



Air Quality Assessment

Redevelopment of Existing Storage Container Facility into
Ten B8 Warehouse Units
Collingham Street
Manchester M8 8RG

Client

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Report Control

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Contents

1	Introduction.....	5
1.1	Overview	5
1.2	Objectives	5
1.3	The Development and the Site Location.....	6
1.4	Pollutants	7
2	Legislation and Policy Context	8
2.1	National Level	8
2.2	Local – Manchester City Council	10
3	Assessment Methodology	12
3.1	Overview	12
3.2	Scope of Air Quality Assessment.....	12
3.3	Air Quality and Planning Technical Guidance Methodology.....	12
3.4	Dust Risk Assessment	13
3.5	Transport Emissions	16
3.6	Air Quality Assessment.....	16
4	Baseline Conditions	19
4.1	Background Concentrations.....	19
4.2	Existing Air Quality	19
5	Potential Impacts.....	23
5.1	Construction Phase Impacts - Air Quality Dust Risk Assessment.....	23
5.2	Operational Phase Air Quality Assessment	27
5.3	Air Pollution Exposure Criteria	27
5.4	Air Quality Assessment	27
6	Proposed Mitigation Measures.....	28
6.2	Construction and Trackout Phases Mitigation Measures	28
6.3	Operation Phase Mitigation Measures	29
7	Conclusions.....	30
8	Appendices.....	31
8.1	Appendix 1: Operational Impact Assessment Methodology	31
8.2	Appendix 2: Site Drawings.....	33

List of Figures

Figure 1-1 Site Location	6
Figure 1-2 AQMA near the Site.....	7
Figure 4-1 AQMA near the Site.....	20
Figure 4-2 Air Quality Monitoring Locations Near the Project Site	21
Figure 5-1 Construction Dust Risk Assessment Buffers	23
Figure 8-1 Site Location Plan.....	33
Figure 8-2 Existing Site Plan.....	34
Figure 8-3 Proposed Ground Floor Plan.....	35
Figure 8-4 Proposed Elevations.....	36

List of Tables

Table 2-1: AQO Relevant to the Proposed Development.....	9
Table 3-1 Source of Information used for AQA.....	12
Table 3-2 Dust Emission Magnitude	14
Table 3-3 EPUK/IAQM Criteria for Screening the Need for AQA	16
Table 3-4 Impact Magnitude - Changes in NO ₂ and PM ₁₀ Concentrations.....	17
Table 3-5 Impact Descriptors for Individual Receptors.....	17
Table 3-6 Air Pollution Exposure Criteria.....	18
Table 4-1 Defra Background Concentrations (for all receptors)	19
Table 4-2 Automatic Air Quality Monitoring Stations in Manchester	21
Table 4-3 NO ₂ Concentrations (µg/m ³) at Automatic Stations	22
Table 4-4 Annual Mean NO ₂ at Diffusion Tube Locations Near the Project Site.....	22
Table 4-5 PM ₁₀ Concentrations at Automatic Monitoring Stations	22
Table 5-1 Dust Emission Magnitude	24
Table 5-2 Sensitivity of Study Area to Dust and Soiling Effects on People and Property	25
Table 5-3 Summary of the Risk of Construction Effects	25



1 Introduction

1.1 Overview

- 1.1.1 Low Cost Storage Ltd have appointed Viridian Air to provide an air quality and dust risk assessment and management plan with respect to a planning application for the proposed re-development of an existing storage unit into ten B8 Warehouse Units, at Collingham Street, Manchester M8 8R. The planning application is to be submitted to Manchester City Council (MCC).
- 1.1.2 The air quality assessment of the proposed development has been assessed using the latest planning guidance¹ from the Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM), and the Local Air Quality Management – Technical Guidance from the Department for Environment, Food and Rural Affairs (Defra)².
- 1.1.3 Construction dust assessment and the development of the Dust Management Plan have been prepared based on the latest IAQM guidance on construction dust³.

1.2 Objectives

- 1.2.1 The main aim of this air quality assessment (AQA) is to develop an air quality and dust management plan (AQDMP). This is to meet the planning requirement of Manchester City Council (MCC).
- 1.2.2 The AQA has the following objectives:
 - Relevance to national, regional and local air quality and appropriate planning guidance
 - Establishment of the background air quality at the site and comparison with the National Air Quality Objectives (AQOs).
 - Assessment of the risk of construction dust impacts
 - Define the potential dust emission magnitude
 - Define the sensitivity of the area
 - Define the risk of impacts
 - Recommendations for dust and emission control measures during construction phase
- 1.2.3 The AQA will be based on the most recent air quality predictions and monitoring results from the Manchester City Council 's Air Quality Annual Status Report (ASR) 2021.

¹ Land-Use Planning and Development Control: Planning for Air Quality (2017) Environmental Protection UK and Institute of Air Quality Management

² Defra (2016): 'Local Air Quality Management – Technical Guidance (TG16)'

³ IAQM (2016): 'Guidance on the Assessment of Dust from Demolition and Construction v1.1'

1.3 The Development and the Site Location

- 1.3.1 Permission is being sought for the re-development of an existing storage unit into ten B8 Warehouse Units with associated storage and toilet facilities.
- 1.3.2 The site is currently used a storage container site. The site is located on the North of Collingham Street, within the EC3 area of North Manchester. The site setting in the local area is shown in Figure 1-1.
- 1.3.3 The busy routes of Cheetham Hill and Inner Ring Road (Trinity Way) both fall within a mile of the site. Station and 20min. from Queen's Road (Metrolink). The area around Collingham Street is full of industrial units, warehouses, small offices, factories and a local Public House. To the South-East, not far from the site lies the River Irk.
- 1.3.4 There are no Site of Special Scientific Interest (SSSI) within 500m of the site.
- 1.3.5 There are no Air Quality Management Areas (AQMA) in the immediate vicinity of the project site. However, Manchester City Centre AQMA including the part on Cheetham Road is within 500m of the site. The site setting with respect to the AQMA is shown in Figure 1-2.
- 1.3.6 Detailed site and floor plans, as provided by the client are shown in Appendix 2.

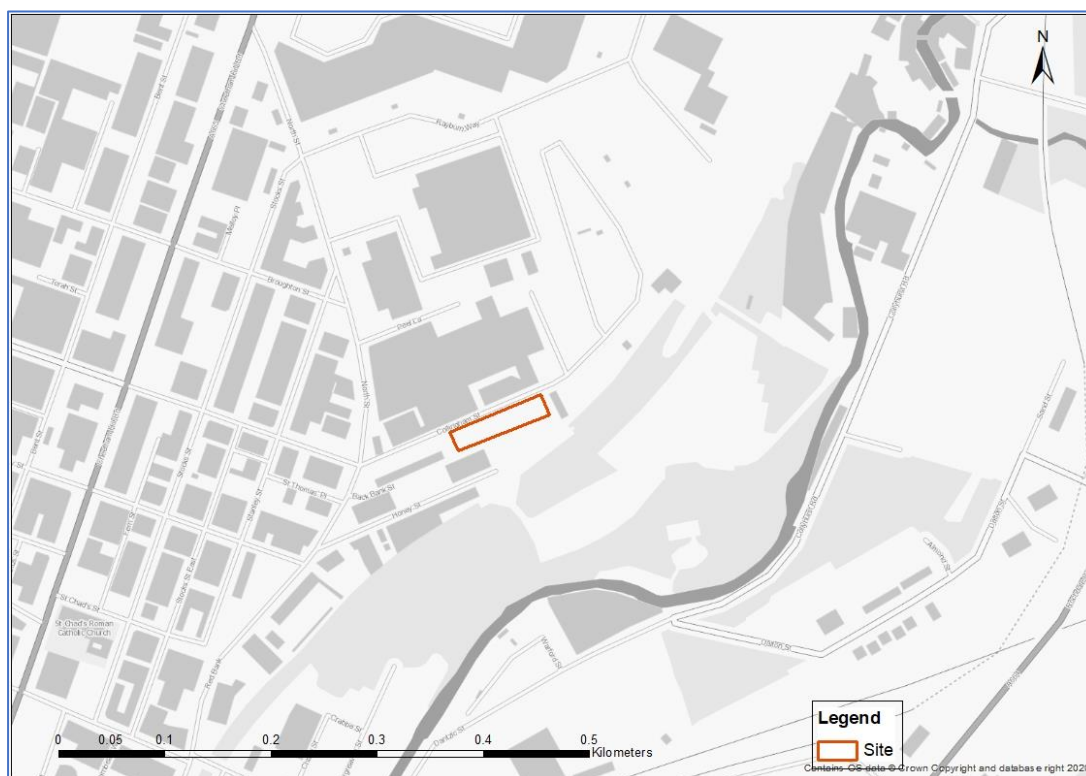


Figure 1-1 Site Location

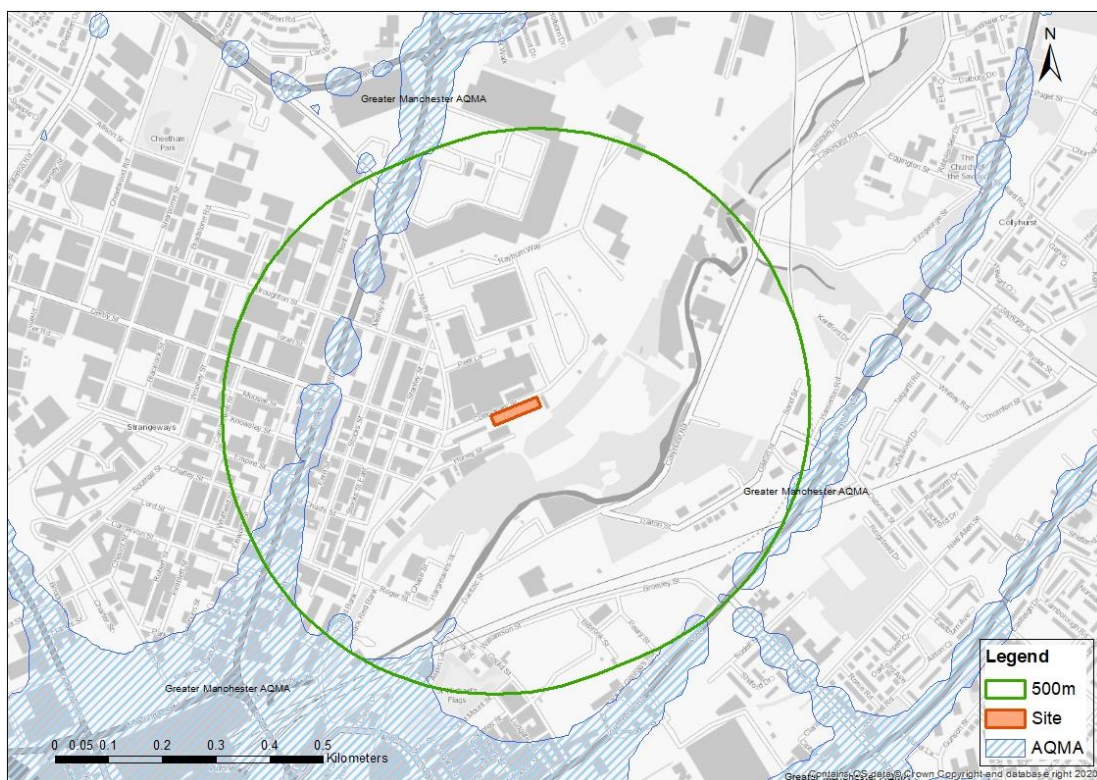


Figure 1-2 AQMA near the Site

1.4 Pollutants

- 1.4.1 Road traffic is the main source of pollution in the area. Transport and infrastructure projects feature prominently within the Council's Air Quality Annual Status Report (ASR) and the action plans therein to target the main sources of pollution (road traffic) within the area.
- 1.4.2 At present the main pollutant of concern is nitrogen dioxide (NO_2). The key pollutants associated with this assessment are road traffic emissions including nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $\text{PM}_{2.5}$) from the surrounding road network. These pollutants are therefore considered as part of this assessment.



2 Legislation and Policy Context

2.1 National Level

2.1.1 National Air Quality Objectives

The UK government has a legal responsibility to meet the EU limit values. Part IV of the 1995 Environment Act⁴ sets guidelines for protecting air quality in the UK and forms the basis of the local air quality management. The Environment Act requires local authorities in the UK to review air quality in their area periodically and designate 'Air Quality Management Area' (AQMA) if improvements are necessary. Where an AQMA is designated, local authorities are also required to produce an 'Air Quality Action Plan' detailing the pollution reduction measures that need to be adopted to achieve the relevant air quality objectives within an AQMA.

As part of the Environment Act, the UK Government was required to publish a National Air Quality Strategy (NAQS) to establish the system of 'local air quality management' (LAQM) for the designation of AQMAs. The latest air quality strategy, called Clean Air Quality Strategy⁵ was published in 2019. The Strategy sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero⁶ sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMA) are designated due to elevated concentrations heavily influenced by transport emissions.

The 2008 EU ambient air quality directive 2008/50/EC was transposed to England law through the introduction of the Air Quality (Standards) Regulations in 2010⁷.

Environment Act 2021⁸, Part 4, Schedule 11, contains amendment of part 4 of the Environment Act 1995 (air quality). The Environment Act 2021 establishes a legally binding duty on government to bring forward at least two new air quality targets in secondary legislation by 31 October 2022. This duty sits within the environmental targets framework outlined in the Environment Act (Part 1). In March 2022, the government proposed a new legally binding target to reduce levels of PM_{2.5} to 10 micrograms per cubic metre (µg/m³) by 2040. This target is only a proposal at this stage and will be confirmed after a public consultation has been carried out.

A summary of the relevant Air Quality Objectives (AQO) and the types of receptors that are relevant to this assessment are presented in Table 2-1. The AQO listed in Table 2-1 applies only at locations with relevant exposure where a member of the public could be exposed to a level of pollution concentration for the specific averaging periods for that pollutant.

⁴ Parliament of the United Kingdom. (1990), 'Environmental Protection Act', Chapter 43. Queen's Printer of Acts of Parliament.

⁵ Clean Air Strategy (2019) <https://www.gov.uk/government/publications/clean-air-strategy-2019>

⁶ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

⁷ Statutory Instrument. (2010), 'The Air Quality Standards Regulations', No. 1001. Queen's Printer of Acts of Parliament.

⁸ The Environment Act 2021 <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>
<https://www.legislation.gov.uk/ukpga/2021/30/part/4/enacted>



Table 2-1: AQO Relevant to the Proposed Development

Pollutant	Air Quality Objectives		Concentration measured as	Note
	Concentration	Allowance		
Nitrogen Dioxide (NO ₂)	200 µg/m ³	18 per year	1-hour mean	Air Quality Objective (AQO)
	40 µg/m ³		Annual mean	AQO
Particulate Matter (PM ₁₀)	50 µg/m ³	35 per year	24-hour mean	AQO
	40 µg/m ³		Annual mean	AQO
Particulate Matter (PM _{2.5})	25 µg/m ³		Annual mean	AQO

2.1.2 National Planning Policy Framework

The principal national planning policy guidance in respect of the proposed development is the National Planning Policy Framework (NPPF)⁹. The most recent update of the NPPF was published in July 2021 by Ministry of Housing, Communities and Local Government. NPPF sets out the government's planning policies for England and how these are expected to be applied. The NPPF Section 174 states that:

"The planning system should contribute to and enhance the natural and local environment by:..... preventing both 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....."

Section 186 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."*

2.1.3 Relevant National Planning Practice Guidance

The DCLG published a number of supporting web-based resources of Planning Practice Guidance (PPG)¹⁰ to supplement the NPPF. With respect to air quality PPG provide guidance on when air quality is relevant to a planning application. It states that:

"Concerns could arise if the development is likely to generate air quality impact in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife)."

⁹ National Planning Policy Framework. Accessible at:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

¹⁰ National Planning Practice Guidance web-based resource. Accessible at:

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



2.1.4 Statutory Nuisance

It is recognised that the planning system presents a way of protecting amenity. However, in cases where planning conditions are not applicable to a development/installation, the requirements of the Environmental Protection Act 1990 still apply. Under Part III of the Environmental Protection Act 1990, local authorities have a statutory duty to investigate any complaints of:

- any premises in such a state as to be prejudicial to health or a nuisance
- smoke emitted from premises so as to be prejudicial to health or a nuisance
- fumes or gases emitted from premises so as to be prejudicial to health or a nuisance
- any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance
- any accumulation or deposit which is prejudicial to health or a nuisance”

Where the local authority establishes any one of these issues constitutes a statutory nuisance and believes it to be unreasonably interfering with the use or enjoyment of someone’s premises and/or is prejudicial to health, an abatement notice will be served on the person responsible for the offence or the owner / occupier. Failure to comply with the notice could lead to a prosecution. However, it is considered as a defence if the best practicable means to prevent or to counteract the effects of the nuisance are employed.

2.2 Local – Manchester City Council

2.2.1 Manchester Local Plan

Manchester Local¹¹ guides development within Manchester. It was previously known as the Local Development Framework. It consists of the:

- Core Strategy the key document in the Local Plan
- Interactive Proposals Map: showing the Core Strategy and the extant (remaining) Unitary Development Plan policies
- Extant (remaining) Unitary Development Plan policies: many of these policies were replaced by the Core Strategy, see which remain.
- Greater Manchester Joint Waste DPD: adopted by each of the ten Greater Manchester Authorities, and came into force on 1 April 2012.
- Greater Manchester Joint Minerals DPD: adopted by each of the ten Greater Manchester Authorities, and came into force on 26 April 2013

2.2.2 Manchester Core Strategy

Manchester's Core Strategy was adopted on the 11 July 2012 and is the key document in the Manchester Local Plan. It sets the out the long term strategic policies for Manchester's future development and forms the framework that planning applications are assessed against.

Policy EN 16 has been updated to include requirement that Air Quality (including cumulative effects) will be a consideration when assessing appropriateness of location of new development.

2.2.3 Air Quality and Planning Technical Guidance

Manchester City Council has prepared a new Air Quality and Planning Technical Guidance¹² issued in August 2022. The guidance aims to provide help and advice in relation to air quality in a planning context to encourage good practice and mitigation of impacts. It outlines what is expected in relation to current guidance and policy with the aspiration that new developments achieve the highest possible standards without compromising the health and well-being of people that live and work within the City of Manchester. The guidance specifies which types of development are required to submit an air quality assessment and the types of mitigation may

¹¹ https://www.manchester.gov.uk/info/200074/planning/6572/local_plan_-_new

¹²

https://www.manchester.gov.uk/download/downloads/id/28690/air_quality_and_planning_guidance.pdf



be required. Developers must include electric vehicle smart charging points on most developments irrespective of the predicted impact of the development on air quality; for example, all new residential developments that include carparking will require electric vehicle smart charging points and those that include a dedicated or allocated parking space will require one for each property.

2.2.4 Actions to Improve Air Quality

- 2.2.5 The Greater Manchester Air Quality Working Group, led by Transport for Greater Manchester (TfGM), represents the ten authorities that constitute the Greater Manchester Combined Authority (GMCA) – Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, and Wigan. These are also members of the Association of Greater Manchester Authorities (AGMA). Duties under the Local Air Quality Management (LAQM) Sections 82 to 84 of the Environment Act 1995 are exercised concurrently by the GMCA.
- 2.2.6 Air quality impacts will need to be assessed for all major development schemes where an impact is likely, and mitigation measures implemented where necessary. IAQM's Guidance on the Assessment of Dust from Demolition and Construction has been adopted by GM local planning authorities in order to properly assess potential impacts from construction activity and implement appropriate mitigation controls consistently.
- 2.2.7 Travel plans, Air quality assessments and EV charge point requirements are among the tools increasingly being used to mitigate the air quality impacts of new development. These help local planning authorities to understand the impact each application will have on local air quality and helps to guide developers towards incorporating sustainable transport solutions into new development.
- 2.2.8 After the submission of GM's Clean Air Plan Outline Business Case in March 2019, a direction was issued by the Secretary of State to all ten GM authorities, to bring about compliance with the legal limit for NO₂ in the shortest possible time and by 2024 at the latest. In March 2020, a further ministerial direction and letter was received by GM local authorities. This directed the GM authorities to implement a charging Clean Air Zone Class C with additional measures so that NO₂ compliance is achieved in the shortest possible time and by 2024 at the latest and that human exposure is reduced as quickly as possible.
- 2.2.9 Since 2016, a single Air Quality Management Area (AQMA) has covered Greater Manchester. More details are provided on the [UK-Air website](#).
- 2.2.10 The Clean Air Greater Manchester website (www.cleanairgm.com) has been a key development in the local authorities' communication and engagement with the GM public since its launch in 2018.



3 Assessment Methodology

3.1 Overview

- 3.1.1 This section provides the details of the methodological approach and the criteria that have been used to assess the significance of risk associated with the proposed development.

The following key information sources have been used in this air quality assessment.

Table 3-1 Source of Information used for AQA

Information Source	Details
Department for Environment, Food and Rural Affairs (Defra)	• Defra (2018). LAQM Background Maps - 1 x 1 km grid background maps for NO_x, NO₂, PM₁₀ and PM_{2.5} • The Local Air Quality Management Tools contain information pertaining to monitoring networks across the UK and provides tools, which aid in the estimation of pollutant concentrations with reference to the year of study.
The National Atmospheric Emissions Inventory (NAEI)	Emission data relating to various activities including vehicle fleet composition for the study year
Environmental Protection UK (EPUK) & Institute of Air Quality Management (IAQM)	• IAQM (2014). Guidance on the assessment of dust from demolition and construction • The EPUK & IAQM Land-Use Planning & Development Control: Planning for Air Quality (2017) provides advice and guidance on how an air quality assessment should be undertaken.
IAQM	• The Control of Dust and Emissions During Construction and Demolition – Supplementary Planning Guidance (2014)
Manchester City Council	• Local Plan • Air Quality and Planning Technical Guidance • Clean Air Plan

3.2 Scope of Air Quality Assessment

- 3.2.1 This Air Quality Assessment considers the suitability of the site for the proposed development and assesses whether any significant air quality impacts are anticipated as a result of the construction and/or the operation of the proposed development.

- 3.2.2 A staged assessment approach has been adopted. This ensures that the approach taken for the assessment of risk is proportional to the risk of an unacceptable impact being caused. Where a simple review of the likely impacts associated with the proposed development clearly demonstrates that the risk of a health/annoyance impact is negligible, this will be sufficient to conclude that no further or detailed assessment is necessary. In cases where the risk involved cannot be regarded as negligible, a more detailed and quantitative assessment will be undertaken.

3.3 Air Quality and Planning Technical Guidance Methodology

3.3.1 Construction and Demolition

MCC, along with the other GM councils, recommends the use of construction guidance produced by the IAQM, for construction and demolition air quality impact assessments.



- 3.3.2 This assessment follows the IAQM Guidance to produce the Air Quality Assessment report for the local planning authority which determines determine what, if any, mitigation measures are required. The subsequent risk assessment process also involves the outlining of impacts for four delineated activities (demolition; earthworks; construction; and trackout) with reference to the scale and nature of the works, and the sensitivity of the area. The dust risk assessment approach is described in the next section.
- 3.3.3 In addition to the IAQM guidance, MCC recommends that NRMM used on the site of any major development within Manchester city centre for the purpose of construction or demolition works should meet Stage IV of EU directive 97/68/EC, and Stage IIIA as a minimum.

3.4 Dust Risk Assessment

- 3.4.1 The Institute of Air Quality Management (2016): 'Guidance on the Assessment of Dust from Demolition and Construction v1.1' provides a methodology to evaluate potential risk of dust generation for a development and the level of mitigation required. The impact of the development is described using one of the following three categories: 'Low Risk', 'Medium Risk' and 'High Risk'. Based on the risk level, appropriate mitigation measures can be considered to minimise any effects of dust from the construction phase.
- 3.4.2 The IAQM Guideline recommend that the assessment procedure follows the following framework:
- Screen the requirement for a more detailed assessment
 - Assess the risk of dust impacts of the four phases of construction (demolition, earthworks, construction and trackout), taking into account:
 - the scale and nature of the works, which determines the potential Dust Emission Magnitude; and
 - the sensitivity of the area.
 - Determine the site-specific mitigation for the potential activities
 - Examine the residual effects and determine whether or not these are significant; and
 - Prepare the Construction Dust Assessment
- 3.4.3 This follows a sequence of steps. Step 1 is a basic screening stage, to determine whether a more detailed assessment is required. Step 2A determines the potential for dust to be emitted or re-suspended from on-site works and by vehicles leaving the site. Step 2B defines the sensitivity of the area to any dust that may be emitted or resuspended. Step 2C combines the information from Steps 2A and 2B to determine the risk of dust impacts without appropriate mitigation. Step 3 uses this information to determine the appropriate level of mitigation required to ensure that there should be no significant impacts.

Step 1 – Identify the Need for a Detailed Assessment

- 3.4.4 In the process of screening the need for a detailed assessment, the following criteria is used:
- “An assessment will normally be required where there is:
- a ‘human receptor’ within:
 - 350m of the boundary of the site; or
 - 50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance(s).
 - an ‘ecological receptor’ within:
 - 50m of the boundary of the site; or
 - 50m of the route(s) used by construction vehicles on the public highway, up to 500m from the site entrance(s).”

Step 2 – Assessment of the Risk of Dust Impacts



- 3.4.5 A site is allocated a risk category on the basis of the scale and nature of the works (Step 2A) and the sensitivity of the area to dust impacts (Step 2B). These two factors are combined in Step 2C to determine the risk of dust impacts before the allocation of mitigation. An assessment would normally be required where there is:
- 3.4.6 A human receptor within 350 metres of the proposed scheme; and/or within 50 metres of the access route(s) used by the demolition vehicles on the public highway up to 500 metres from the study area site entrance(s); and/or
- 3.4.7 An ecological receptor within 50 metres of the proposed scheme and/or within 50 metres of the access route(s) used by demolition vehicles on the public highway up to 500 metres from the site entrance(s).
- 3.4.8 A human receptor refers to any location where a person or property may experience the adverse effects of airborne dust or dust-soiling, or exposure to particulate matter (PM10) over a period relevant to the ambient air quality objectives.
- 3.4.9 An ecological receptor refers to any sensitive habitat affected by dust soiling. For locations with a statutory designation, such as a National Nature Reserve (NNR), Ramsar site, Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) or Special Protection Areas (SPA), consideration should be given as to whether the particular site is sensitive to dust. Some non-statutory sites may also be considered if appropriate, such as a Site of Importance for Nature Conservation (SINC).
- 3.4.10 Where the need for a more detailed assessment is screened out, it can be concluded that the level of risk is 'negligible', and any effects would be 'not significant'.
- 3.4.11 Risks are described as low, medium or high for each of the four separate activities (demolition, construction, earthworks and trackout). Site-specific mitigation is required, proportionate to the level of risk.
- 3.4.12 Step 2A – Defining the Potential Dust Emission Magnitude
- The dust emission magnitude is based on the scale of the anticipated works and is classified as Small, Medium, or Large (Table 3-2).

Table 3-2 Dust Emission Magnitude

Construction activity	Large	Medium	Small
Demolition	Total building volume >50,000 m ³ , potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >20 m above ground level.	Total building volume 20,000 m ³ – 50,000 m ³ , potentially dusty construction material, demolition activities 10-20 m above ground level.	Total building volume <20,000 m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10 m above ground, demolition during wetter months.
Earthworks	Total site area >10,000 m ² , potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >8 m in height, total material moved >100,000 tonnes.	Total site area 2,500 m ² – 10,000 m ² , moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 m – 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes.	Total site area <2,500 m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <20,000 tonnes, earthworks during wetter months.



Construction	Total building volume >100,000 m ³ , on site concrete batching, sandblasting.	Total building volume 25,000 m ³ – 100,000 m ³ , potentially dusty construction material (e.g. concrete), on site concrete batching.	Total building volume <25,000 m ³ , construction material with low potential for dust release (e.g. metal cladding or timber).
Trackout	>50 HDV (>3.5 t) outward movements ^a in any one day ^b , potentially dusty surface material (e.g. high clay content), unpaved road length >100 m.	10-50 HDV (>3.5 t) outward movements ^a in any one day ^b , moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m.	<10 HDV (>3.5 t) outward movements ^a in any one day ^b , surface material with low potential for dust release, unpaved road length <50 m.

A: A vehicle movement is a one-way journey. i.e., from A to B and excludes the return journey.

B: HDV movements during a construction project vary over its lifetime, and the number of movements is the maximum not the average.

3.4.13 Step 2B – Defining the Sensitivity of the Area

The sensitivity of the area takes account of a number of factors:

- The specific sensitivities of receptors in the area.
- The proximity and number of those receptors.
- In the case of PM₁₀, the local background concentration; and
- Site-specific factors, such as whether there are natural shelters, such as trees or other vegetation, to reduce the risk of wind-blown dust.

Table 2 of the IAQM Guidance describes the sensitivity of the area to dust and soiling effects on people and property.

Table 3 of the IAQM Guidance describes the matrix for determining sensitivity of the area to human health impacts.

Table 4 of the IAQM Guidance describes the matrix for determining sensitivity of the area to ecological impacts.

3.4.14 Step 2C – Defining the Risk of Impacts

The dust emission magnitude determined in STEP 2A is combined with the sensitivity of the area determined in STEP 2B to determine the risk of impacts with no mitigation applied.

The matrices in the IAQM Guidance Tables 6, 7 8 and 9 provide a method of assigning the level of risk for each activity. These are used to determine the level of site-specific mitigation that must be applied.

3.4.15 Step 3: Site-specific mitigation

Step three of the IAQM Guidance identifies appropriate site-specific mitigation. These measures are related to whether the site is a low-, medium- or high-risk site. The highest risk category of a site (of all activities being undertaken) is recommended when considering appropriate mitigation measures for the site. Where risk is assigned as 'negligible', no mitigation measures beyond those required by legislation are required. However, additional mitigation measures may be applied as good practice.

A selection of these measures is specified as suitable to mitigate dust emissions from activities, based on professional judgement.

3.4.16 Step 4: Determine significant effects

Following Step 2 (definition of the proposed scheme and the surroundings and identification of the risk of dust effects occurring for each activity), and Step 3 (identification of appropriate site-specific mitigation), the significance of the potential dust effects can be determined. The



recommended mitigation measures should normally be sufficient to reduce construction dust impacts to a not significant effect.

Step 4 of IAQM guidance recognises that the key to the above approach is that it assumes that the regulators ensure that the proposed mitigation measures are implemented. The management plan would include the necessary systems and procedures to facilitate on-going checking by the regulators to ensure that mitigation is being delivered, and that it is effective in reducing any residual effect to 'not significant' in line with the guidance

3.5 Transport Emissions

- 3.5.1 The EPUK & IAQM 2017 Guidance – 'Land Use Planning & Development Controls - Planning For Air Quality' has been used to assess potential traffic impacts associated with the development.
- 3.5.2 Table below provides the criteria used for screening the need for an Air Quality Assessment.

Table 3-3 EPUK/IAQM Criteria for Screening the Need for AQA

The Development will:	Indicative Criteria to Proceed to an Air Quality Assessment
Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans <3.5t gross vehicle weight).	A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.
Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors. (HDV = goods vehicles + buses >3.5t gross vehicle weight).	A change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.
Realign roads, i.e. changing the proximity of receptors to traffic lanes	Where the change is 5m or more and the road is within an AQMA
Introduce a new junction or remove an existing junction near to relevant receptors	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.
Introduce or change a bus station	Where bus flows will change by: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere
Have an underground car park with extraction system	The ventilation extract for the car park will be within 20m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out)

3.6 Air Quality Assessment

Impact Criteria

- 3.6.1 If the initial screening indicates that there is a potential risk of impact, guidance is provided also by EPUK & IAQM on how to determine the magnitude and the significance of any changes in air pollutant concentrations and/or exposure as a result of a proposed development.
- 3.6.2 This consists of the following steps:
- the magnitude of the change (% change of annual mean concentration);
 - the concentration relative to the Air Quality Strategy (AQS) objective (above or below the objective); and
 - the direction of change (adverse or beneficial).



- 3.6.3 The **magnitude of Impact** is described as shown below. This is based on the change in pollutant concentration resulting from the proposed development as a percentage of the Air Quality Action Level (AQAL) which in this case is NO₂ and PM₁₀ annual mean objective levels of 40 µg/m³.

Table 3-4 Impact Magnitude - Changes in NO₂ and PM₁₀ Concentrations

Change Magnitude	NO ₂ / PM ₁₀ Annual Mean	No. Days PM ₁₀ >µg/m ³
Large	Increase/decrease >10% (>4 µg/m ³)	Increase/decrease >4 days
Medium	Increase/decrease 6-10% (2.4 – 4 µg/m ³)	Increase/decrease 2-4 days
Small	Increase/decrease 2-5% (0.8-2 µg/m ³)	Increase/decrease 1-2 days
Imperceptible	Increase/decrease <1% (<0.4 µg/m ³)	Increase/decrease <1 day

- 3.6.4 The **significance of Impact** is dependent on the magnitude of change in relation to the relevant Air Quality Assessment Level (AQAL) as shown below.

Table 3-5 Impact Descriptors for Individual Receptors

Long term average concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1%	2-5%	6-10%	>10%
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94% of AQAL	Negligible	Slight	Moderate	Moderate
95-102% of AQAL	Slight	Moderate	Moderate	Substantial
103-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

- 3.6.5 Once the magnitude and the significance of the change has been established, the impact at each relevant receptor can be described. The impact magnitude at each receptor location can be described using the changes stated above as being of Imperceptible, Small, Medium or Large magnitude, or Negligible, Slight Moderate or Substantial significance and also as being either Temporary or Permanent.
- 3.6.6 The overall significance should be described separately for both the impact of emissions related to the proposed development on existing receptors, and for the impacts of emissions from existing source(s) on new exposure being introduced from the proposed development

Exposure Criteria

- 3.6.7 To determine the significance of exposure to air pollution and the level of mitigation required, consideration is given to the Air Pollution Exposure Criteria as set out in Table 3-6 below.
- 3.6.8 Both the impact and exposure criteria will be applied to the findings of this assessment, where required.



Table 3-6 Air Pollution Exposure Criteria

	Applicable Range	Applicable Range	Recommendation
	Nitrogen Dioxide Annual Mean	PM₁₀ Annual Mean	
APEC – A	> 5% below national objective	Annual Mean: > 5% below national objective 24 hr: > 1-day less than national objective	No air quality grounds for refusal; however, mitigation of any emissions should be considered.
APEC – B	Between 5% below or above national objective	Annual Mean: Between 5% above or below national objective 24 hr: Between 1-day above or below national objective.	May not be sufficient air quality grounds for refusal, however appropriate mitigation must be considered e.g., Maximise distance from pollutant source, proven ventilation systems, parking considerations, winter gardens, internal layout considered, and internal pollutant emissions minimised.
APEC – C	> 5% above national objective	Annual Mean: > 5% above national objective 24 hr: > 1-day more than national objective.	Refusal on air quality grounds should be anticipated, unless the Local Authority has a specific policy enabling such land use and ensure best endeavours to reduce exposure are incorporated. Worker exposure in commercial/industrial land uses should be considered further. Mitigation measures must be presented with air quality assessment, detailing anticipated outcomes of mitigation measures.



4 Baseline Conditions

4.1 Background Concentrations

Defra provides background pollution concentration estimates to assist local authorities undertake their 'Review and Assessment' work. This data is available to download from Defra air quality resource website¹³ for NO_x, NO₂, PM₁₀ and PM_{2.5} for every 1 km X 1 km grid square for all local authorities. The current dataset is based on 2018 background data. The background dataset provides breakdown of pollution concentrations by different sources (both road and non-road sources). Table 4-1 presents the background concentrations for the study area for the years 2023 and 2024 (assumed periods of construction and occupation).

Table 4-1 Defra Background Concentrations (for all receptors)

Pollutant	2023 Concentration (µg/m ³)	2024 Concentration (µg/m ³)
NO _x	27.41	26.35
NO ₂	19.05	18.41
PM ₁₀	11.91	11.80
PM _{2.5}	7.78	7.70

Note: Data presented within the table are derived from the following ordinance survey grid squares: 384500, 399500.

4.2 Existing Air Quality

4.2.1 The following sections sets out the baseline conditions in relation to air quality for the proposed development. Baseline air quality information is available from a number of sources including local and national monitoring data reports and websites. For the purpose of this assessment, data has been obtained from Greater Manchester Combined Authority's (GMCA) recent published 2021 Air Quality Annual Status Report (ASR)¹⁴. All relevant air quality reports are available from the GMCA's Clean Air website <https://cleanairgm.com/>:

4.2.2 Air Quality Management Areas (AQMAs)

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective.

The main pollutant on concern in Manchester is nitrogen dioxide (NO₂), which has historically exceeded the annual mean air quality objective. In 2001, Air Quality Management Area (AQMA) was declared for exceedances of the annual mean NO₂ objective and PM₁₀ objective. The PM₁₀ AQMA was later revoked in 2007 after measured concentrations demonstrated consistent compliance with the objective. Details of the current AQMA are available online at https://uk-air.defra.gov.uk/aqma/details?aqma_ref=36.

There are no Air Quality Management Areas (AQMA) in the immediate vicinity (200m) of the project site. However, Manchester City Centre AQMA is within 500m of the site. The site setting with respect to the AQMA is shown in Figure 4-1.

¹³ <https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html>

¹⁴ Greater Manchester Combined Authority 2021 Air Quality Annual Status Report https://www.manchester.gov.uk/downloads/download/4166/air_quality_reports

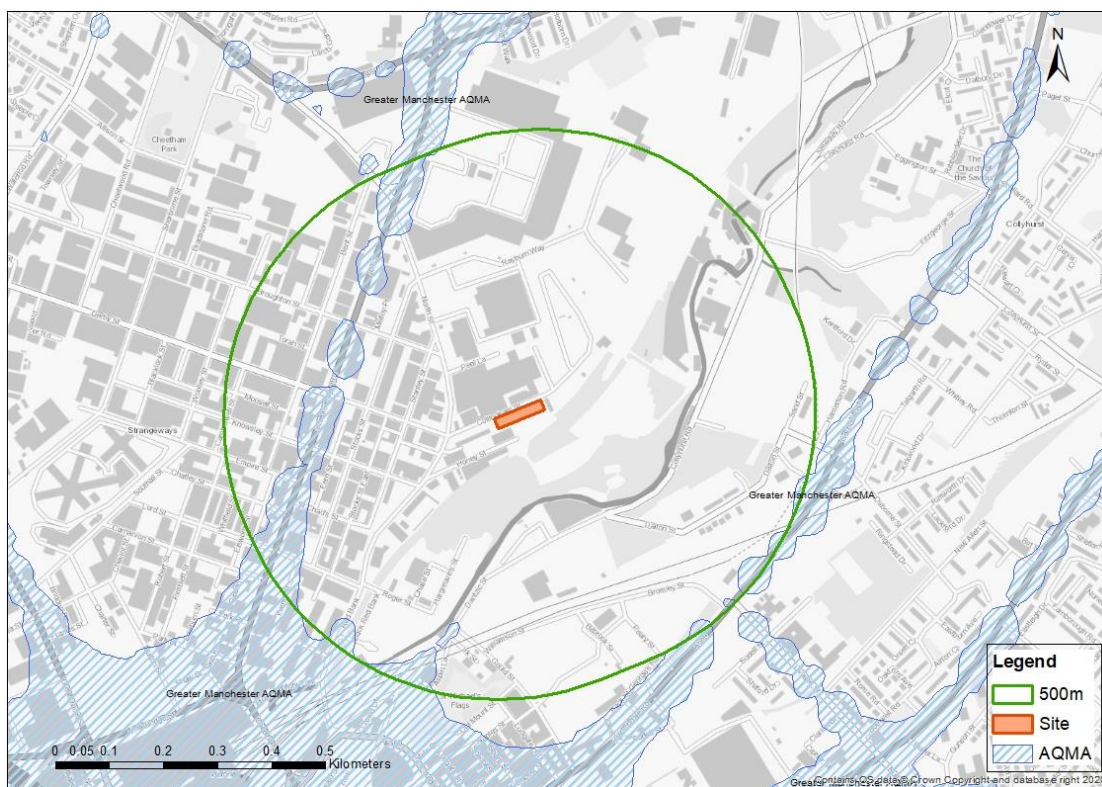


Figure 4-1 AQMA near the Site

4.2.3 Automatic Air Quality Monitoring Stations

Manchester City Council undertook automatic (continuous) monitoring at 21 sites during 2021. The [CleanAirGM Data Hub](#) presents automatic monitoring results for Greater Manchester, which are also available through the [UK-Air website](#).

Details of the automatic air quality monitoring stations are given in the Appendix D of ASR 2021.

There are three automatic monitoring stations within Manchester's district:

- Piccadilly Gardens (Urban Centre)
- Oxford Road (Kerbside)
- Manchester Sharston (Suburban Industrial)

4.2.4 Diffusion Tubes (Non-Automatic Monitoring)

Manchester City Council undertook non-automatic (i.e., passive) monitoring of NO₂ at 436 sites during 2021. Details of all diffusion tube locations are provided in Appendix A of ASR 2021.

4.2.5 Air Quality Monitoring Stations Near the Site

4.2.6 Locations of all air quality monitoring stations (AQMS) near the project site are shown in Figure 4-2. None of the diffusion tubes are within 500m of the project site.



Table 4-2 Automatic Air Quality Monitoring Stations in Manchester

Site ID	Site Name	Site Type	X (Easting)	Y (Northing)	Pollutants Monitored	In AQMA?	Monitoring Technique
MAN1	Manchester Oxford Rd	Kerbside	384233	397287	NO ₂ , PM ₁₀	YES	Chemiluminescent & BAM
MAN3	Manchester Piccadilly	Urban Centre	384310	398337	NO ₂ , O ₃ PM ₁₀ , PM _{2.5} SO ₂	YES	Chemiluminescent & UV absorption & BAM & UV fluorescence
MAHG	Manchester Sharston	Suburban	384179	386086	NO ₂ , O ₃ SO ₂	NO	Chemiluminescent & UV absorption & UV fluorescence & Partisol

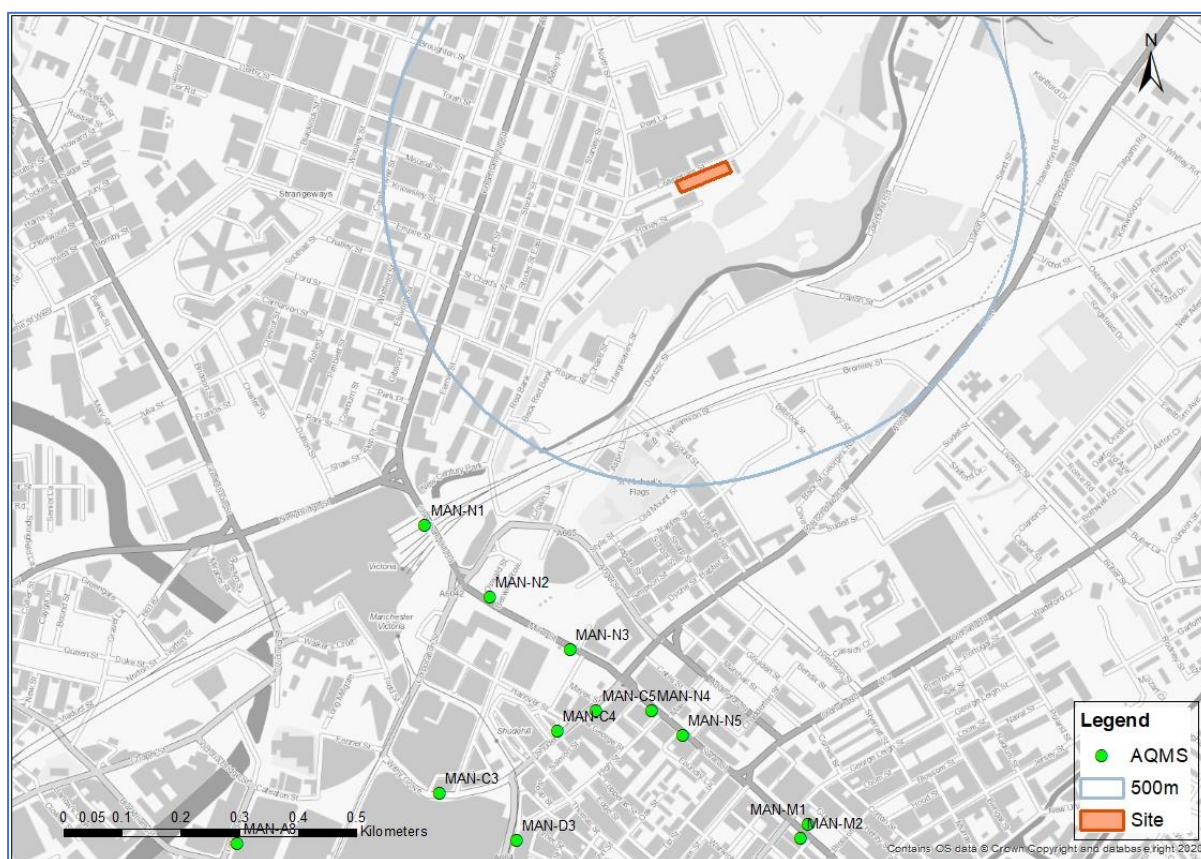


Figure 4-2 Air Quality Monitoring Locations Near the Project Site

4.2.7 Annual Mean Objective for NO₂

The annual mean NO₂ statistics at the automatic monitoring locations are shown in Table 4-3. 2021 annual mean NO₂ at Manchester Oxford Road station exceeded the AQO of 40 µg/m³. Annual average NO₂ concentrations at Manchester Piccadilly and Manchester Sharston AQMS were significantly below the AQO in 2021 and previous four years. Manchester Piccadilly is nearest automatic station to the project site. 1-hour AQO for NO₂ at all three AQMS was not exceeded in the last five years.

**Table 4-3 NO₂ Concentrations (µg/m³) at Automatic Stations**

Site ID	Site Name	2017	2018	2019	2020	2021
MAN1	Manchester Oxford Rd	65	62	59	36	44
MAN3	Manchester Piccadilly	36	35	36	27	30
MAHG	Manchester Sharston	24	24	23	14	16

4.2.8 Annual mean NO₂ concentrations at the diffusion tube stations near the project site are shown in Table 4-4. It is clear from this table, that NO₂ levels at some of the locations exceeded the AQO of 40 µg/m³ in the last three years.

It has to be noted that in 2020, during the COVID-19 restrictions, NO₂ levels across the LA have fell.

Table 4-4 Annual Mean NO₂ at Diffusion Tube Locations Near the Project Site

ID	Site Name	X	Y	2018	2019	2020	2021
MAN-N1	A665 (Miller Street)	384104	399128	-	-	40.1	54.4
MAN-N2	A665 (Miller Street)	384214	399005	-	47.1	26.4	-
MAN-N3	A665 (Miller Street)	384351	398915	-	44.1	26.6	30.6
MAN-N4	A665 (Swan Street)	384490	398812	-	57.1	32.9	37.2
MAN-N5	A665 (Swan Street)	384757	398618	-	66.3	36.2	42
MAN-M1	A665 (Great Ancoats Street)	384744	398594	-	-	44.2	46.6
MAN-M2	A665 (Great Ancoats Street)	384837	398538	-	61.6	35.1	40
MAN-C3	Lastingham Green	384128	398671	-	62.7	30.6	37.1
MAN-C4	Shudehill	384329	398777	-	64.6	43.7	49.2

Note: AQO Exceedances are shown in **bold**

4.2.9 Levels of PM₁₀

PM₁₀ concentrations monitored at three automatic AQMS are shown in Table 4-5. The data for the last five years indicate that the annual mean PM₁₀ AQO of 40 µg/m³ was not exceeded.

Table 4-5 PM₁₀ Concentrations at Automatic Monitoring Stations

Site ID	Site Name	2017	2018	2019	2020	2021
MAN1	Manchester Oxford Rd	27	30	26	18	18
MAN3	Manchester Piccadilly	20	21	20	15	15
MAHG	Manchester Sharston	13.4	14.2	14.2	11.9	12

5 Potential Impacts

5.1 Construction Phase Impacts - Air Quality Dust Risk Assessment

Air Quality Dust Risk Assessment (AQDRA) includes:

Risk assessment for each phase of works (earthworks, construction, trackout), incorporating the risk evaluation process set out below, and identifies suitable mitigation measures for the relevant level of risk.

AQDRA also identifies whether each phase of activity on-site represents a low, medium or high risk by following the IAQM Guidance¹⁵.

5.1.1 Step 1 – Need for a Detailed Assessment

Detailed assessment of the effects on ‘ecological receptors’ is not required as there are no ecological receptors within 50m of the boundary of the Site or within 50m of the routes used by the construction vehicles on the public highway up to 500m from the Site entrance.

Figure 5-1 shows the construction dust assessment study area based on the recommended distances by IAQM. Figure 5-1 shows buffer zones of 20m, 50m, 100m, 200m, 350m and 500m from the edge of the Site.

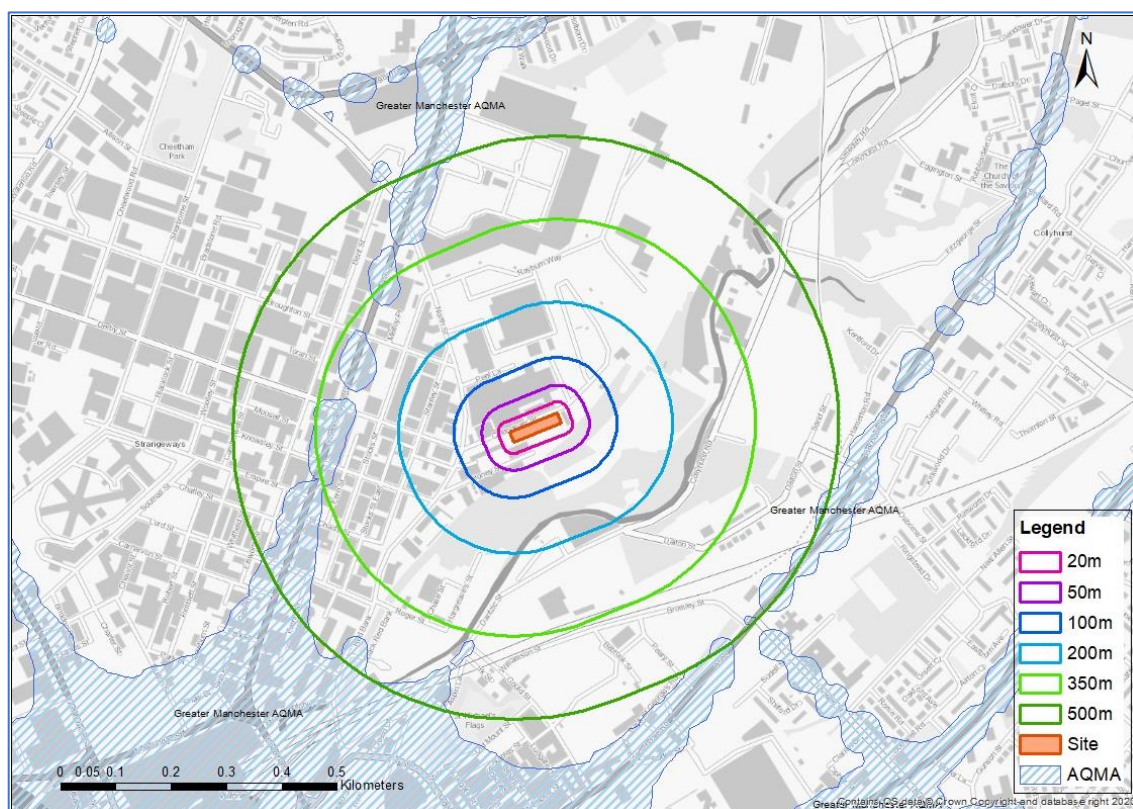


Figure 5-1 Construction Dust Risk Assessment Buffers

¹⁵ The Institute of Air Quality Management (2016): ‘Guidance on the Assessment of Dust from Demolition and Construction v1.1’



5.1.2 Construction Phase

5.1.3 For the purpose of this assessment, the earliest construction period is assumed to be 2023-2024. The impacts from construction and track-out have been considered.

Following sections describe various stages of the AQDRA for the proposed development.

5.1.4 Step 2 – Assessment of the Risk of Dust Impacts

This step considers the AQDRA for the construction and trackout phases of the development. It considers the potential effects of each development phase on the nearest receptors including:

- the risk of health effects from an increase in exposure to PM₁₀ and PM_{2.5}
- annoyance due to the deposition of dust; and
- harm to the natural environment.

5.1.5 Step 2A – Defining the Potential Dust Emission Magnitude

The dust emission magnitude is based on the scale of the anticipated works and is classified as Small, Medium, or Large.

5.1.6 There is no demolition as the construction will involve removal of the existing storage containers. Thus, the dust emissions from demolition activity has not been considered in this assessment.

5.1.7 Earthwork and construction emissions are assumed to be **small** in magnitude due the size of the development. The site area is 1665 m² (below the threshold of <2,500 m²). Total Building volume for construction will be between <25,000 m³.

5.1.8 Due to the scale of the construction is estimated that there will not be more than 3 HGV trips per days. This indicates **small** dust emission magnitude during trackout.

Table 5-1 presents the potential dust emission magnitude based on project specific construction activities and is based on the IAQM Guidance criteria. As indicated earlier, the assessment does not include any demolition work; therefore, this has not been considered here.

Table 5-1 Dust Emission Magnitude

Activity Phase	Dust Emission Magnitude
Demolition	No emission form this activity
Earthworks	Small (Site area <2,500 m ²)
Construction	Small (Total building volume <25,000 m ³)
Construction Traffic (Trackout)	Small (<10 HDV of >3.5T per day)

5.1.9 Step 2B – Defining the Sensitivity of the Area

The sensitivity of the area takes account of a number of factors:

- The specific sensitivities of receptors in the area.
- The proximity and number of those receptors.
- In the case of PM₁₀, the local background concentration; and
- Site-specific factors, such as whether there are natural shelters, such as trees or other vegetation, to reduce the risk of wind-blown dust.



- 5.1.10 Type of receptors at different distances from the boundary of the Site has been considered and is based on a rough estimation using the Figure 5-1. The IAQM Guidance indicates that “*exact counting of ‘human receptors’ is not required. Instead, it is recommended that judgement is used to determine the receptors (a residential unit is one receptor) within each distance band*”.
- 5.1.11 Table 5-2 presents the sensitivity of receptors to effects caused by construction activities and is based on the criteria presented Tables 2, 3 and 4 of the IAQM Guidance.
- 5.1.12 For dust soiling effects on property and people (earthworks and construction) it is estimated that the number of human receptors (high sensitivity) up to 50m from the side boundary is considered to be 10-100.
- 5.1.13 For dust soiling effects on property and people (trackout) it is estimated that the number of human receptors up to 50 m from site exit (<20m distance from road centre line of trackout route) is considered to be 10-100.
- 5.1.14 For human health impacts (earthworks and construction) it is estimated that the number of human receptors (high sensitivity) up to 50m from the side boundary is considered to be 10-100.
- 5.1.15 For human health impacts (trackout) it is estimated that the number of human receptors up to 50 m from site exit (<50m distance from road centre line of trackout route) are considered to be 10-100.
- 5.1.16 As indicated in Section 4.1 and Table 4-1, the annual mean PM₁₀ concentrations in 2022 in the grid 384500, 399500 is 11.91 µg/m³. This has been used to determine the sensitivity of the area to human health effects (Table 3 of the IAQM Guidance).

Table 5-2 Sensitivity of Study Area to Dust and Soiling Effects on People and Property

Potential Impact	Sensitivity of the surrounding area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	N/A	Medium	Medium	N/A
Human Health	N/A	Low	Low	Low
Ecological	N/A	N/A	N/A	N/A

- 5.1.17 Step 2C – Defining the Risk of Impacts
- 5.1.18 The dust emission magnitude determined in STEP 2A is combined with the sensitivity of the area determined in STEP 2B to determine the risk of impacts with no mitigation applied.
- 5.1.19 Tables 6, 7, 8 and 9 of the IAQM Guidance have been used to determine the risk of each activity for this project. Table 5-3 provides the summary of the risk of construction and trackout phases of the development. The final risks presented in Table 5-3 have been used in the next section to determine the level of site-specific mitigation measures that will be applied to this development.

Table 5-3 Summary of the Risk of Construction Effects

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	N/A	Low Risk	Low Risk	N/A
Human Health	N/A	Negligible Risk	Negligible Risk	Negligible Risk
Ecological	N/A	N/A	N/A	N/A



- 5.1.20** Based on the above, the largest risk associated with earthwork and construction activities is 'Low' with regard to dust soiling, and 'Negligible' with regard to human health. For trackout, the largest risk associated is 'Negligible' with regard to human health. Overall, the impacts from disamenity dust and PM₁₀ from the construction phase of the proposed development are considered to be 'Low' with regard to dust soiling, and 'Negligible' with regard to human health. Mitigation measures are thus recommended for the highest risk, viz. **'Low'**.



5.2 Operational Phase Air Quality Assessment

5.2.1 Transport Emissions Assessment

- 5.2.2 The Transport Statement (TS) for this development has been prepared by Sanderson Associates. The TS states that the site is accessible by both active and public transport, providing occupiers with the opportunity to travel by sustainable modes and reduce reliance on the private car. The site offers access to a range of bus services which provide a sustainable alternative to driving, see Figure 6. The nearest are on Cheetham Hill Road, with both the north and southbound buses being approximately 400m from the site. The closest train station is Manchester Victoria Railway Station which sits approximately 1km from the site. It can be easily accessed on foot site via footpath along Red Bank or on the road by cycle.
- 5.2.3 Cycling is increasingly being recognised as a viable alternative to car transport and there has been sustained growth in cycling as both a mode of travel and a leisure activity. All of Manchester and some of the surrounding suburbs are within an accessible distance for cycling trips. There is therefore a high possibility that staff working at the site will live within a distance that is suitable for being accessed by bicycle. ***Each warehouse unit will have a storage space for bicycles. This will encourage the employees to cycle to work.***
- 5.2.4 ***The development will not provide any additional car parking.*** The staff employed at the proposed warehouse units shall be encouraged to use means of sustainable transport to travel to their place of work. However, motorists using or visiting the new development still have the opportunity to park on Collingham Street and Honey Street in keeping with other existing businesses on Collingham Street. There is also sufficient space on both Collingham Street and surrounding roads to absorb any increased demand for on-street parking.
- 5.2.5 The Transport Statement shows that the peak generating hour is expected to be between 11:00-12:00 when 15 movements are expected. This equates to one movement every 4 minutes, which will not have any impact on the operation of the highway network. During the standard morning and evening peak hours a total of only 5 movements are predicted between both 08:00 to 09:00 and 17:00 to 18:00. The TRICS assessment has therefore demonstrated that the proposals will not give rise to any material impact upon the operation of the highway network, including during the traditional weekday morning and evening peak hours. The TS concludes that a maximum parking demand of 12 vehicles will be generated by the site, although demand will reduce to below 10 vehicles each afternoon.
- 5.2.6 New trips on the local highway network generated by the development are thus estimated to be significantly lower than the threshold of 1000 trips per day. The effect of this additional traffic on the wider highway network will not be perceptible during the peak hours. Following the EPUK/IAQM criteria, the proposal does not ideally require a detailed traffic related air quality (including the dispersion modelling) assessment for the operational phase (IAQM/EPUK Guidance).

5.3 Air Pollution Exposure Criteria

- 5.3.1 It is clear from the monitored air quality data that the NO₂ levels at the project site are likely to be expected to be below the AQO of 40 µg/m³. PM₁₀ and PM_{2.5} levels at the project site are also expected to be well below the respective Air Quality Objectives.
- 5.3.2 Therefore, in accordance with the exposure criteria set out in Table 3-6 the site is likely to fall within APEC-A for site suitability. APEC-A accommodation is: *"No air quality grounds for refusal; however, mitigation of any emissions should be considered"*.

5.4 Air Quality Assessment

Based on the analysis of the monitored data and the expected number of trips significantly below the threshold for traffic and air quality dispersion modelling, it is concluded that the development will have negligible impact on concentrations of NO₂, PM₁₀ and PM_{2.5} at and near the site. Hence it can be concluded that the new receptors at/near the proposed development will not be exposed to pollutant concentrations higher than the air quality objectives (AQO). Hence no mitigation measures for operation phase are required.



6 Proposed Mitigation Measures

- 6.1.1 The dust risk categories for each of the four activities determined in Section 5.1 have been used to define the appropriate, site-specific, mitigation measures to be adopted. Following the IAQM Construction Dust Guidance, as presented in section 5.1, the largest risk associated with earthwork and construction activities is 'Low' with regard to dust soiling, and 'Negligible' with regard to human health. For trackout, the largest risk associated is 'Negligible' with regard to human health.
- 6.1.2 Overall, the impacts from disamenity dust and PM₁₀ from the construction phase of the proposed development are considered to be 'Low' with regard to dust soiling, and 'Negligible' with regard to human health. Mitigation measures are thus recommended for the highest risk, viz. 'Low'.

6.2 Construction and Trackout Phases Mitigation Measures

Mitigation Measures Key: H = Highly recommended; D = Desirable

6.2.1 Site Management

6.2.1.1	Display the name and contact details of person(s) account- able for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager	H
6.2.1.2	Display the head or regional office contact information.	H
6.2.1.3	Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book.	H
6.2.1.4	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.	D
6.2.1.5	Make the complaints log available to the local authority when asked.	H
6.2.1.6	Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book.	H
6.2.1.7	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.	D
6.2.1.8	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	H

6.2.2 Preparing and Maintaining the Site

6.2.2.1	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	H
6.2.2.2	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	H
6.2.2.3	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.	D
6.2.2.4	Avoid site runoff of water or mud.	H
6.2.2.5	Keep site fencing, barriers and scaffolding clean using wet methods.	D
6.2.2.6	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	D
6.2.2.7	Cover, seed or fence stockpiles to prevent wind whipping.	D



6.2.3 Operating Vehicle/Machinery and Sustainable Travel

6.2.3.1	Ensure all on-road vehicles comply with the requirements of the Low Emission Strategy.	H
6.2.3.2	Ensure all vehicles switch off engines when stationary - no idling vehicles.	H
6.2.3.3	Avoid the use of diesel- or petrol- powered generators and use mains electricity or battery powered equipment where practicable.	H
6.2.3.4	Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un- surfaced haul roads and work areas.	D

6.2.4 Operations

6.2.4.1	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems	H
6.2.4.2	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	H
6.2.4.3	Use enclosed chutes and conveyors and covered skips.	H
6.2.4.4	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	H
6.2.4.5	Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	D

6.2.5 Waste Management

6.2.5.1	Avoid bonfires and burning of waste materials.	H
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6.2.6 Measures Specific to Construction

6.2.6.1	Avoid scabbling (roughening of concrete surfaces) if possible.	D
6.2.6.2	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.	D

6.3 Operation Phase Mitigation Measures

- 6.3.1 Based on the analysis of the monitored data and the expected number of trips significantly below the threshold for traffic and air quality dispersion modelling, it is concluded that the development will have negligible impact on concentrations of NO₂, PM₁₀ and PM_{2.5} at the site. Hence it can be concluded that the new receptors at/near the proposed development will not be exposed to pollutant concentrations higher than the air quality objectives (AQO).
- 6.3.2 Hence, it is concluded that the development **does not require any specific operational phase mitigation measures**.



7 Conclusions

- 7.1.1 This report provides an assessment on the following key impacts associated with the constructional and operational phase of the proposed development:
- Relevance to national, regional and local air quality and appropriate planning guidance
 - Establishment of the background air quality at the site and comparison with the National Air Quality Objectives (AQOs).
 - Assessment of the air quality impacts following the Manchester City Council Air Quality Special Planning Document
 - Assessment of the risk of dust impacts
 - The potential dust emission magnitude
 - The sensitivity of the area
 - The risk of impacts
 - Assessment of the air quality impacts based on transport emissions
 - Recommendations for dust and emission control measures during construction and trackout phases.
- 7.1.2 A qualitative assessment of earthworks, construction and trackout dust effects has been undertaken for the proposed scheme. Based on this, the impacts from disamenity dust and PM₁₀ from the construction phase of the proposed development are considered to be 'Low' with regard to dust soiling, and 'Negligible' with regard to human health. Mitigation measures as indicated in Section 6.2, are thus recommended for the highest risk, viz. 'Low'. These are based on The Institute of Air Quality Management (2016): 'Guidance on the Assessment of Dust from Demolition and Construction v1.1'
- 7.1.3 Based on the analysis of the monitored data and the expected number of trips to be significantly below the threshold for traffic and air quality dispersion modelling, it is concluded that the development will have negligible impact on concentrations of NO₂, PM₁₀ and PM_{2.5} at the site. Hence it can be concluded that the new receptors at/near the proposed development will not be exposed to pollutant concentrations higher than the air quality objectives (AQO). The development, thus, does not require any specific operational phase mitigation measures.
- 7.1.4 This AQA, thus concludes that the development does not require any specific operation phase mitigation measures. Only the construction phase mitigations as indicated in Section 6.2 are required.
- 7.1.5 If the recommended mitigation measures as indicated in Section 6.2 are implemented, this report concludes that the proposed development, will not conflict with any national, regional, or local planning policy.



8 Appendices

8.1 Appendix 1: Operational Impact Assessment Methodology

The EPUK & IAQM guidance refers to the Town and Country Planning (Development Management Procedure) Order (England) 2010 [(Wales) 2012] for a definition of a 'major' development when scoping assessments required for the planning process. Based on the guidance, a 'major' development is such development where:

- The number of dwellings is 10 or above;
- The residential development is carried out of a site of more than 0.5ha where the number of dwellings is unknown;
- The provision of more than 1,000 m² commercial floorspace; or,
- Development carried out on land of 1ha or more.

It is recommended that consideration should be given to reduce impacts from any 'major' developments by considering:

- The impact of existing sources in the local area on the proposed development; and
- The impacts of the proposed development on the local area.

The assessment process involves two stages where:

Stage 1 scope out the need for an air quality assessment and **Stage 2** provide guidance of determining the level of assessment required for a project.

Table A1 sets out the Stage 1 criteria to determine the need to assess impacts arising from small developments and Table A2 provides more specific guidance as to when an air quality assessment is likely to be required to assess the impacts of the proposed development on the local area.

Table A1: Stage 1 Criteria to proceed to Stage 2

Criteria to Proceed to Stage 2	
A	If any of the following apply: • or more residential units of a site area of more than 0.5ha • 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 • The development will have a centralised energy facility or other centralised combustion process


Table A2: Indicative Criteria for Requiring an Air Quality Assessment

The development will	Indicative Criteria to Proceed to an Air Quality Assessment
1. Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans <3.5t gross vehicle weight).	A change of LDV flows of: more than 100 AADT within or adjacent to an AQMA more than 500 AADT elsewhere.
2. Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors. (HDV = goods vehicles + buses >3.5t gross vehicle weight).	A change of HDV flows of: more than 25 AADT within or adjacent to an AQMA more than 100 AADT elsewhere.
3. Realign roads, i.e. changing the proximity of	Where the change is 5m or more and the road is within an AQMA.
4. Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.
5. Introduce or change a bus station.	Where bus flows will change by: more than 25 AADT within or adjacent to an AQMA more than 100 AADT elsewhere.
6. Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20 m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).
7. Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors. NB. This includes combustion plant associated with standby emergency generators (typically associated with centralised energy centres) and shipping.	Typically, any combustion plant where the single or combined NO _x emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion. In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.



8.2 Appendix 2: Site Drawings

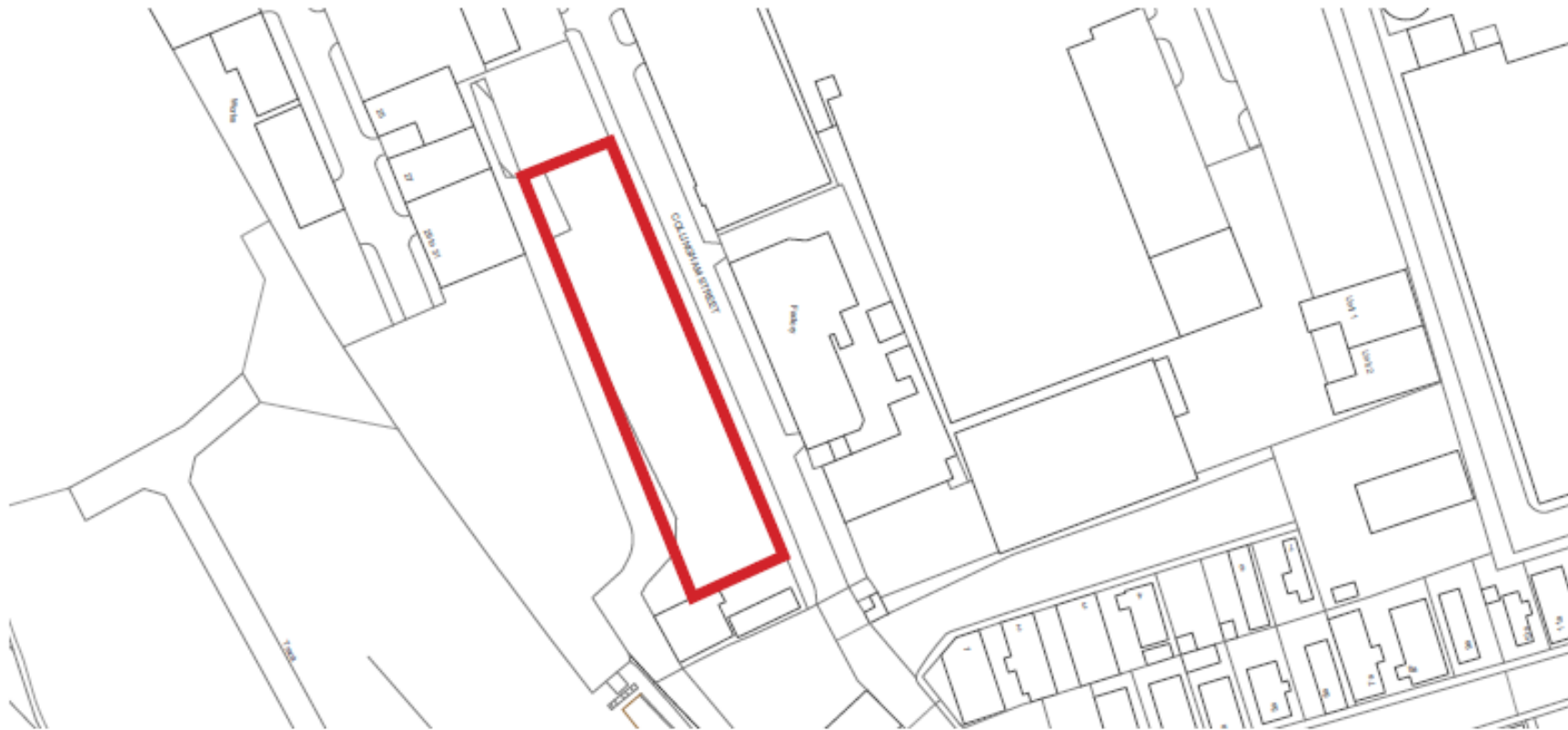


Figure 8-1 Site Location Plan

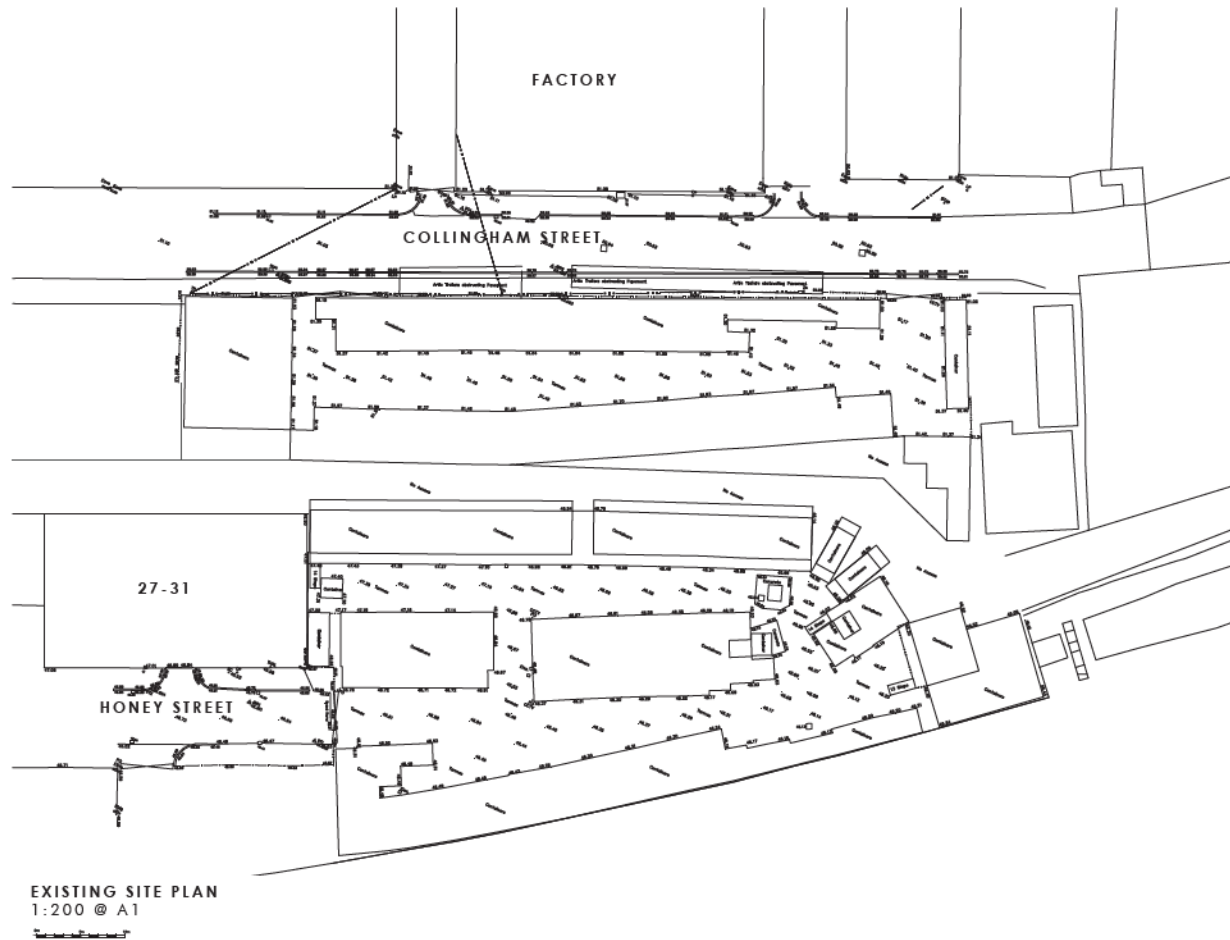


Figure 8-2 Existing Site Plan

A1

Disclaiming
This document is a preliminary design and drawing which is intended to provide a general indication of the proposed development and is not to be used for construction purposes. It is not to be used for any other purpose without the written consent of the author. The author accepts no liability for any errors or omissions in this document.

Rev	Description	Date
1	Issued for comment	06/04/22
2	Issued for planning	06/06/22
3	Revised drawing	03/09/22

PLANNING
SALEM
ARCHITECTS

Client:
Mr & Mrs White

Project:
Collingham Road,
Chesham,
Mansfield

Drawing Title:
Existing Site Plan

Revision:
C

Scale:
1:200 @ A1

Date:
Mar 2022

Drawing No.:
Sheet 2

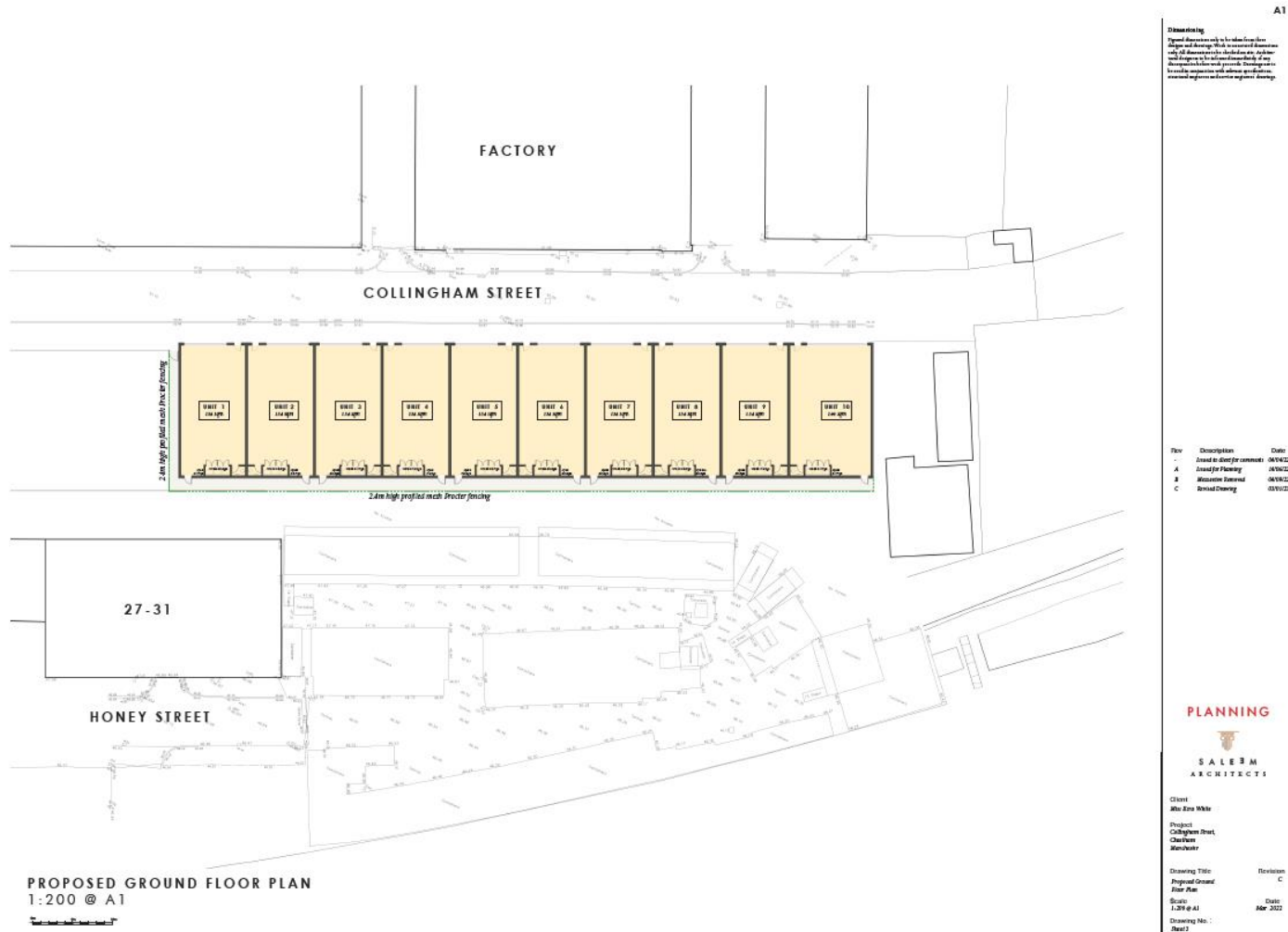
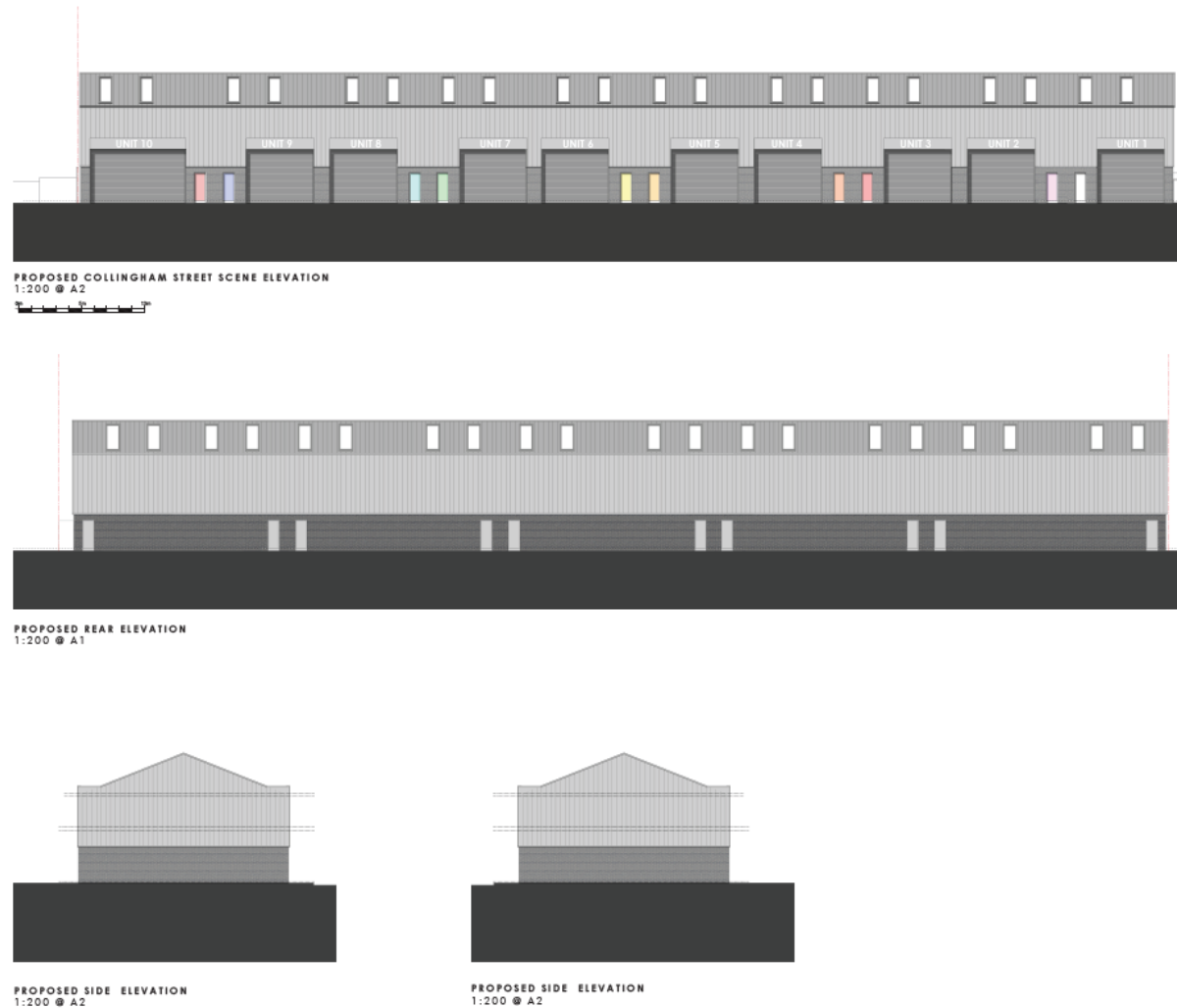


Figure 8-3 Proposed Ground Floor Plan



Dimensioning
Figured dimensions only to be taken from these drawings and drawings. Refer to associated dimensions only. All dimensions to be checked on site. Architectural drawings to be referred to immediately of any discrepancies before work proceeds. Drawings are to be used in conjunction with relevant specifications, structural engineers and services engineers' drawings.

Rev **Description** **Date**
- Issued to client for comments 04/04/22
A Planning Issue 16/06/22
B Revised Drawing 03/01/23

PLANNING

SALEEM
ARCHITECTS

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Mr & Mrs White

Project
Collingham Street,
Chesham,
Mansfield

Drawing Title **Revision**
Proposed Elevations B

Scale **Date**
1:200 @ A2 Mar 2022

Drawing No. :
Sheet 5

Figure 8-4 Proposed Elevations