations and identify appropriate mitigation, if necessary.

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

4.0 BASELINE

4.1 Introduction

4.1.1 Existing air quality conditions in the vicinity of the proposed 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), as amended by the Environment Act (2021), MCC has undertaken Review and Assessment of air quality within its area of jurisdiction. This process has indicated that annual mean concentrations of NO_2 are above the AQO within the city. As such, a number of roads within Manchester have been included within the 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 located within the AQMA. As such, there is the potential for vehicles travelling to and from the site to increase pollution levels in this sensitive area and the exposure of future residents to poor air quality. This has 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 AQMAs have been designated.

4.3 Air Quality Monitoring

4.3.1 Monitoring of pollutant levels is undertaken by MCC throughout its area of jurisdiction. Data has also been collected by the GMCA to inform the CAP. Recent NO_2 concentrations recorded in the vicinity of the development, as provided in GMCA's '2024

Air Quality Annual Status Report (ASR)'[16] and 'CAP NO_2 Diffusion Tube Results 2011-2024'[17], are shown in Table 10. Exceedences of the relevant AQO are shown in **bold**.

Table 10 Annual Mean NO_2 Monitoring Results

Monitoring Site		Monitored Annual Mean NO_2 Concentration (µg/m³)		
		2022	2023	2024
MAN 3	Manchester Piccadilly	29.0	26.8	27.0
MA59NO, MA60NO, MA61NO	Piccadilly Gardens	25.3	24.4	24.4
MA9ANO	Newton Street	37.5	36.2	33.8
CAP_MANC_080	Church Street	**45.7**	**45.4**	**45.5**
CAP_MANC_088	A62 (Lever Street)	**55.6**	**55.7**	**59.4**
CAP_MANC_089	A62 (Lever Street)	31.2	30.4	28.0
CAP_MANC_111	A62 (Lever Street)	**51.7**	**54.7**	**49.7**
CAP_MANC_112	Turner St[(a)]	29.7	-	-
CAP_MANC_113	Turner St[(a)]	30.5	-	-
CAP_MANC_182	Church St	37.1	37.1	36.8
CAP_MANC_189	Turner St	27.5	27.9	25.2

Note: (a) Monitoring location decommissioned in 2022.

4.3.2 As shown in Table 10, the annual mean NO_2 concentration was above the AQO of 40µg/m³ at CAP_MANC_080, CAP_MANC_088 and CAP_MANC_094 during recent years. As the monitors are all located within an AQMA, elevated results would be expected. Levels were below the AQO at all remaining sites between 2022 and 2024. Reference should be made to Figure 2 for a map of the survey positions.

4.3.3 Recent 1-hour mean NO_2 results recorded in the vicinity of the development are shown in Table 11.

16 2024 Air Quality ASR, GMCA, 2025.

17 Greater Manchester LAQM and CAP NO_2 Diffusion Tube Results 2011-2024, GMCA, 2024.

Table 11 1-hour Mean NO_2 Monitoring Results

Monitoring Site	Number of NO_2 1-Hour Means Greater Than 200µg/m³		
	2022	2023	2024
Manchester Piccadilly	0	0	0

4.3.4 As shown in Table 11, the number of 1-hour mean NO_2 concentrations above 200µg/m³ was below the permitted number of 18 at the Manchester Piccadilly monitor during recent years.

4.3.5 Recent annual mean PM_{10} results recorded in the vicinity of the development are shown in Table 12.

Table 12 Annual Mean PM_{10} Monitoring Results

Monitoring Site	Monitored PM_{10} Concentration (µg/m³)		
	2022	2023	2024
Manchester Piccadilly	17.0	15.1	14.8

4.3.6 As shown in Table 12, annual mean PM_{10} concentrations were below the AQO of 40µg/m³ at the Manchester Piccadilly monitor during recent years.

4.3.7 Recent 24-hour mean PM_{10} results recorded in the vicinity of the development are shown in Table 13.

Table 13 24-hour Mean PM_{10} Monitoring Results

Monitoring Site	Number of PM_{10} 24-Hour Means Greater Than 50µg/m³		
	2022	2023	2024
Manchester Piccadilly	4	1	0

4.3.8 As shown in Table 13, the number of 24-hour mean PM_{10} concentrations above 50µg/m³ was below the permitted number of 35 at the Manchester Piccadilly monitor during recent years.

4.3.9 Recent annual mean $PM_{2.5}$ results recorded in the vicinity of the development are shown in Table 14. Exceedences of the Concentration Target are shown in **bold**.

Table 14 Annual Mean $PM_{2.5}$ Monitoring Results

Monitoring Site	Monitored $PM_{2.5}$ Concentration (µg/m³)		
	2022	2023	2024
Manchester Piccadilly	**10.0**	8.5	8.5

4.3.10 As shown in Table 14, annual mean $PM_{2.5}$ concentrations were below the Concentration Target of 10µg/m³ at the Manchester Piccadilly monitor during 2023 and 2024.

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: 384500, 398500. Data for this location was downloaded from the DEFRA website[18] for the purpose of the assessment and is summarised in Table 15.

Table 15 Background Pollutant Concentration Predictions

Pollutant	Predicted Background Pollutant Concentration (µg/m³)		
	2024	2026	2027
NO_2	22.22	20.74	20.01
PM_{10}	14.34	14.24	14.18
$PM_{2.5}$	8.01	7.90	7.84

4.4.2 As shown in Table 15, predicted background NO_2, PM_{10} and $PM_{2.5}$ concentrations are below the relevant AQOs and Concentration Target at the proposed development site.

[18] http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021.

4.5 Sensitive Receptors

4.5.1 A sensitive receptor is defined as any location which may be affected by changes in air quality as a result of a development. Receptors sensitive to potential dust impacts during demolition, earthworks and construction were identified from a desk-top study of the area up to 250m from the development boundary. These are summarised in Table 16.

Table 16 Demolition, Earthworks and Construction Dust Sensitive Receptors

Distance from Site Boundary (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	More than 100	0
Up to 50	More than 100	0
Up to 100	More than 100	-
Up to 250	More than 100	-

4.5.2 Receptors sensitive to potential dust impacts from trackout were identified from a desk-top study of the area up to 50m from the road network within 250m of the site access. These are summarised in Table 17.

Table 17 Trackout Dust Sensitive Receptors

Distance from Site Access Route (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	More than 100	0
Up to 50	More than 100	0

4.5.3 Based on the criteria shown in Table 4, the sensitivity of the receiving environment to potential dust impacts was determined as **high**. This was because the identified receptors included residential properties.

4.5.4 There are no ecological receptors within 50m of the development boundary or the access route within 250m of the site entrance. As such, ecological impacts have not been assessed further within this report.

5.0 CONSTRUCTION PHASE ASSESSMENT

5.1 Introduction

5.1.1 There is the potential for air quality impacts as a result of the construction of the proposed development. These are assessed in the following Sections.

5.2 Step 1 - Screen the Need for an Assessment

5.2.1 The undertaking of activities such as demolition, excavation, ground works, cutting, construction, concrete batching and storage of materials has the potential to result in fugitive dust emissions throughout the construction phase. Vehicle movements both on-site and on the local road network also have the potential to result in the re-suspension of dust from haul roads and highway surfaces.

5.2.2 The potential for impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.

5.2.3 The desk-study undertaken to inform the baseline identified a number of sensitive receptors within 250m of the site boundary. As such, a detailed assessment of potential dust impacts was required.

5.3 Step 2a - Define the Potential Dust Emission Magnitude

Demolition

5.3.1 Demolition will involve clearance of the existing buildings on site. It is estimated that the total building volume to be demolished is less than 12,000m^3. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from demolition is therefore **small**.

Earthworks

5.3.2 Earthworks will primarily involve excavating material, haulage, tipping and stockpiling, as well as site levelling and landscaping. The area of the proposed site is less than 18,000m^2.

In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from earthworks is therefore **small**.

Construction

5.3.3 Due to the size of the development, the total building volume is likely to be less than 12,000m^3. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from construction is therefore **small**.

Trackout

5.3.4 Based on the site area, it is anticipated that the unpaved road length will be less than 50m. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from trackout is therefore **small.**

5.4 Step 2b - Define the Sensitivity of the Area

Dust Soiling

5.4.1 Table 16 shows that there are more than 100 **high** sensitivity receptors within 20m of the site boundary. The sensitivity of the area with respect to dust soiling from demolition, earthworks and construction, as defined using the criteria summarised in Table 5, is therefore considered to be **high**.

5.4.2 Table 17 shows that there are more than 100 **high** sensitivity receptors within 20m of the road network within 250m of the site access. The sensitivity of the area with respect to dust soiling from trackout, as defined using the criteria summarised in Table 5, is therefore considered to be **high**.

Human Health

5.4.3 As shown in Table 15, the 2026 annual mean PM_{10} background concentration at the site is 14.24µg/m^3. As shown in Table 6, where the background annual mean PM_{10} concentration is below 24µg/m^3 and there are more than 100 **high** sensitivity receptors within 20m of the site boundary, the sensitivity of the area to potential human health impacts from demolition, earthworks and construction is **medium**.

5.4.4 There are more than 100 **high** sensitivity receptors within 20m of the road network within 250m of the site access. The sensitivity of the area with respect to human health from trackout, as defined using the criteria in Table 6, is therefore considered to be **medium.**

5.5 Step 2c - Define the Risk of Dust Impacts

5.5.1 The derived dust emission magnitude for each activity has been combined with the sensitivity of the area to determine the risk of unmitigated impacts in line with the methodology set out in Table 8 and Table 9. A summary of the risk from each dust generating activity is provided in Table 18.

Table 18 Summary of Potential Unmitigated Dust Risks

Potential Impact	Activity	Step 2A - Dust Emission Magnitude	Step 2B - Sensitivity of the Area	Step 2C - Risk
Dust Soiling	Demolition	Small	High	Medium
	Earthworks	Small	High	Low
	Construction	Small	High	Low
	Trackout	Small	High	Low
Human Health	Demolition	Small	Medium	Low
	Earthworks	Small	Medium	Low
	Construction	Small	Medium	Low
	Trackout	Small	Medium	Low

5.5.2 As indicated in Table 18, the potential risk of dust soiling is **medium** from demolition and **low** from earthworks, construction and trackout. The potential risk of human health effects is **low** from all activities.

5.5.3 It should be noted that the potential for impacts depends significantly on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the site boundary closest to each sensitive area. Therefore, actual risk is likely to be lower than that predicted during the majority of the construction phase.

5.6 Step 3 - Site-specific Mitigation

5.6.1 The IAQM guidance[19] provides potential mitigation measures to reduce impacts as a result of fugitive dust emissions during the construction phase. These have been adapted for the development site as summarised in Table 19. These may be reviewed prior to the commencement of construction works and incorporated into a Construction Environmental Management Plan if required by the LA.

Table 19 Fugitive Dust Emission Mitigation Measures

Issue	Control Measure
Communications	• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager • Display the head or regional office contact information • Develop and implement a Dust Management Plan, which may include measures to control other emissions, approved by the LA
Site management	• Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken • Make the complaints log available to the LA upon request • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book
Monitoring	• Carry out regular site inspections, record inspection results, and make an inspection log available to the LA upon request • Increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions

[19] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

Issue	Control Measure
Site preparation	• Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible • Erect solid screens or barriers around dusty activities or the site • Fully enclose site or specific operations where there is a high potential for dust production and they are active for an extensive period • Avoid site runoff of water or mud • Keep site fencing, barriers and scaffolding clean using wet methods • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used • Cover, seed or fence stockpiles to prevent wind whipping
Operating vehicle/machinery and sustainable travel	• Ensure all vehicles switch off engines when stationary - no idling vehicles • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable
Operations	• Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques • Ensure an adequate water supply on the site for effective dust suppression, using non-potable water where possible and appropriate • Use enclosed chutes and conveyors and covered skips • Minimise drop heights and use fine water sprays wherever appropriate • Ensure equipment is available to clean any dry spillages, and clean up spillages as soon as reasonably practicable using wet cleaning methods
Waste management	• Avoid bonfires or burning of waste materials
Demolition	• Ensure effective water suppression is used during demolition operations • Avoid explosive blasting, using appropriate manual or mechanical alternatives • Bag and remove any biological debris or damp down such material before demolition
Construction (desirable measures)	• Avoid scabbling (roughening of concrete surfaces) if possible • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out
Trackout (desirable measures)	• Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site • Avoid dry sweeping of large areas • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport • Implement a wheel washing system

5.7 Step 4 - Determine Significant Effects

5.7.1 Assuming the relevant mitigation measures outlined in Table 19 are implemented, the residual impacts from all dust generating activities is predicted to be **not significant**, in accordance with the IAQM guidance[20].

[20] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

6.0 OPERATIONAL PHASE ASSESSMENT

6.1 Introduction

6.1.1 There is the potential for air quality impacts as a result of the operation of the proposed development. These are assessed in the following Sections.

6.2 Potential Development Impacts

6.2.1 Any vehicle movements associated with the development will generate exhaust emissions on the local and regional road networks. The proposals have therefore been assessed against the IAQM guidance[21]. The scheme does not include any car 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 IAQM[22] screening criteria shown in Section 3.3.

6.3 Potential Future Exposure

6.3.1 The proposals have the potential to expose future residents to elevated pollution levels as a result of road vehicle exhaust emissions in the vicinity of the site. Dispersion modelling was therefore undertaken with the inputs described in Appendix 1 to quantify air quality conditions across the development. Reference should be made to Figures 3 to 5 for graphical representations of predicted annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations at first floor, which is the lowest level of proposed residential use.

6.3.2 As shown in Figure 3, annual mean NO_2 concentrations were predicted to be below the AQO of 40µg/m^3 across the site at first floor. The maximum level was 24.92µg/m^3.

6.3.3 As shown in Figure 4, annual mean PM_{10} concentrations were predicted to be below the AQO of 40µg/m^3 across the site at first floor. The maximum level was 15.16µg/m^3.

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

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

6.3.4 As shown in Figure 5, annual mean $PM_{2.5}$ concentrations were predicted to be below the Concentration Target of 10µg/m^3 across the site at first floor. The maximum level was 8.46µg/m^3.

6.3.5 Based on the assessment results, future residents are not predicted to be exposed to pollutant concentrations above the relevant AQOs and Concentrations Target. As such, the site is considered suitable for the proposed use from an air quality perspective.

6.4 Interim Planning Guidance for $PM_{2.5}$

6.4.1 Interim Planning Guidance[23] on the consideration of the $PM_{2.5}$ targets identified in the Environment Act (2021) in planning decisions has been produced by DEFRA. This requires evidence that the key sources of air pollution within a development have been identified and appropriate action to minimise $PM_{2.5}$ and its precursors as far as is reasonably practicable be provided in support of planning applications. To assist the process, two questions and associated considerations are provided. These are summarised in Table 20.

Table 20 Interim Planning Guidance Questions

Question	Response
How has exposure to $PM_{2.5}$ been considered when selecting the development site? Factors to consider include: • Site proximity to people (particularly large populations and/or vulnerable groups, e.g. schools, hospitals, care homes, areas of deprivation) and the impact of the development on these • Site proximity to pollution sources and the impact of these on users of the development • Exposure and emissions during both construction and in-use	The proposals are located in a predominantly residential setting within Manchester city centre. As such, the site is in close proximity to a large population comprising local residents and businesses. However, as outlined in Section 6.2, air quality impacts associated with the development are predicted to be **not significant** The site is adjacent to Tib Street and within 250m of the A665 Great Ancoats Street and associated road vehicle exhaust emissions. However as shown in Section 6.3, annual mean $PM_{2.5}$ concentrations are predicted to be below the Concentration Target of 10µg/m^3 at first floor level As outlined in Table 19, a number of mitigation measures will be used throughout the construction phase in order to reduce fugitive dust emissions as far as practicable. This will control potential exposure at off-site locations

23 https://uk-air.defra.gov.uk/pm25targets/planning.

Question	Response
What actions and/or mitigations have been considered to reduce $PM_{2.5}$ exposure for development users and nearby receptors (houses, hospitals, schools etc.) and to reduce emissions of $PM_{2.5}$ and its precursors? Factors to consider include: • Site layout • The development's design • Technology used in the construction or installed for use in the development • Construction and future use of the development	The proposed building is located on Tib Street and set back in line with other residential buildings along this road. This limits the potential for exposure of future residents to $PM_{2.5}$ emissions. Additionally, residential land use is proposed to begin at first floor level In order to reduce emissions of $PM_{2.5}$ with associated impacts at nearby receptors, secure cycle storage will be provided within the scheme to encourage the use of sustainable transport modes Further to the above, in order to reduce emissions during the construction phase, a number of mitigation measures will be used to minimise dust generation from associated activities

6.4.2 Based on the responses provided in Table 20 and the assessment results, as outlined in Sections 5.0 and 6.0, it is considered that the development has identified key sources of air pollution and taken appropriate action to minimise emissions of $PM_{2.5}$.

7.0 MITIGATION

7.1.1 A number of mitigation measures have been included within the development to encourage the use of sustainable transport modes, manage vehicle flow and reduce pollution around the site. These are in accordance with MCC's 'Air Quality and Planning Technical Guidance'[24], which is based upon the Good Practice Design Principles outlined in the IAQM document 'Land-Use Planning & Development Control: Planning for Air Quality'[25]. Table 21 describes the good practice principles along with how each has been addressed with regards to the proposals.

Table 21 Good Practice Design Principles for Operational Phase Air Quality Impacts

Phase	Principle	Action
Design Phase	New developments should not contravene the Council's AQAP[26], or render any of the measures unworkable	It is confirmed that the proposals will not contravene MCC's AQAP, 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	The development will not create a new street canyon or a building configuration that inhibits effective dispersion
	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 proximity to local bus routes and amenities, as well as the provision of cycle storage
Operational Phase	The provision of at least 1 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 provision of car parking spaces and therefore Electric Vehicle charging points are not considered necessary

24 Air Quality & Planning Technical Guidance, MCC, 2022.

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

26 Greater Manchester AQAP 2016-2021, GMCA, 2016.

Phase	Principle	Action
	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 secured via condition if required 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/Nm^3; • Compression ignition engine: 400mgNO_x/Nm^3; • Gas turbine: 50mgNO_x/Nm^3. 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/Nm^3 and 25mgPM/Nm^3	Any boilers to be included in the development will be provisioned in accordance with the relevant requirements

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

8.0 CONCLUSION

8.1.1 Redmore Environmental Ltd was commissioned by Baniprop Ltd to undertake an Air Quality Management Strategy in support of a mixed-use development at 88 Tib Street, Manchester.

8.1.2 The development may lead to adverse air quality impacts at sensitive locations during the construction and operational phases, as well as the exposure of future residents to any existing air quality issues at the site. As such, an Air Quality Management Strategy was undertaken in order to determine baseline conditions, consider location suitability for the proposed end-use and assess potential effects associated with the scheme.

8.1.3 During the construction phase of the development there is the potential for air quality impacts as a result of fugitive dust emissions from the site. These were assessed in accordance with the IAQM methodology. Site-specific dust control measures were subsequently determined. Following implementation, the residual significance of potential air quality impacts from dust generated by demolition, earthworks, construction and trackout activities are predicted to be **not significant**.

8.1.4 During the operational phase of the proposed development there is the potential for road traffic exhaust emission impacts associated with vehicles travelling to and from the site. These were assessed using the IAQM screening criteria. Due to the scale of the proposals, road traffic exhaust impacts were predicted to be **not significant**.

8.1.5 The proposal has the potential to expose future residents to elevated pollution levels. Dispersion modelling was therefore undertaken using ADMS-Roads in order to predict concentrations as a result of emissions from the highway network. Results were subsequently verified using local monitoring data.

8.1.6 The results of the dispersion modelling assessment indicated that predicted annual mean NO_2, PM_{10} and $PM_{2.5}$ concentrations were below the relevant AQOs and Concentration Target across the development at first floor level. As such, the site is considered suitable for the proposed end use from an air quality perspective.

8.1.7 Based on the assessment results, air quality factors are not considered a constraint to planning consent for the development.

9.0 ABBREVIATIONS

AADT	Annual Average Daily Traffic
ADM	Atmospheric Dispersion Modelling
AQLV	Air Quality Limit Value
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Strategy
ASR	Annual Status Report
CAP	Clean Air Plan
CERC	Cambridge Environmental Research Consultants
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DPD	Development Plan Document
EV	Electric Vehicle
GMCA	Greater Manchester Combined Authority
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LA	Local Authority
LAQM	Local Air Quality Management
LDV	Light Duty Vehicle
MCC	Manchester City Council
NGR	National Grid Reference
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
PM_{10}	Particulate matter with an aerodynamic diameter of less than 10µm
$PM_{2.5}$	Particulate matter with an aerodynamic diameter of less than 2.5µm
PfEP	Places for Everyone Plan
SP	Slow Phase
TfGM	Transport for Greater Manchester
z_0	Roughness length

Figures



Legend

Site Boundary

Title
Figure 1 - Site Location Plan

Project
Air Quality Management Strategy
Tib Street, Manchester

Project Reference
6307-1

Client
Baniprop Ltd

Contains Ordnance Survey Data
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Redmore environmental
www.red-env.co.uk | 0161 7060075



Legend

Site Boundary

Monitor

Title
Figure 2 - Monitoring Locations

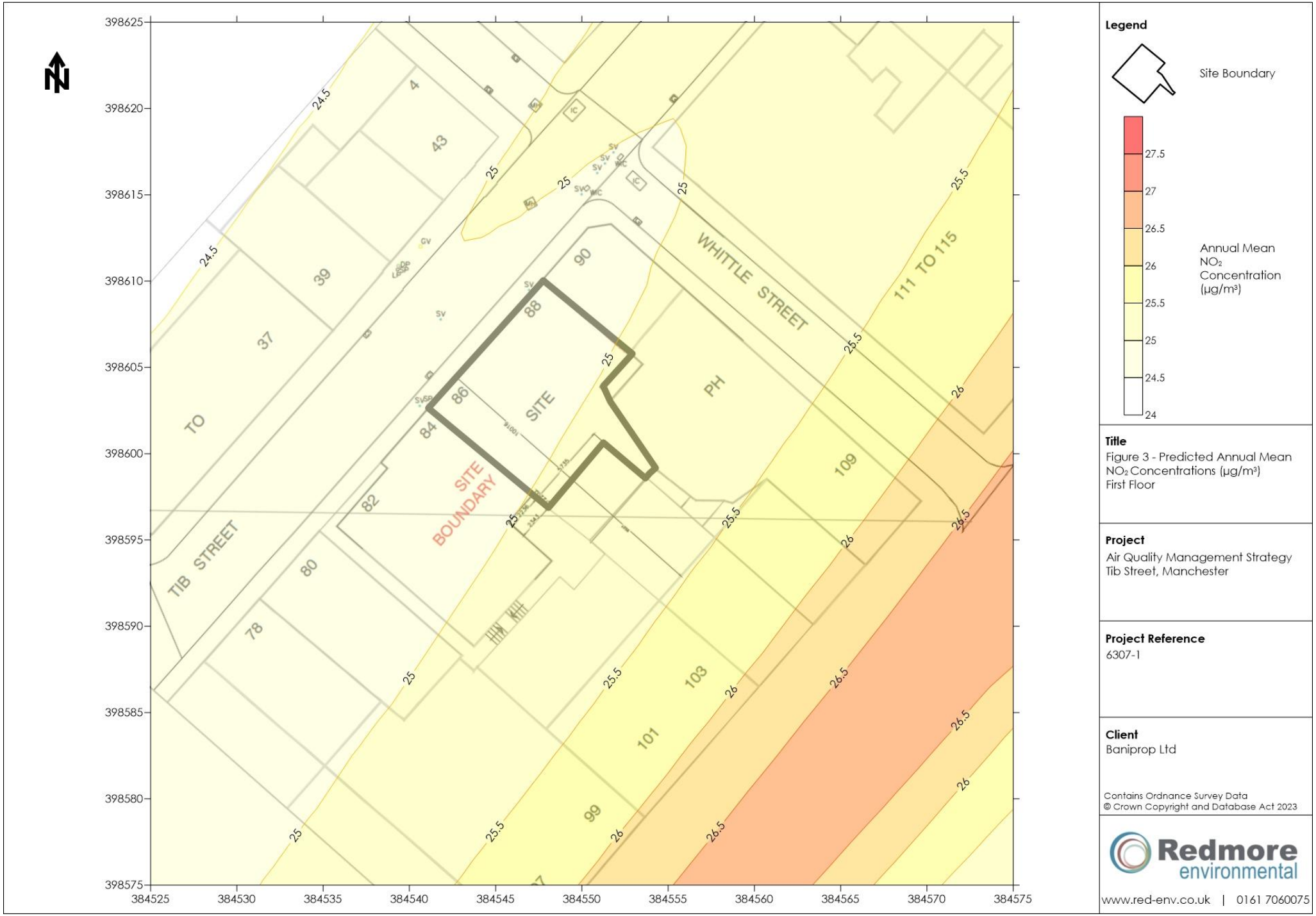
Project
Air Quality Management Strategy
Tib Street, Manchester

Project Reference
6307-1

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Legend

Site Boundary

Annual Mean NO_2 Concentration ($\mu g/m^3$)

27.5
27
26.5
26
25.5
25
24.5
24

Title
Figure 3 - Predicted Annual Mean NO_2 Concentrations ($\mu g/m^3$)
First Floor

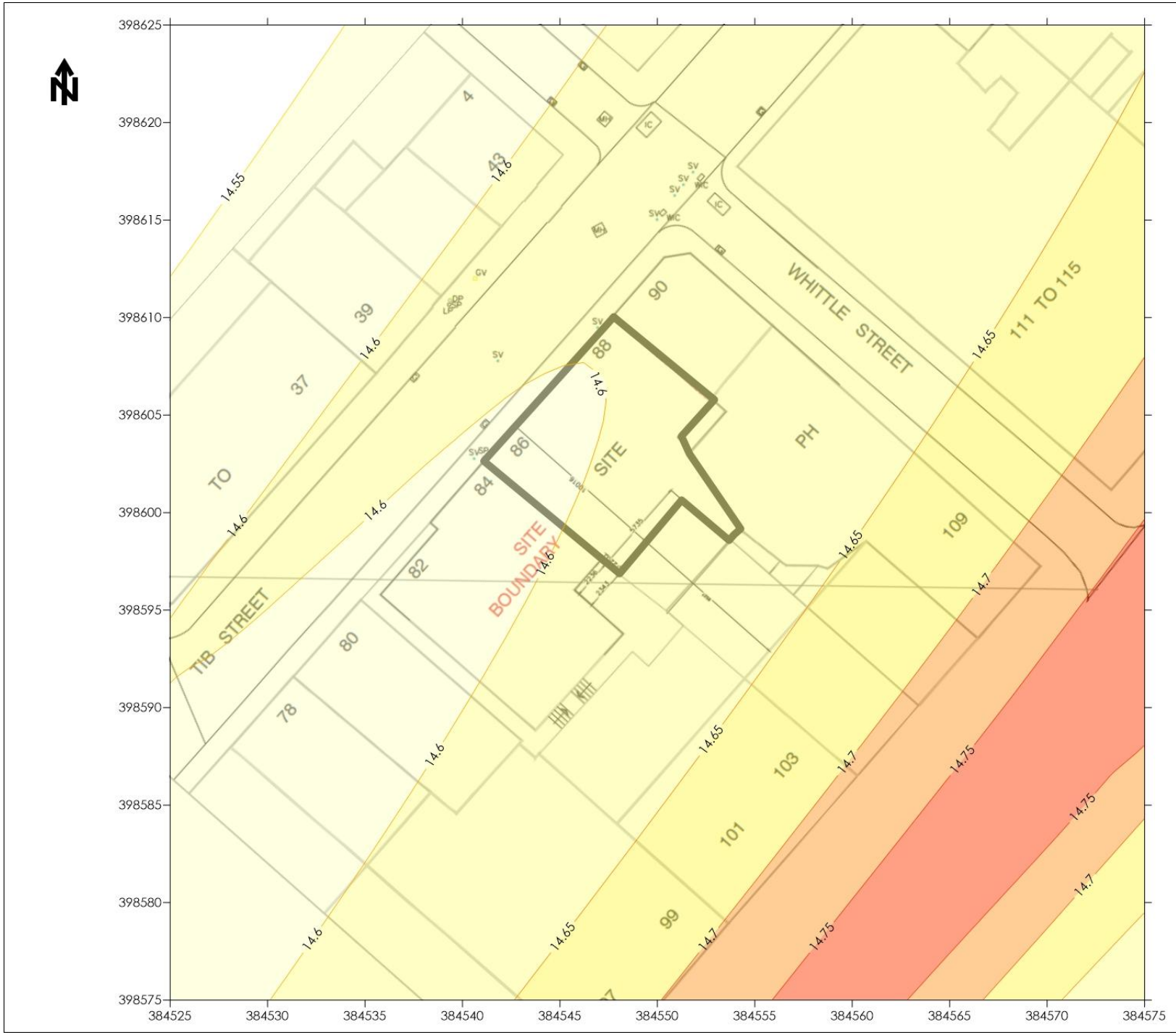
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Air Quality Management Strategy
Tib Street, Manchester

Project Reference
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Legend

Site Boundary

Annual Mean PM_{10} Concentration (µg/m³)

14.8
14.75
14.7
14.65
14.6
14.55
14.5

Title
Figure 4 - Predicted Annual Mean PM_{10} Concentrations (µg/m³)
First Floor

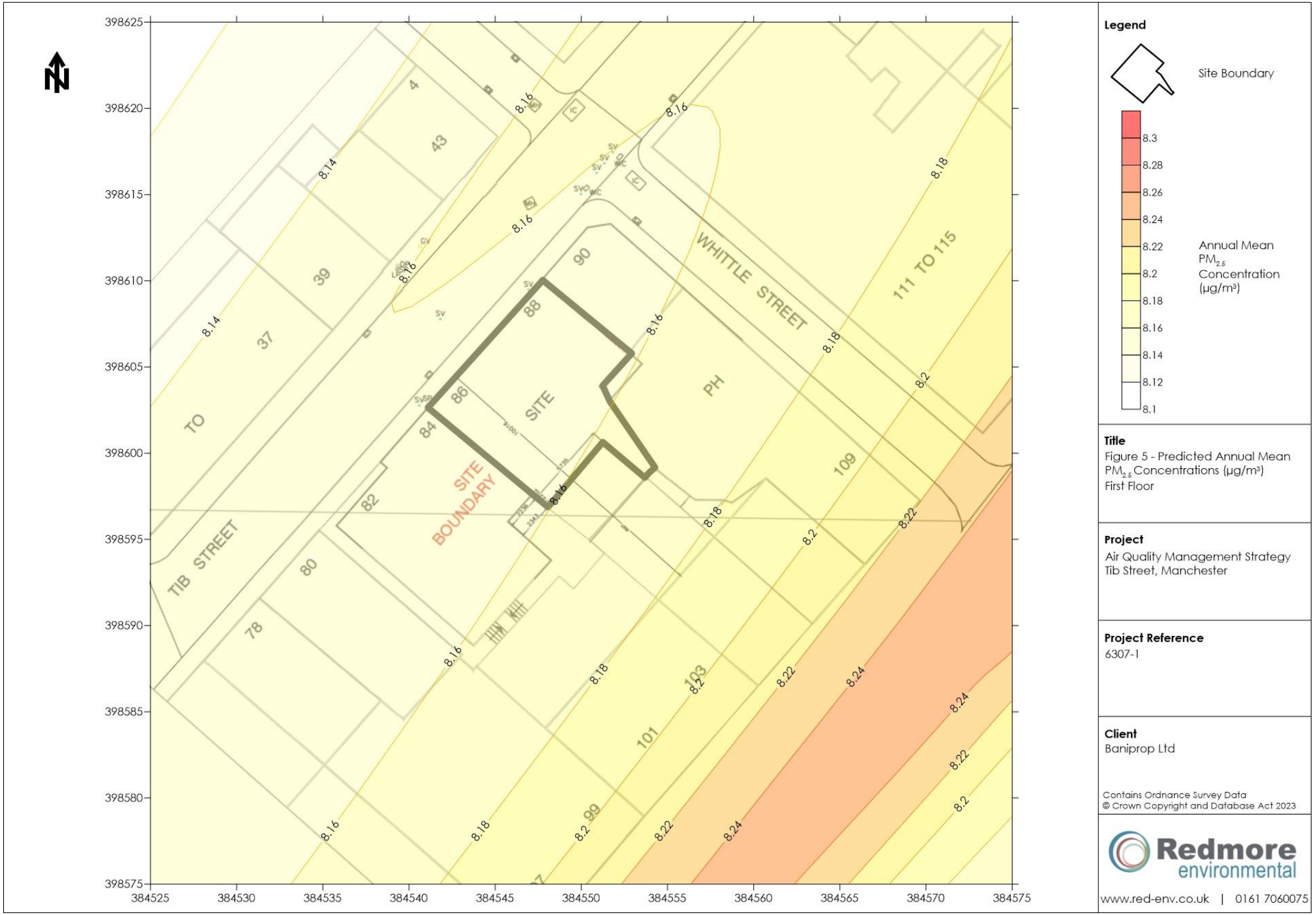
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Air Quality Assessment
Tib Street, Manchester

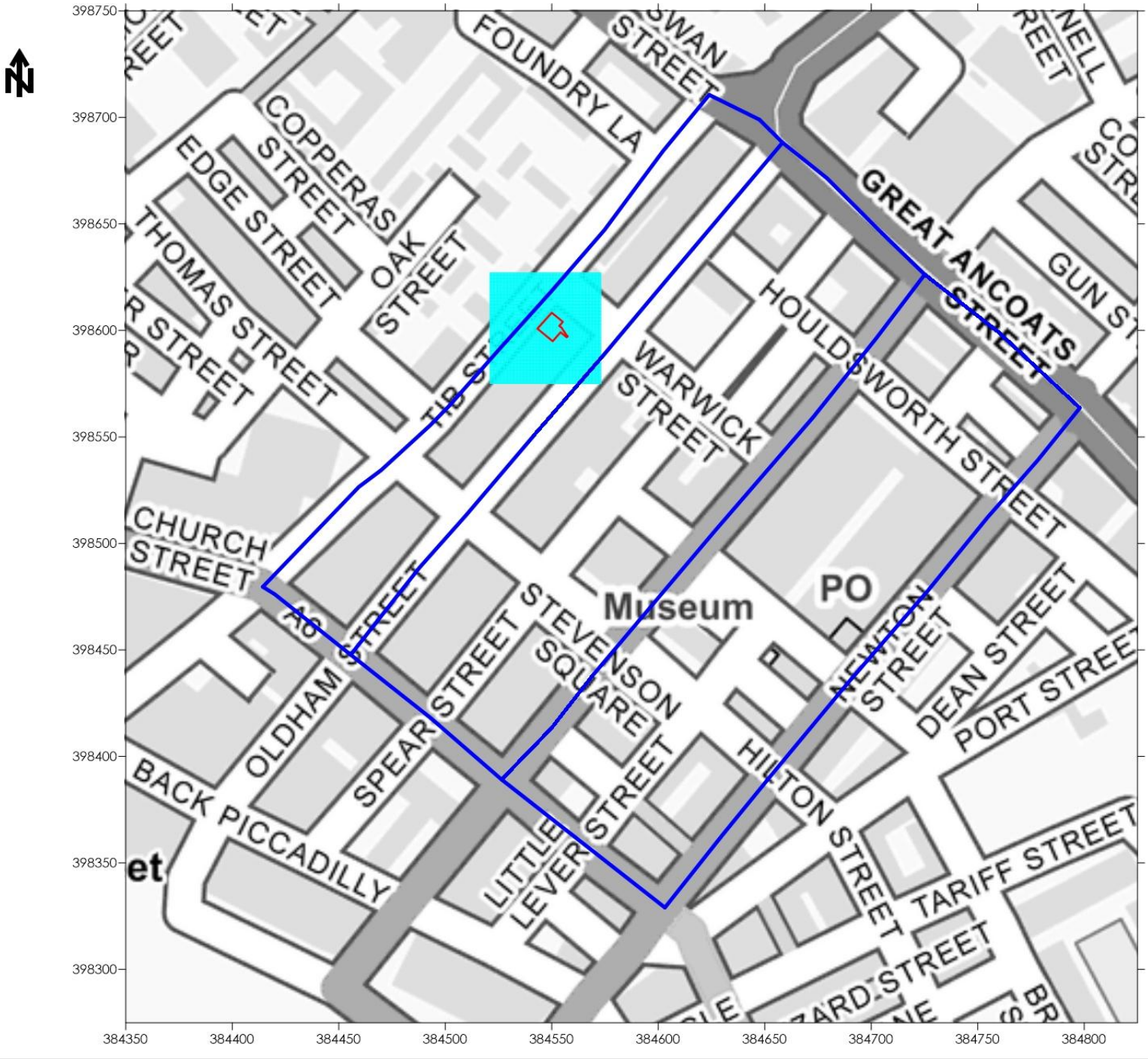
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Client
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8.1
Annual Mean PM2.5 Concentration (µg/m³)
Title
Figure 5 - Predicted Annual Mean PM2.5 Concentrations (µg/m³) First Floor
Project
Air Quality Management Strategy Tib Street, Manchester
Project Reference
6307-1
Client
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Legend

Site Boundary

Road Link

Output Grid

Title
Figure 6 - ADMS-Roads Inputs

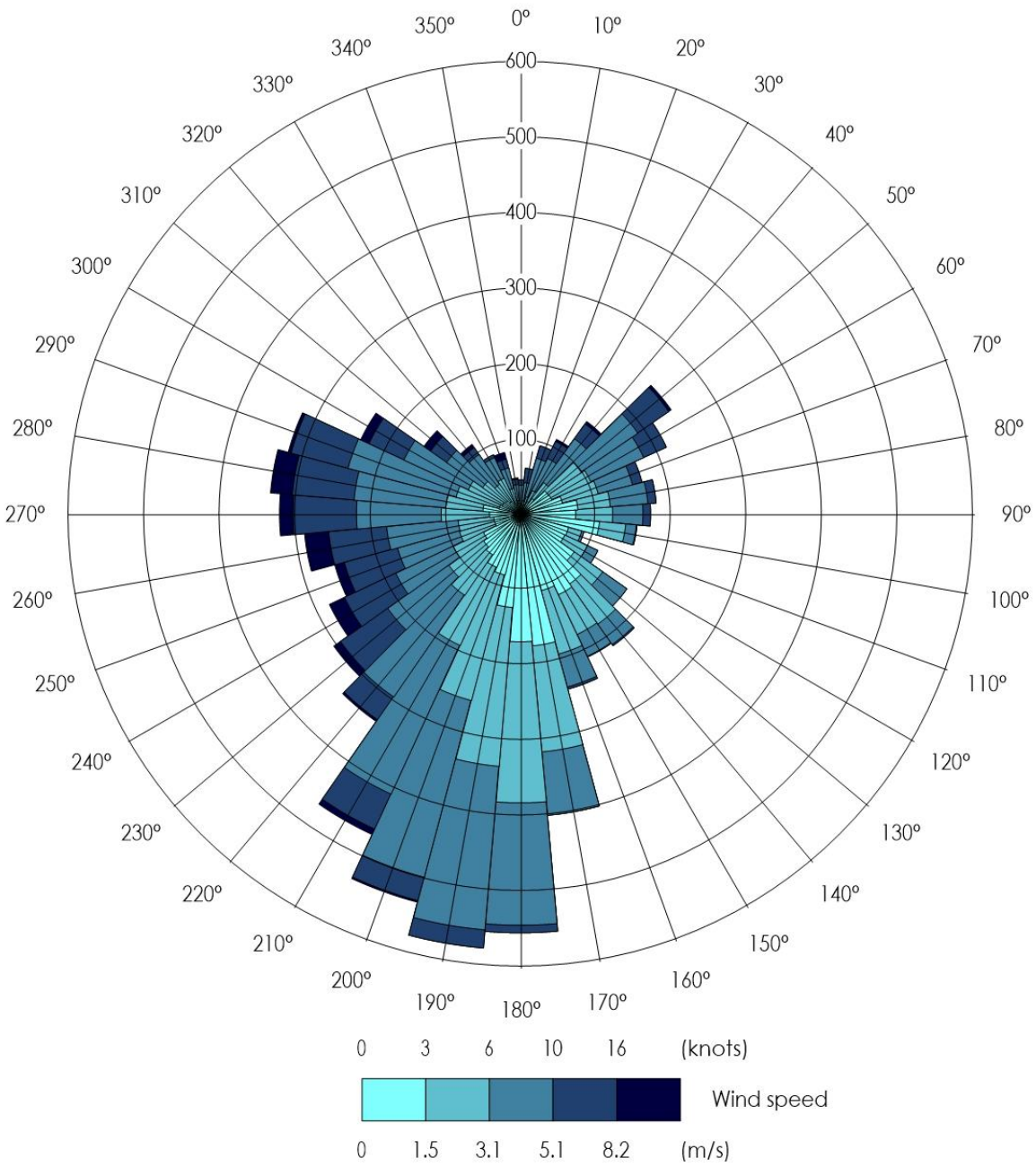
Project
Air Quality Management Strategy
Tib Street, Manchester

Project Reference
6307-1

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Legend

Title
Figure 7 - Wind Rose of 2024
Manchester Airport
Meteorological Data

Project
Air Quality Management Strategy
Tib Street, Manchester

Project Reference
6307-1

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Appendix 1 - Assessment Input Data

Introduction

The proposals have the potential to expose future residents to elevated pollution levels. In order to assess NO_2, PM_{10} and $PM_{2.5}$ concentrations across the development site, dispersion modelling was undertaken in accordance with the following methodology.

Modelling was undertaken for 2024 to allow verification against recent monitoring results and 2027 to represent likely conditions in the opening year of the scheme.

Dispersion Model

Dispersion modelling was undertaken using the ADMS-Roads dispersion model (version 5.1.0.2). ADMS-Roads is developed by Cambridge Environmental Research Consultants (CERC) and is routinely used throughout the world for the prediction of pollutant dispersion from road sources. Modelling predictions from this software package are accepted within the UK by the Environment Agency and DEFRA.

The model requires input data that details the following parameters:

- Assessment area;
- Traffic flow data;
- Vehicle emission factors;
- Spatial co-ordinates of emissions;
- Street width;
- Meteorological data;
- Roughness length (z_0); and,
- Monin-Obukhov length.

The following Sections detail the relevant inputs utilised in the assessment.

Assessment Area

The assessment area was defined based on the location of the development and roads likely to impact pollutant levels across the site at first floor level. Ambient concentrations were predicted over NGR: 384521, 398575 to 384573, 398627. One Cartesian grid was used within the model to produce data suitable for contour plotting using the Surfer software package.

It should be noted that although the grid only covered the proposed site, source geometries were extended in order to ensure the impact of all relevant emissions in the vicinity of the scheme were considered.

Reference should be made to Figure 6 for a graphical representation of the assessment grid extents.

Traffic Flow Data

Baseline traffic data for use in the assessment, including 24-hour AADT flows and fleet composition as HDV proportion, was obtained from the Department for Transport (DfT)[27]. The DfT web tool enables the user to view and download traffic flows on every link of the 'A' road and motorway network, as well as selected minor roads, in Great Britain for the years 2000 to 2024. It should be noted that the DfT web tool is referenced in DEFRA guidance[28] as being a suitable source of data for air quality assessments and it is therefore considered to provide a reasonable estimate of traffic flows in the vicinity of the site.

Traffic data for Oldham Street was not available from the DfT. Flows from Lever Street were therefore applied to the relevant links in order to ensure emission sources closest to the development were included in the model. Lever Street and Oldham Street are both one-way streets in the Northern Quarter area of Manchester, the data is therefore considered an appropriate representation of traffic movements in lieu of other sources.

Traffic data for Tib Street was not available from the DfT. As such, data was obtained from an Environmental Statement produced in support of High Speed Rail (Crewe - Manchester)[29].

The baseline traffic data was converted to the site opening year utilising a factor obtained from TEMPro (version 8.0). This software package has been developed by the DfT to calculate future traffic growth throughout the UK.

Road parameters for input into the model were based on the following:

27 https://roadtraffic.dft.gov.uk/#6/55.254/-11.107/basemap-regions-countpoints.

28 Local Air Quality Management (TG22) Technical Guidance, DEFRA, 2022.

29 High Speed Rail (Crewe - Manchester) Environmental Statement, Volume 5: Appendix TR-002-00006_Report 1, Arup, 2022.

- Road widths were estimated from aerial photography and UK highway design standards;
- Vehicle speeds were estimated as an average for the relevant road link over the course of a 24-hour period;
- Vehicle speeds were determined following review of speed limits within the study extents, as well as congestion data available from GoogleMaps;
- Vehicle speeds specific to slow phases were determined using the methodology outlined in the DEFRA guidance[30];
- Necessary adjustments to slow phase vehicle speeds were based upon congestion data available from GoogleMaps; and,
- The length for slow phases was derived using the approaching distance of 25m outlined in the DEFRA guidance[31], and adjusted accordingly based on aerial photography and congestion data available from GoogleMaps.

A summary of the traffic data used in the assessment is provided in Table A1.1.

Table A1.1 Traffic Data

Link		24-hour AADT Flow		HDV Prop. Of Fleet (%)	Road Width (m)	Avg. Vehicle Speed (km/h)
		2024	2027			
L1	Swan Street Slow Phase (SP)	15,586	16,096	2.44	9.6	25
L2	Great Ancoats Street to Lever Street SP	29,929	30,908	3.63	20.7	25
L3	Great Ancoats Street South SP	29,929	30,908	3.63	19.9	25
L4	Newton Street to Dale Street Canyon	2,872	2,966	2.92	12.3	30
L5	Dale Street Canyon	2,130	2,200	11.31	8.9	30
L6	Lever Street to Stevenson Square Canyon	2,906	3,001	16.96	9.6	30
L7	Stevenson Square	2,906	3,001	16.96	9.6	30
L8	Lever Street to Great Ancoats Street Canyon	2,906	3,001	16.96	9.2	30
L9	Church Street Canyon	3,278	3,385	34.38	8.1	40
L10	Oldham Street Canyon	2,906	3,001	16.96	7.6	30

30 Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

31 Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Link		24-hour AADT Flow		HDV Prop. Of Fleet (%)	Road Width (m)	Avg. Vehicle Speed (km/h)
		2024	2027			
L11	89-95 Oldham Street Canyon	2,906	3,001	16.96	7.5	30
L12	Oldham Street Canyon, South of Warwick Street	2,906	3,001	16.96	7.5	30
L13	Oldham Street no Canyon	2,906	3,001	16.96	7.6	30
L14	64-66 Oldham Street Canyon	2,906	3,001	16.96	7.4	30
L15	Oldham Street Canyon to Great Ancoats	2,906	3,001	16.96	7.6	30
L16	Tib Street Canyon	1,028	1,062	1.04	4.3	30

Reference should be made to Figure 6 for a graphical representation of the road link locations.

Canyons

Where buildings or walls surround roads, pollutant dispersion patterns are altered which can lead to high pollutant concentrations. These street canyons can significantly influence air quality along a road and therefore it is important to take consideration of their effects when undertaking dispersion modelling.

The release of ADMS-Roads version 4.0.1.0 in December 2015 incorporated a number of new features including an advanced street canyon module, which have been retained in version 5.1.0.2. Advanced street canyon modelling allows a number of parameters to be included in the dispersion model in order to predict pollutant dispersion patterns which better reflect air flow within complex urban geometries.

Canyons have five principal effects on dispersion which can influence pollutant concentrations. These are:

- Pollutants are channelled along street canyons;
- Pollutants are dispersed across street canyons by circulating flow at road height;
- Pollutants are trapped in recirculation regions;
- Pollutants leave the canyon through gaps between buildings as if there was no canyon; and,
- Pollutants leave the canyon from the canyon top.

The combined modelling of these effects will result in concentration patterns unique to each canyon. The parameters used in the assessment are outlined in Table A1.2. It should be noted that the "left" parameters of L13 were purposefully included at 0m as buildings are only present on one side of the road on this link.

Table A1.2 Canyon Parameters

Link	Parameter (m)					
	Canyon Width to Left	Average Height of Buildings to Left	Building Length Left	Canyon Width Right	Average Height of Buildings to Right	Building Length Right
L1	10.3	15.5	229.1	8.8	12.0	248.5
L3	16.8	15.5	67.7	10.3	15.5	72.3
L4	10.3	15.5	229.1	8.8	12.0	248.5
L5	10.3	12.5	71.2	5.8	15.5	51.4
L6	8.6	15.0	65.5	8.8	13.5	54.5
L8	9.0	12.0	169.3	9.0	15.0	169.1
L9	10.1	15.0	99.5	6.2	13.5	109.3
L10	7.2	12.5	108.2	7.7	12.5	108.2
L11	7.2	15.0	49.8	7.7	13.0	49.8
L12	7.2	11.0	12.0	7.6	12.6	12.0
L13	7.4	10.5	38.6	0.0	0.0	0.0
L14	7.4	10.5	12.9	7.8	12.0	12.9
L15	7.4	10.0	53.2	7.8	10.5	53.2
L16	3.8	12.5	159.7	4.1	12.5	274.8

A choice of two modes is provided for use in the advanced canyon module. Standard mode assumes that each road is part of a continuous network of roads with similar properties. Network mode analyses the road network to determine transport of pollutants between adjoining street canyons, allows for varying concentrations along the canyon and accounts for transport of pollutants out of the end of a canyon. Network mode is considered most accurate for detailed local and as such was selected for use in the model.

Emission Factors

Emission factors for each link were calculated using the relevant traffic flows and the Emissions Factor Toolkit (version 13.1). This has been produced by DEFRA and incorporates COPERT 5.8 vehicle emission factors and fleet information.

There is current uncertainty over NO_2 concentrations within the UK, with the implementation of new vehicle emission standards not resulting in the previously expected reduction in roadside levels. Therefore, 2024 emission factors were utilised in preference to the development opening year in order to provide robust concentration predictions. As predictions for 2024 were verified, it is considered the assessment is conservative.

Meteorological Data

Meteorological data used in the assessment was taken from Manchester Airport meteorological station over the period 1st January 2024 to 31st December 2024 (inclusive). Manchester Airport is located at NGR: 381792, 384116, which is approximately 14.6km south-west of the development. It is anticipated that conditions would be reasonably similar over a distance of this magnitude. The data was therefore considered suitable for an assessment of this nature.

All meteorological records used in the assessment were provided by Atmospheric Dispersion Modelling (ADM) Ltd, which is an established distributor of data within the UK. Reference should be made to Figure 7 for a wind rose of utilised meteorological data.

Roughness Length

The z_0 is a modelling parameter applied to allow consideration of surface height roughness elements. A z_0 of 1m was used to describe the modelling extents. This is considered appropriate for the morphology of the area and is suggested within ADMS-Roads as being suitable for 'cities, woodlands'.

A z_0 of 0.2m was used to describe the meteorological site. This value is considered appropriate for the morphology of the area and is suggested within ADMS-Roads as being suitable for 'agricultural areas (min)'.

Monin-Obukhov Length

The Monin-Obukhov length provides a measure of the stability of the atmosphere. A minimum Monin-Obukhov length of 30m was used to describe the modelling extents and meteorological data. This value is considered appropriate for the nature of both areas and is suggested within ADMS-Roads as being suitable for 'cities and large towns'.

Background Concentrations

Annual mean NO_2, PM_{10} and $PM_{2.5}$ background concentrations for use in the assessment were taken from the DEFRA mapping grid square containing the site, as shown in Table 15.

Background concentrations from 2024 were utilised in preference to the development opening year. This provided a robust assessment and is likely to overestimate pollutant concentrations during the operation of the proposal.

NO_x to NO_2 Conversion

Predicted annual mean NO_x concentrations were converted to NO_2 concentrations using the spreadsheet (version 9.1) provided by DEFRA, which is the method detailed within DEFRA guidance[32].

Verification

The predicted results from a dispersion model may differ from measured concentrations for a large number of reasons, including:

- Estimates of background concentrations;
- Uncertainties in source activity data such as traffic flows and emission factors;
- Variations in meteorological conditions;
- Overall model limitations; and,
- Uncertainties associated with monitoring data, including locations.

32 Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Model verification is the process by which these and other uncertainties are investigated and where possible minimised. In reality, the differences between modelled and monitored results are likely to be a combination of all of these aspects.

For the purpose of the assessment, model verification was undertaken for 2024 using traffic data, meteorological data and monitoring results from this year.

Monitoring of NO_2 concentrations was undertaken at one location within the vicinity of roads included within the model during 2024. The result was obtained and the road contribution to total NO_x concentration was calculated following the methodology contained within DEFRA guidance[33]. The monitored annual mean NO_2 concentration and calculated road NO_x concentration are summarised in Table A1.3.

Table A1.3 NO_x Verification - Monitoring Result

Monitoring Location		Monitored NO_2 Concentration (µg/m³)	Calculated Road NO_x Concentration (µg/m³)
CAP_MANC_089	High Street	28.00	13.65

The annual mean road NO_x concentration predicted from the dispersion model and the 2024 road NO_x concentration calculated from the monitoring result are summarised in Table A1.4.

Table A1.4 NO_x Verification - Modelling Result

Monitoring Location		Calculated Road NO_x Concentration (µg/m³)	Modelled Road NO_x Concentration (µg/m³)
CAP_MANC_089	High Street	13.65	4.38

The monitored and modelled road NO_x concentrations were compared to calculate the associated ratio. This indicated that a verification factor of 3.1182 was required to be applied to all modelling results.

33 Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Monitoring of PM_{10} or $PM_{2.5}$ concentrations was not undertaken within the assessment extents. The NO_x verification factor was therefore used to adjust model predictions of these species in lieu of more accurate data in accordance with DEFRA guidance[34].

[34] Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Appendix 2 - Curricula Vitae

JETHRO REDMORE

Director

BEng (Hons), MSc, MIAQM, MIEnvSc, PIEMA, CEnv

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.

LAUREN MASSINGHAM

Associate Air Quality Consultant

BSc (Hons), CEnv, MIAQM, MIEnvSc

[redacted]

KEY EXPERIENCE:

Lauren is an Associate with specialist experience in the air quality sector. Her key capabilities include:

- Undertaking and managing a variety of air quality projects in a range of sectors including residential, student accommodation, educational, commercial and industrial projects
- Detailed dispersion modelling of road vehicle and industrial emissions using ADMS-Roads and ADMS-6. 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.
- Co-ordination and management of multi-disciplinary projects and submissions.
- Assessment of fugitive dust impacts from a range of mineral extraction developments.
- Production of air quality mitigation strategies specifically tailored to address issues at individual sites.
- Active STEM Ambassador role, working with local schools to educate about air quality.

SELECT PROJECTS SUMMARY:

Norton Lodge, Malton

An ES Chapter and technical appendix were supplied to support this EIA development. The development comprised a new link road and therefore required multiple assessment scenarios. The Chapter also looked at impacts at ecological designations, impacts with an AQMA, odour from neighbouring facilities and impacts on proposed receptors. The AQMA in Malton was a particular concern for the council. The overall impact was considered to be not significant.

Yorkshire Post Phase 2, Leeds

An Air Quality Assessments to support each of the three proposed towers which form part of the Yorkshire Post Phase 2. These high-rise buildings were proposed for student accommodation and commercial uses. In addition to following LAQM.TG(22) and EPUK&IAQM guidance, the West Yorkshire Low Emissions Strategy (WYLES) Air Quality & Emissions Technical Planning Guidance was followed. Due to the 'Major' development classification in line with the WYLES guidance, damage costs for each tower were calculated. Mitigation measures were suggested. The energy strategy for the development was for a connection to the Leeds PIPES local heating district network.. The scheme was approved.

Old Hall Street, Liverpool

An Air Quality Assessment to support a student accommodation development. The scheme is 'car free' and trips generated dispersed to below the threshold once off Old Hall Street. The Site was considered suitable for residential use.

Viadux Phase 2, Manchester

Environmental Impact Assessment to support a high-rise residential led scheme in the city centre. The assessment included both operational and construction phase impacts. Impacts with both phases were considered to be 'not significant'. Additionally, in line with Manchester City Council Air Quality Guidance a Damage Cost calculation was included to ensure that sufficient mitigation was included to reduce air quality impacts as much as possible.

Plot 9b, First Street, Manchester

An ES Chapter to support the EIA development on land off First Street. The assessment included operational and construction phase impacts, in addition to modelling to ensure site suitability. Additionally, in line with Manchester City Council Air Quality Guidance a Damage Cost calculation was included to ensure that sufficient mitigation was included to reduce air quality impacts as much as possible. This included improving footpaths so that the site linked to other Plots within the wider First Street development. The Chapter concluded that impacts were considered not significant.

Winwick Road, Warrington

Air Quality Assessment for the proposed B2/B8 development in Warrington. Changes in pollution levels were considered at sensitive receptors as a result of trips generated and their distribution across the local area. Results of the dispersion modelling study indicated air quality impacts as a result of the scheme were not significant.

FRANCINE CHAN

Graduate Air Quality Consultant

BSc, AMIEnvSc

[redacted]

KEY EXPERIENCE:

Francine is a Graduate Consultant with specialist experience in the air quality sector. Her key capabilities include:

- Production of Air Quality Assessments in accordance with Department for Environment, Food and Rural Affairs (DEFRA) methodologies for a range of residential, commercial and industrial sectors.
- Detailed dispersion modelling of road vehicle exhaust emissions using ADMS-Roads. Studies have included assessment of road traffic exhaust emissions on sensitive receptors and exposure of new residents to poor air quality.
- Advanced canyon modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Assessment of construction dust impacts from a range of development sizes.
- Definition of baseline air quality and identification of sensitive areas across the UK.
- Production of Air Quality Neutral Assessments in accordance with The London Plan.
- Odour surveys and risk assessments to assess amenity and suitability of sites for potential future development for residential use.

SELECT PROJECTS SUMMARY:

Moseley Road, Fallowfield

Air Quality Assessment in support of the construction of a healthcare clinic alongside car parking and associated infrastructure. The site was located adjacent to an Air Quality Management Area (AQMA) therefore there was concern that there could be potential impacts due to vehicle movements as a result of the site within this sensitive area as well as exposure of future users to poor air quality due to traffic emissions. Dispersion modelling of road vehicle exhaust emissions was undertaken in support of the scheme. Results indicated that potential impacts were predicted to be not significant and the site was considered suitable for the proposed end use.

Snape Lane, Harworth

Air Quality Assessment in support of an industrial development to construct a brickwork. A Fugitive Dust Emissions Assessment was required to determine potential impacts of operational phase fugitive dust emissions. Result indicated the overall impacts of fugitive dust emissions and road vehicle exhaust emissions associated with the site were predicted to be not significant and the site was considered suitable for the proposed end use.

High Street, Beckenham

Air Quality Assessment and Air Quality Neutral Assessment in support of a residential development. The development had the potential to expose future occupants to existing air quality issues and cause impacts at sensitive locations. The site was concluded to be Air Quality Neutral in accordance with the London Plan and the results indicated air quality conditions did not present an issue to planning consent.

Sawtry Way, Wayton

An Odour Assessment in support of a residential development with associated access and landscaping works. The development was located in the vicinity of a Water Recycling Centre, which may form a source of odour emissions and cause loss of amenity to future residents. An Odour Risk Assessment was undertaken to assess baseline conditions across the site and consider the risk of reduced amenity. Results of the assessment indicated odour effects at the site did not represent a constraint to planning consent.

Old Station Road, Hampton-in-Arden

Air Quality Assessment in support of a residential development comprising 130 dwellings and associated infrastructure. Detailed dispersion modelling was undertaken to predict pollutant concentrations at sensitive locations as a result of emissions from the highway network both with and without the development in place. Review of the dispersion modelling results indicated that residual impacts due to the operation of the development were considered to be not significant.

Cefn Road, Wrexham

Air Quality Assessment in support of Morgan Llwyd School. Following concerns from the Local Authority regarding the potential exposure of future staff and students to poor air quality, dispersion modelling was undertaken in order to predicted air quality conditions across the site. Results indicated concentrations did not represent a constraint to planning consent.