

Air Quality Assessment
Riverpark Road, Manchester

Client: Kellen Homes Limited

Reference: 7719r1

Date: 25th March 2025



Report Issue

Report Title: Air Quality Assessment - Riverpark Road, Manchester

Report Reference: 7719

Field	Report Version			
	1	2	3	4
Prepared by	Emily Macey			
Position	Senior Air Quality Consultant			
Reviewed by	Jethro Redmore			
Position	Director			
Date of Issue	25 th March 2025			
Comments	-			

Serendipity Labs, Building 7, Exchange Quay, Salford, M5 3EP

info@red-env.co.uk | 020 3488 5002 | www.red-env.co.uk

This report has been prepared by Redmore Environmental Ltd in accordance with the agreed terms and conditions of appointment. Redmore Environmental Ltd cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

Introduction

- 7.1 Redmore Environmental Ltd was commissioned by Kellen Homes Limited to undertake an Air Quality Assessment in support of a residential development at River Park Trading Estate, off Riverpark Road, Manchester.
- 7.2 This Air Quality Assessment assesses the likely significant effects of the Proposed Development with respect to air quality. This Air Quality Assessment also describes the methods used to assess the effects; the baseline conditions currently existing at the Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.

Legislative and Policy Context

Legislation

- 7.3 The Air Quality Standards Regulations (2010) and subsequent amendments include Air Quality Limit Values (AQLVs) for the following pollutants:
- Nitrogen dioxide (NO₂);
 - Sulphur dioxide;
 - Lead;
 - Particulate matter with an aerodynamic diameter of less than 10µm (PM₁₀);
 - Particulate matter with an aerodynamic diameter of less than 2.5µm (PM_{2.5});
 - Benzene; and.
 - Carbon monoxide.
- 7.4 Air Quality Target Values have also been provided. 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).
- 7.5 The Air Quality Strategy (AQS) was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published on 28th April 2023¹. The document contains standards, objectives and measures for improving ambient air quality, including a number of Air Quality Objectives (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.
- 7.6 The Environmental Improvement Plan² was published in January 2023, providing long term and Interim Targets in order to reduce population exposure to PM_{2.5}. The Concentration Target for 2040 was subsequently adopted in the Environmental Targets (Fine Particulate Matter) (England) Regulations (2023).
- 7.7 **Table 7.1** below presents the AQO, Interim Target and Concentration Target for pollutants considered within this assessment.

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

² Environmental Improvement Plan 2023, DEFRA, 2023.

Pollutant	Air Quality Objective/Interim Target/Concentration Target	
	Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Period
NO ₂	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM ₁₀	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
PM _{2.5}	12 ^(a)	Annual mean
	10 ^(b)	Annual mean

Note: (a) Interim Target to be achieved by end of January 2028.

(b) Concentration Target to be achieved by 2040.

^ Table 7.1 - Air Quality Objectives/Interim Target/Concentration Target

7.8 **Table 7.2** below summarises the advice provided in DEFRA guidance³ on where the AQOs for pollutants considered within this report apply.

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

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

Averaging Period	Objectives Should Apply At	Objectives Should Not Apply At
	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	

^ Table 7.2 - Examples of Where the Air Quality Objectives Apply

Local Air Quality Management

- 7.9 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 7.2**, are likely to be exceeded, the LA is required to declare an Air Quality Management Area (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.

Dust Legislation

- 7.10 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."

- 7.11 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.

Planning Policy

- 7.12 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (NPPF), 2024, Chapter 15;
- National Planning Practice Guidance (NPPG);
- Places for Everyone Joint Development Plan Document, Greater Manchester Combined Authority (GMCA), Policy JP-S5 and Policy JP-P1; and,
- Manchester City Council (MCC) Core Strategy Development Plan Document, Policy EN 16, Policy DM 1.

Guidance

- 7.13 The following guidance documents have been used during the preparation of this Air Quality Assessment:

- 'Air Quality & Planning Technical Guidance' Supplementary Planning Document⁴ (SPD);
- 'Land-use Planning & Development Control: Planning for Air Quality', Institute of Air Quality Management (IAQM), 2017;
- 'Guidance on the assessment of dust from demolition and construction V2.2', IAQM, 2024; and,
- Greater Manchester Clean Air Plan (2025).

Assessment Methodology and Significance Criteria

- 7.14 The Proposed Development has the potential to cause air quality effects during the construction and operational phases. These were assessed in accordance with the following methodology. It should be noted that the Site currently comprises open land.

Construction Phase Fugitive Dust Emissions

- 7.15 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 IAQM document 'Guidance on the Assessment of Dust from Demolition and Construction V2.2'⁵.
- 7.16 Activities to be undertaken as part of the Proposed Development have been divided into three types of reflect their different potential impacts. These are:
- Earthworks;
 - Construction; and,
 - Trackout.
- 7.17 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 PM₁₀.
- 7.18 The first stage screens the requirement for a more detailed assessment. Should human receptors be identified within 250m from the Site boundary or 50m from the construction vehicle route up to 250m from the Site entrance, then the assessment proceeds to the next step. 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 the next stage.
- 7.19 The second stage of the assessment screens the risk of potential dust impacts. The risk category was defined based on two factors:
- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large; and,
 - The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity.
- 7.20 The two factors are combined in order to determine the impact risk without mitigation applied.

⁴ Air Quality & Planning Technical Guidance, MCC, 2022.

⁵ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

- 7.21 The influencing factors that define the sensitivity of specific receptors are shown in **Table 7.3** below.

Receptor Sensitivity	Example	
	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 PM₁₀. 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 (LNR)

^Table 7.3 - Construction Dust - Sensitives of People and Ecological Receptors

- 7.22 The criteria for determining the sensitivity of the area to dust soiling effects on people and property is summarised in **Table 7.4** overleaf.

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

^ Table 7.4 - Construction Dust - Sensitivity of the Area to Dust Soiling Effects on People and Property

7.23 **Table 7.5** below outlines the criteria for determining the 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
		1 - 10	Low	Low	Low	Low
Medium	Greater than 32µg/m ³	More than 10	High	Medium	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
	28 - 32µg/m ³	1 - 10	Medium	Low	Low	Low
		More than 10	Medium	Low	Low	Low
	24 - 28µg/m ³	1 - 10	Low	Low	Low	Low
		More than 10	Low	Low	Low	Low
	Less than 24µg/m ³	1 - 10	Low	Low	Low	Low
		More than 10	Low	Low	Low	Low
Low	-	Greater than 1	Low	Low	Low	Low

^ Table 7.5 - Construction Dust - Sensitivity of the Area to Human Health Impacts

7.24 **Table 7.6** below outlines the criteria for determining the 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

^ Table 7.6 - Construction Dust - Sensitivity of the Area to Ecological Impacts

7.25 The scale and nature of the construction works determine the magnitude of dust impacts arising from each activity. The relevant criteria are summarised in **Table 7.7** below.

Magnitude	Activity	Criteria
Large	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)

Magnitude	Activity	Criteria
		Unpaved road length greater than 100m
Medium	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	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
	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

^ Table 7.7 - Construction Dust - Magnitude of Emission

7.26 **Table 7.8** below outlines the dust risk category from earthworks, construction and trackout.

Sensitivity of the Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

^ Table 7.8 - Construction Dust - Dust Risk Category from Earthworks, Construction and Trackout Activities

- 7.27 It should be noted that predicted effects from construction phase fugitive emissions are considered to be adverse but temporary in nature.
- 7.28 Based on the dust risk category, Site-specific mitigation measures were identified from the IAQM guidance⁶ in order to reduce potential dust impacts.
- 7.29 The significance of residual impacts was then determined based on the professional judgement. For almost all construction activity, the aim should be to control effects through the use of

⁶ 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 negligible. This is regarded as not significant with respect to the Town and Country Planning (Environmental Impact Assessment) Regulations (2017)⁷.

Construction Phase Road Vehicle Exhaust Emissions

- 7.30 There is potential for road traffic exhaust emissions associated with vehicles travelling to and from the Site during the construction phase to impact on existing air quality at sensitive receptor locations. An assessment was therefore undertaken in accordance with the IAQM guidance 'Land-use Planning & Development Control: Planning for Air Quality'⁸. This involved comparing the predicted change in vehicle flows on the local road network as a result of the proposed development with the following thresholds:
- A change of Light Duty Vehicle (LDV) flows of more than 100 Annual Average Daily Traffic (AADT) within or adjacent to an AQMA or more than 500 AADT elsewhere; and,
 - A change of HDV flows of more than 25 AADT within or adjacent to an AQMA or more than 100 AADT elsewhere.
- 7.31 If the predicted change in traffic flow on the road network as a result of the development is less than the thresholds outlined previously, the IAQM guidance 'Land-use Planning & Development Control: Planning for Air Quality'⁹ indicates effects associated with road traffic exhaust emission effects can be classified as negligible and no further assessment is required. These effects would be considered to be not significant

Operational Phase Road Vehicle Exhaust Emissions

- 7.32 The Proposed Development has the potential to impact on existing air quality as a result of road traffic exhaust emissions associated with vehicles travelling to and from the Site during the operational phase. Potential effects have therefore been defined by predicting pollutant concentrations at sensitive locations using dispersion modelling for the following scenarios:
- 2023 - Model Verification (comparison of predicted and measured pollutant concentrations allowing calculation of a verification factor to adjust results accordingly);
 - Opening year Do-Minimum (DM) (predicted traffic flows for 2026 should the Proposed Development not proceed); and,
 - Opening year Do-Something (DS) (predicted traffic flows for 2026 should the Proposed Development be completed).
- 7.33 The DM Scenario (i.e. without the Proposed Development) included baseline traffic data, inclusive of anticipated growth and committed developments for 2026. The DS scenario (i.e. with the Proposed Development) included baseline traffic data, inclusive of anticipated growth and committed developments for 2026, in addition to predicted vehicle trips associated with the Proposed Development.
- 7.34 Reference should be made to **Appendix 7.1** for a description of the dispersion modelling inputs.

⁷ The Town and Country Planning (Environmental Impact Assessment) Regulation 2017, UK Government, 2017.

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

⁹ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

- 7.35 Locations sensitive to potential changes in off-Site pollutant concentrations were identified within 200m of the highway network in accordance with the guidance provided within the Design Manual for Roads and Bridges (DMRB)¹⁰ on the likely limits of pollutant dispersion from road sources. The criteria provided within DEFRA guidance¹¹ on where the AQOs apply, as summarised in **Table 7.2**, was utilised to determine worst-case receptor positions in the vicinity of links likely to be affected by changes in traffic flows as a result of the Proposed Development.
- 7.36 The significance of predicted air quality impacts was determined in accordance with the guidance provided within the IAQM document 'Land-Use Planning & Development Control: Planning for Air Quality'¹². Using this methodology impacts were defined based on the interaction between the predicted pollutant concentration from the DS scenario and the magnitude of change between the DM and DS scenarios, as outlined in **Table 7.9** below.

Pollutant Concentration at Receptor in Assessment Year	Predicted Concentration Change as Proportion of AQO/Interim Target (%)			
	1	2 - 5	6 - 10	> 10
75% or less of AQO/Interim Target	Negligible	Negligible	Slight	Moderate
76 - 94% of AQO/Interim Target	Negligible	Slight	Moderate	Moderate
95 - 102% of AQO/Interim Target	Slight	Moderate	Moderate	Substantial
103 - 109% of AQO/Interim Target	Moderate	Moderate	Substantial	Substantial
110% or more of AQO/Interim Target	Moderate	Substantial	Substantial	Substantial

^ Table 7.9 - Operational Phase Road Vehicle Exhaust Emissions - Significance of Operational Phase Road Vehicle Exhaust Emissions Impact

- 7.37 It should be noted that the categories outlined in **Table 7.9** are intended to be used by rounding the change in percentage concentration to whole numbers.
- 7.38 Following the prediction of impacts at discrete receptor locations, the IAQM document¹³ provides guidance on determining the overall air quality impact significance of the operation of a development. The following factors are identified for consideration by the assessor:
- The existing and future air quality in the absence of the development;
 - The extent of current and future population exposure to the impacts; and,
 - The influence and validity of any assumptions adopted when undertaking the prediction of impacts.
- 7.39 The IAQM guidance states that an assessment must reach a conclusion on the likely significance of the predicted impact. Where the overall effect is moderate or substantial, the effect is likely to be considered significant, whilst if the effect is slight or negligible, the effect is likely to be

¹⁰ LA 105: Air Quality, National Highways, 2024.

¹¹ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

¹² Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

¹³ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

considered not significant. It should be noted that this is a binary judgement of either it is significant or it is not significant.

- 7.40 Predicted air quality effects from operational phase road vehicle exhaust emissions are considered to be adverse and permanent in nature.

Operational Phase Potential Future Exposure

- 7.41 The Proposed Development has the potential to expose future residents to poor air quality. Pollutant concentrations were therefore quantified across the Site using dispersion modelling. The results were subsequently compared with the relevant AQOs and Interim Target to determine the potential for exceedence. Reference should be made to **Appendix 7.1** for a description of the dispersion modelling inputs.
- 7.42 Should the AQOs or Interim Target be exceeded, then the IAQM guidance¹⁴ considers potential air quality effects associated with a development to be **significant** and mitigation is required. Should compliance with the AQOs and Interim Target be indicated then effects would be considered **not significant** with respect to the Town and Country Planning (Environmental Impact Assessment) Regulations (2017) .

Assumptions and Limitations

- 7.43 A number of assumptions have been made during the undertaking of the assessment. These include the following:
- The meteorological data used for the assessment is representative of the conditions at the Site. Records were obtained based on a review of available observation locations to ensure the most representative record station was selected;
 - Background pollutant concentrations used for the assessment are representative of baseline annual mean pollutant concentrations at the Site. These values were obtained from the DEFRA background mapping study, an industry standard database produced on behalf of the UK Government, to ensure the most accurate representation of background pollutant concentrations;
 - Road traffic emissions of NO_x are predicted to decrease in future years with changes to the UK's fleet in line with Government legislation. An assumption that emission factors remain the same was therefore adopted in order to provide a robust assessment;
 - The traffic data obtained for the purpose of the assessment is accurate. These values were provided by Curtins, the Transport Consultants for the project, and the Department for Transport (DfT)¹⁵ web tool. These are therefore considered suitable for an assessment of this nature; and,
 - The monitoring data used in the assessment is accurate. The results were obtained from the 'Greater Manchester LAQM and CAP NO₂ Diffusion Tube Results 2011-2023' spreadsheet¹⁶ which have been ratified by DEFRA and are therefore considered valid.

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

¹⁵ <https://roadtraffic.dft.gov.uk/#/6/55.254/-6.053/basemap-regions-countpoints>.

¹⁶ Greater Manchester LAQM and CAP NO₂ Diffusion Tube Results 2011-2023, GMCA, 2023.

- 7.44 The above assumptions are similar to those required for any project of this nature and the adoption of worst-case parameters, where necessary, has ensure the assessment results can be considered sufficiently robust.

Baseline Conditions

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

Local Air Quality Management

- 7.46 As required by the Environment Act (1995), as amended by the Environment Act (2021), MCC has undertaken Review and Assessment of air quality within their area of jurisdiction. This process has indicated that annual mean concentrations of NO₂ 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."

- 7.47 The Proposed Development is partly located within the AQMA. As such, there is the potential for the exposure of future residents to poor air quality and any emissions associated with the proposals to cause air quality effects within this sensitive location. This has been considered throughout the assessment.
- 7.48 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.

Local Air Quality Monitoring Data

- 7.49 Monitoring of pollutant concentrations is undertaken by MCC throughout their area of jurisdiction. Data has also been collected by the GMCA to inform the CAP. Recent NO₂ concentrations recorded in the vicinity of the Proposed Development, as provided in the 'Greater Manchester LAQM and CAP NO₂ Diffusion Tube Results 2011-2023'¹⁷ spreadsheet, are shown in **Table 7.10** below.

Monitoring Site		Monitored NO ₂ Concentration (µg/m ³)			
		2020	2021	2022	2023
MA28NO	Ashton Old Road	26.4	29.4	29.3	26.9
MA95BNO	Ashton Old Road	31.5	34.1	33.7	31.5
CAP_MANC_133 ^(a)	A635 Fairfield Street	-	-	37.0	35.3
CAP_MANC_134 ^(a)	A635 Fairfield Street	-	-	39.3	37.4
CAP_MANC_135 ^(a)	A635 Fairfield Street	-	-	39.8	38.4

Note: (a) Monitor commissioned in 2022.

¹⁷ Greater Manchester LAQM and CAP NO₂ Diffusion Tube Results 2011-2023, GMCA, 2023.

^ Table 7.10 - Monitoring Results

- 7.50 As shown in **Table 7.10**, annual mean NO₂ concentrations were below the AQO of 40µg/m³ at all monitors in recent years.
- 7.51 Pollutant concentrations during 2020 and 2021 were affected by changes to travel patterns associated with the COVID-19 pandemic. The results should therefore be viewed with caution. However, data for 2022 and beyond is now considered representative of post-pandemic conditions. This is supported by the IAQM¹⁸, who have adopted the following position:
- "ambient air quality monitoring data for the year 2022 and beyond is generally considered to represent the current post-pandemic baseline."*
- 7.52 MCC do not undertake monitoring of PM₁₀ or PM_{2.5} concentrations within the vicinity of the Site.
- 7.53 Reference should be made to **Figure 7.2.1** in **Appendix 7.2** for a map of the survey positions.

Background Concentrations

- 7.54 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 Site is located in grid square National Grid Reference (NGR): 387500, 399500. Data for this location was downloaded from the DEFRA website¹⁹ for the purpose of the assessment and is summarised in **Table 7.11** below.

Pollutant	Predicted Background Annual Mean Pollutant Concentration (µg/m ³)		
	2023	2024	2026
NO ₂	15.60	15.09	14.12
PM ₁₀	12.44	12.39	12.28
PM _{2.5}	7.62	7.56	7.44

^ Table 7.11 - Predicted Background Concentrations

- 7.55 As shown in **Table 7.11**, predicted background NO₂, PM₁₀ and PM_{2.5} concentrations are below the relevant AQOs and Interim Target at the Site.

Sensitive Receptors

- 7.56 A sensitive receptor is defined as any location which may be affected by changes in air quality as a result of a development. These have been defined for construction dust and road vehicle exhaust emission impacts in the following Sections.

¹⁸ Use of 2020 and 2021 Monitoring Datasets - IAQM Position Statement V1.1, IAQM, 2023.

¹⁹ <http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>.

Construction Phase Fugitive Dust Emissions Sensitive Receptors

- 7.57 Receptors sensitive to potential dust impacts during earthworks and construction were identified from a desk-top study of the area up to 250m from the Site boundary. These are summarised in **Table 7.12** below.

Distance from Site Boundary (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	1 - 10	0
Up to 50	10 - 100	0
Up to 100	More than 100	-
Up to 250	More than 100	-

^ Table 7.12 - Construction Dust - Earthworks and Construction Dust Sensitive Receptors

- 7.58 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 7.13** below.

Distance from Site Access Route (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	1 - 10	1
Up to 50	10 - 100	1

^ Table 7.13 - Construction Dust - Trackout Dust Sensitive Receptors

- 7.59 The ecological receptor identified in **Table 7.13** is the Clayton Vale LNR, which is situated approximately 200m east of the Site boundary. Based on the criteria shown in **Table 7.3**, the sensitivity of this designation to potential dust impacts was classified as **low**.
- 7.60 Dust sensitive receptors within 250m of the Site include places of work and residential dwellings. These are considered to be of **medium** and **high** sensitivity, respectively. It should be noted that only receptors of **medium** sensitivity are present within 100m of the boundary.
- 7.61 The sensitivity of the receiving environment to dust soiling, human health and ecological impacts has been derived from **Table 7.4**, **Table 7.5** and **Table 7.6**, respectively. These are shown in **Table 7.14** below.

Potential Impact	Sensitivity of the Surrounding Area		
	Earthworks	Construction	Trackout
Dust Soiling	Medium	Medium	Medium
Human Health	Low	Low	Low
Ecological	-	-	Low

^ Table 7.14 - Construction Dust - Sensitivity of the Surrounding Area to Specific Dust Impacts

Operational Phase Road Vehicle Exhaust Emissions Sensitive Receptors

- 7.62 Locations sensitive to potential operational phase road vehicle exhaust emission impacts were identified from a desk-top study and are summarised in **Table 7.15** below. It should be noted that the receptor height was defined as the lowest floor of relevant exposure to allow for less sensitive land uses, such as retail space, at ground level.

Receptor		NGR (m)		Height (m)
		X	Y	
R1	Residential - Briscoe Lane	386779.2	399276.6	1.5
R2	Residential - Briscoe Lane	387467.9	399831.2	1.5
R3	Residential - Briscoe Lane	387668.9	399936.8	1.5
R4	Residential - Ten Acres Lane	387249.4	400074.5	1.5
R5	Residential - Ten Acres Lane	387123.0	400372.3	1.5
R6	Rocking Horse Nursery	386903.5	400356.6	1.5
R7	Residential - A62 Oldham Road	387301.6	400565.9	1.5
R8	Residential - Hulme Hall Lane	386505.4	399398.5	1.5
R9	Residential - Alan Turing Way	386969.8	398874.8	1.5
R10	Residential - Newcombe Close	386916.8	398304.8	1.5
R11	Residential - Orme Close	386433.8	398342.2	1.5
R12	Residential - Alan Turing Way	387153.4	398242.3	1.5
R13	Connell Coop College	387299.7	397919.9	1.5
R14	Residential - Outrington Drive	387249.5	397691.2	1.5
R15	Residential - Alan Turing Way	387225.0	397543.6	1.5
R16	Residential - Ashton Old Road	387100.1	397544.0	1.5
R17	Residential - Ashton Old Road	386649.2	397577.6	1.5
R18	Residential - Ashton Old Road	386454.5	397600.1	1.5
R19	Bridge College	387256.9	397344.7	1.5

Receptor		NGR (m)		Height (m)
		X	Y	
R20	Residential - Ashton Old Road	387433.2	397513.1	1.5
R21	Residential - Ashton Old Road	387625.3	397456.5	1.5
R22	Residential - Ashton Old Road	388128.4	397442.1	1.5
R23	Residential - Ashton New Road	387650.6	398511.5	3.5
R24	Residential - Bank Street	387641.6	398533.9	3.5
R25	Residential - Bank Street	387592.3	398701.9	1.5
R26	Ravensbury Street Primary School	387547.0	398878.2	1.5
R27	Residential - Ten Acres Lane	387565.0	399636.0	1.5
R28	Residential - Ten Acres Lane	387483.2	399750.2	1.5

^ Table 7.15 - Road Vehicle Exhaust Emissions Sensitive Receptor Locations

- 7.63 Reference should be made to **Figure 7.2.2** in **Appendix 7.2** for a map of road vehicle exhaust emission sensitive receptor locations.

Identification and Evaluation of Significant Effects

Construction Phase Fugitive Dust Emissions

- 7.64 Activities such as excavation, ground works, cutting, construction, concrete batching and storage of materials have 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.
- 7.65 The potential for effects 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.
- 7.66 The desk-top 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 effects has been undertaken.

Earthworks

- 7.67 Earthworks will primarily involve excavating material, haulage, tipping and stockpiling, as well as Site levelling and landscaping. The area of the Site is between 18,000m² and 110,000m². In accordance with the criteria outlined in **Table 7.7**, the magnitude of potential dust emissions from earthworks is therefore medium.
- 7.68 As indicated in **Table 7.14**, the sensitivity of the study area to dust soiling effects on people and property is medium. In accordance with the criteria outlined in **Table 7.8**, the Proposed Development is considered to be a medium risk site for dust soiling as a result of earthworks.

- 7.69 As indicated in **Table 7.14**, the sensitivity of the study area to human health impacts low. In accordance with the criteria outlined in **Table 7.8**, the Proposed Development is considered to be a low risk site for human health receptors as a result of earthworks.

Construction

- 7.70 Due to the size of the Proposed Development, the total building volume is likely to be greater than 75,000m³. In accordance with the criteria outlined in **Table 7.7**, the magnitude of potential dust emissions from construction is therefore large.
- 7.71 As indicated in **Table 7.14**, the sensitivity of the study area to dust soiling effects on people and property is medium. In accordance with the criteria outlined in **Table 7.8**, the Proposed Development is considered to be a medium risk site for dust soiling as a result of construction activities.
- 7.72 As indicated in **Table 7.14**, the sensitivity of the study area to human health impacts low. In accordance with the criteria outlined in **Table 7.8**, the Proposed Development is considered to be a low risk site for human health receptors as a result of construction activities.

Trackout

- 7.73 Based on the Site area and existing hardstanding, it is anticipated that the unpaved road length is likely to be between 50m and 100m. In accordance with the criteria outlined in **Table 7.7**, the magnitude of potential dust emissions from trackout is therefore medium.
- 7.74 As indicated in **Table 7.14**, the sensitivity of the study area to dust soiling effects on people and property is medium. In accordance with the criteria outlined in **Table 7.8**, the Proposed Development is considered to be a medium risk site for dust soiling as a result of trackout activities.
- 7.75 As indicated in **Table 7.14**, the sensitivity of the study area to human health impacts low. In accordance with the criteria outlined in **Table 7.8**, the Proposed Development is considered to be a low risk site for human health receptors as a result of trackout activities.
- 7.76 As indicated in **Table 7.14**, the sensitivity of the study area to ecological impacts is low. In accordance with the criteria outlined in **Table 7.8**, the Proposed Development is considered to be a low risk site for ecological impacts as a result of trackout activities.

Summary of Predicted Dust Risk

- 7.77 A summary of the potential risk from each dust generating activity is provided in **Table 7.16** below.

Potential Impact	Potential Unmitigated Dust Risk		
	Earthworks	Construction	Trackout
Dust Soiling	Medium	Medium	Medium
Human Health	Low	Low	Low
Ecological	-	-	Low

^ Table 7.16 - Summary of Potential Unmitigated Construction Dust Risk

Construction Phase Road Vehicle Exhaust Emissions

- 7.78 Any vehicle movements associated with the construction phase of the Proposed Development will generate exhaust emissions on the local and regional road networks. Due to the nature of the Proposed Development, it is considered unlikely the development will result in more than 100 LDV or 25 HDV movements per day . Effects are therefore predicted to be not significant.

Operational Phase Road Vehicle Exhaust Emissions

- 7.79 The Proposed Development has the potential to increase concentrations of NO₂, PM₁₀ and PM_{2.5} as a result of road traffic exhaust emissions associated with vehicles travelling to and from the Site during the operational phase. As assessment was therefore undertaken using dispersion modelling in order to quantify potential changes in pollutant concentrations at sensitive locations in the vicinity of the Site. The results are summarised below. It should be noted that the modelling was based on 594 apartments and 183 dwellings. The scheme has since been revised and reduced to circa 500 units. However, the assessment has been completed based on trips from the larger scheme in order to provide a worst-case appraisal.
- 7.80 Reference should be made to **Appendix 7.1** for the assessment inputs.

Predicted Concentrations

- 7.81 Annual mean NO₂ concentrations were predicted at the sensitive receptor locations for the DM and DS scenarios. These are summarised in **Table 7.17** below.

Receptor		Predicted Annual Mean NO ₂ Concentration (µg/m ³)		
		DM	DS	Change
R1	Residential - Briscoe Lane	33.18	33.53	0.35
R2	Residential - Briscoe Lane	33.22	33.42	0.20
R3	Residential - Briscoe Lane	26.22	26.31	0.09
R4	Residential - Ten Acres Lane	32.21	32.43	0.22
R5	Residential - Ten Acres Lane	30.33	30.49	0.16
R6	Rocking Horse Nursery	38.67	38.70	0.03
R7	Residential - A62 Oldham Road	34.49	34.65	0.16
R8	Residential - Hulme Hall Lane	31.38	31.54	0.16
R9	Residential - Alan Turing Way	32.56	32.75	0.19
R10	Residential - Newcombe Close	25.92	25.95	0.03
R11	Residential - Orme Close	25.51	25.53	0.02
R12	Residential - Alan Turing Way	30.44	30.56	0.12

Receptor		Predicted Annual Mean NO ₂ Concentration (µg/m ³)		
		DM	DS	Change
R13	Connell Coop College	28.01	28.11	0.10
R14	Residential - Outrington Drive	31.93	32.07	0.14
R15	Residential - Alan Turing Way	35.85	35.99	0.14
R16	Residential - Ashton Old Road	31.97	32.06	0.09
R17	Residential - Ashton Old Road	34.81	34.91	0.10
R18	Residential - Ashton Old Road	33.40	33.49	0.09
R19	Bridge College	23.97	23.99	0.02
R20	Residential - Ashton Old Road	27.95	28.02	0.07
R21	Residential - Ashton Old Road	26.79	26.85	0.06
R22	Residential - Ashton Old Road	31.16	31.25	0.09
R23	Residential - Ashton New Road	28.29	28.33	0.04
R24	Residential - Bank Street	34.46	34.53	0.07
R25	Residential - Bank Street	29.23	29.33	0.10
R26	Ravensbury Street Primary School	27.25	27.33	0.08
R27	Residential - Ten Acres Lane	27.82	27.97	0.15
R28	Residential - Ten Acres Lane	28.91	29.07	0.16

^Table 7.17 - Operational Phase Road Vehicle Exhaust Emissions - Predicted Annual Mean NO₂ Concentrations

- 7.82 As shown in Table 7.17, predicted annual mean NO₂ concentrations were below the AQO of 40µg/m³ at all receptors in both scenarios.
- 7.83 Reference should be made to **Figure 7.2.3** in **Appendix 7.2** for a graphical representation of annual mean NO₂ concentrations for the DM and DS scenario, respectively.
- 7.84 Annual mean PM₁₀ concentrations were predicted at the sensitive receptor locations for the DM and DS scenarios. These are summarised in **Table 7.18** below.

Receptor		Predicted Annual Mean PM ₁₀ Concentration (µg/m³)		
		DM	DS	Change
R1	Residential - Briscoe Lane	17.68	17.80	0.12
R2	Residential - Briscoe Lane	17.76	17.83	0.07
R3	Residential - Briscoe Lane	15.67	15.70	0.03
R4	Residential - Ten Acres Lane	17.46	17.53	0.08
R5	Residential - Ten Acres Lane	16.79	16.85	0.05
R6	Rocking Horse Nursery	20.36	20.37	0.01
R7	Residential - A62 Oldham Road	18.41	18.47	0.06
R8	Residential - Hulme Hall Lane	16.94	16.99	0.05
R9	Residential - Alan Turing Way	17.49	17.56	0.06
R10	Residential - Newcombe Close	15.69	15.71	0.01
R11	Residential - Orme Close	15.59	15.59	0.01
R12	Residential - Alan Turing Way	17.49	17.54	0.05
R13	Connell Coop College	16.49	16.52	0.04
R14	Residential - Outrington Drive	18.02	18.07	0.06
R15	Residential - Alan Turing Way	19.11	19.17	0.05
R16	Residential - Ashton Old Road	17.57	17.60	0.03
R17	Residential - Ashton Old Road	18.67	18.71	0.04
R18	Residential - Ashton Old Road	17.76	17.79	0.03
R19	Bridge College	14.91	14.92	0.01
R20	Residential - Ashton Old Road	16.47	16.49	0.03
R21	Residential - Ashton Old Road	16.08	16.10	0.02
R22	Residential - Ashton Old Road	16.88	16.91	0.03

Receptor		Predicted Annual Mean PM ₁₀ Concentration (µg/m ³)		
		DM	DS	Change
R23	Residential - Ashton New Road	16.34	16.36	0.01
R24	Residential - Bank Street	18.67	18.70	0.03
R25	Residential - Bank Street	16.77	16.80	0.04
R26	Ravensbury Street Primary School	16.07	16.10	0.03
R27	Residential - Ten Acres Lane	16.05	16.10	0.05
R28	Residential - Ten Acres Lane	16.40	16.45	0.05

^Table 7.18 - Operational Phase Road Vehicle Exhaust Emissions - Predicted Annual Mean PM₁₀ Concentrations

- 7.85 As shown in **Table 7.18**, predicted annual mean PM₁₀ concentrations were below the AQO of 40µg/m³ at all receptors in both scenarios.
- 7.86 Reference should be made to **Figure 7.2.4** in **Appendix 7.2** for a graphical representation of annual mean PM₁₀ concentrations for the DM and DS scenario, respectively.
- 7.87 Annual mean PM_{2.5} concentrations were predicted at the sensitive receptor locations for the DM and DS scenarios. These are summarised in **Table 7.19** below.

Receptor		Predicted Annual Mean PM _{2.5} Concentration (µg/m ³)		
		DM	DS	Change
R1	Residential - Briscoe Lane	9.99	10.05	0.06
R2	Residential - Briscoe Lane	10.03	10.06	0.04
R3	Residential - Briscoe Lane	8.91	8.93	0.02
R4	Residential - Ten Acres Lane	9.86	9.90	0.04
R5	Residential - Ten Acres Lane	9.51	9.54	0.03
R6	Rocking Horse Nursery	11.42	11.43	0.01
R7	Residential - A62 Oldham Road	10.38	10.41	0.03
R8	Residential - Hulme Hall Lane	9.60	9.63	0.03
R9	Residential - Alan Turing Way	9.89	9.92	0.03

Receptor		Predicted Annual Mean PM _{2.5} Concentration (µg/m³)		
		DM	DS	Change
R10	Residential - Newcombe Close	8.93	8.93	0.01
R11	Residential - Orme Close	8.87	8.87	0.00
R12	Residential - Alan Turing Way	9.88	9.91	0.03
R13	Connell Coop College	9.35	9.37	0.02
R14	Residential - Outrington Drive	10.16	10.19	0.03
R15	Residential - Alan Turing Way	10.75	10.78	0.03
R16	Residential - Ashton Old Road	9.93	9.95	0.02
R17	Residential - Ashton Old Road	10.51	10.53	0.02
R18	Residential - Ashton Old Road	10.03	10.05	0.02
R19	Bridge College	8.51	8.52	0.00
R20	Residential - Ashton Old Road	9.34	9.35	0.01
R21	Residential - Ashton Old Road	9.13	9.15	0.01
R22	Residential - Ashton Old Road	9.57	9.58	0.02
R23	Residential - Ashton New Road	9.28	9.29	0.01
R24	Residential - Bank Street	10.52	10.54	0.02
R25	Residential - Bank Street	9.49	9.51	0.02
R26	Ravensbury Street Primary School	9.12	9.14	0.02
R27	Residential - Ten Acres Lane	9.11	9.14	0.03
R28	Residential - Ten Acres Lane	9.30	9.33	0.03

^Table 7.19 - Operational Phase Road Vehicle Exhaust Emissions - Predicted Annual Mean PM_{2.5} Concentrations

- 7.88 As shown in **Table 7.19**, predicted annual mean PM_{2.5} concentrations were below the Interim Target of 12µg/m³ at all receptors in both scenarios.
- 7.89 Reference should be made to **Figure 7.2.5** in **Appendix 7.2** for a graphical representation of annual mean PM_{2.5} concentrations for the DM and DS scenario, respectively.

Predicted Impacts

7.90 Predicted impacts on annual mean NO₂ concentrations at the sensitive receptor locations are summarised in **Table 7.20** below.

Receptor		Predicted Annual Mean NO ₂ Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R1	Residential - Briscoe Lane	76 - 94% of AQO	1	Negligible
R2	Residential - Briscoe Lane	76 - 94% of AQO	1	Negligible
R3	Residential - Briscoe Lane	Below 75% of AQO	0	Negligible
R4	Residential - Ten Acres Lane	76 - 94% of AQO	1	Negligible
R5	Residential - Ten Acres Lane	76 - 94% of AQO	0	Negligible
R6	Rocking Horse Nursery	95 - 102% of AQO	0	Negligible
R7	Residential - A62 Oldham Road	76 - 94% of AQO	0	Negligible
R8	Residential - Hulme Hall Lane	76 - 94% of AQO	0	Negligible
R9	Residential - Alan Turing Way	76 - 94% of AQO	0	Negligible
R10	Residential - Newcombe Close	Below 75% of AQO	0	Negligible
R11	Residential - Orme Close	Below 75% of AQO	0	Negligible
R12	Residential - Alan Turing Way	76 - 94% of AQO	0	Negligible
R13	Connell Coop College	Below 75% of AQO	0	Negligible
R14	Residential - Outrington Drive	76 - 94% of AQO	0	Negligible
R15	Residential - Alan Turing Way	76 - 94% of AQO	0	Negligible
R16	Residential - Ashton Old Road	76 - 94% of AQO	0	Negligible
R17	Residential - Ashton Old Road	76 - 94% of AQO	0	Negligible
R18	Residential - Ashton Old Road	76 - 94% of AQO	0	Negligible
R19	Bridge College	Below 75% of AQO	0	Negligible
R20	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible

Receptor		Predicted Annual Mean NO ₂ Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R21	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible
R22	Residential - Ashton Old Road	76 - 94% of AQO	0	Negligible
R23	Residential - Ashton New Road	Below 75% of AQO	0	Negligible
R24	Residential - Bank Street	76 - 94% of AQO	0	Negligible
R25	Residential - Bank Street	Below 75% of AQO	0	Negligible
R26	Ravensbury Street Primary School	Below 75% of AQO	0	Negligible
R27	Residential - Ten Acres Lane	Below 75% of AQO	0	Negligible
R28	Residential - Ten Acres Lane	Below 75% of AQO	0	Negligible

^ Table 7.20 - Operational Phase Road Vehicle Exhaust Emissions - Predicted Impacts NO₂

- 7.91 As shown in **Table 7.20**, impacts on annual mean NO₂ concentrations as a result of the Proposed Development were predicted to be **negligible** at all receptors. These are considered to be **not significant**.
- 7.92 Predicted impacts on annual mean PM₁₀ concentrations at the sensitive receptor locations are summarised in **Table 7.21** below.

Receptor		Predicted Annual Mean PM ₁₀ Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R1	Residential - Briscoe Lane	Below 75% of AQO	0	Negligible
R2	Residential - Briscoe Lane	Below 75% of AQO	0	Negligible
R3	Residential - Briscoe Lane	Below 75% of AQO	0	Negligible
R4	Residential - Ten Acres Lane	Below 75% of AQO	0	Negligible
R5	Residential - Ten Acres Lane	Below 75% of AQO	0	Negligible
R6	Rocking Horse Nursery	Below 75% of AQO	0	Negligible
R7	Residential - A62 Oldham Road	Below 75% of AQO	0	Negligible
R8	Residential - Hulme Hall Lane	Below 75% of AQO	0	Negligible

Receptor		Predicted Annual Mean PM ₁₀ Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R9	Residential - Alan Turing Way	Below 75% of AQO	0	Negligible
R10	Residential - Newcombe Close	Below 75% of AQO	0	Negligible
R11	Residential - Orme Close	Below 75% of AQO	0	Negligible
R12	Residential - Alan Turing Way	Below 75% of AQO	0	Negligible
R13	Connell Coop College	Below 75% of AQO	0	Negligible
R14	Residential - Outrington Drive	Below 75% of AQO	0	Negligible
R15	Residential - Alan Turing Way	Below 75% of AQO	0	Negligible
R16	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible
R17	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible
R18	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible
R19	Bridge College	Below 75% of AQO	0	Negligible
R20	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible
R21	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible
R22	Residential - Ashton Old Road	Below 75% of AQO	0	Negligible
R23	Residential - Ashton New Road	Below 75% of AQO	0	Negligible
R24	Residential - Bank Street	Below 75% of AQO	0	Negligible
R25	Residential - Bank Street	Below 75% of AQO	0	Negligible
R26	Ravensbury Street Primary School	Below 75% of AQO	0	Negligible
R27	Residential - Ten Acres Lane	Below 75% of AQO	0	Negligible
R28	Residential - Ten Acres Lane	Below 75% of AQO	0	Negligible

^ Table 7.21 - Operational Phase Road Vehicle Exhaust Emissions - Predicted Impacts PM₁₀

- 7.93 As shown in **Table 7.21**, impacts on annual mean PM₁₀ concentrations as a result of the Proposed Development were predicted to be **negligible** at all receptors. These are considered to be **not significant**.

7.94 Predicted impacts on annual mean PM_{2.5} concentrations at the sensitive receptor locations are summarised in **Table 7.22** below.

Receptor		Predicted Annual Mean PM _{2.5} Concentration	Predicted Concentration Change as Proportion of Interim Target (%)	Impact Significance
R1	Residential - Briscoe Lane	76 - 94% of Interim Target	1	Negligible
R2	Residential - Briscoe Lane	76 - 94% of Interim Target	0	Negligible
R3	Residential - Briscoe Lane	Below 75% of Interim Target	0	Negligible
R4	Residential - Ten Acres Lane	76 - 94% of Interim Target	0	Negligible
R5	Residential - Ten Acres Lane	76 - 94% of Interim Target	0	Negligible
R6	Rocking Horse Nursery	95 - 102% of Interim Target	0	Negligible
R7	Residential - A62 Oldham Road	76 - 94% of Interim Target	0	Negligible
R8	Residential - Hulme Hall Lane	76 - 94% of Interim Target	0	Negligible
R9	Residential - Alan Turing Way	76 - 94% of Interim Target	0	Negligible
R10	Residential - Newcombe Close	Below 75% of Interim Target	0	Negligible
R11	Residential - Orme Close	Below 75% of Interim Target	0	Negligible
R12	Residential - Alan Turing Way	76 - 94% of Interim Target	0	Negligible
R13	Connell Coop College	76 - 94% of Interim Target	0	Negligible
R14	Residential - Outrington Drive	76 - 94% of Interim Target	0	Negligible
R15	Residential - Alan Turing Way	76 - 94% of Interim Target	0	Negligible
R16	Residential - Ashton Old Road	76 - 94% of Interim Target	0	Negligible
R17	Residential - Ashton Old Road	76 - 94% of Interim Target	0	Negligible
R18	Residential - Ashton Old Road	76 - 94% of Interim Target	0	Negligible
R19	Bridge College	Below 75% of Interim Target	0	Negligible
R20	Residential - Ashton Old Road	76 - 94% of Interim Target	0	Negligible

Receptor		Predicted Annual Mean PM _{2.5} Concentration	Predicted Concentration Change as Proportion of Interim Target (%)	Impact Significance
R21	Residential - Ashton Old Road	76 - 94% of Interim Target	0	Negligible
R22	Residential - Ashton Old Road	76 - 94% of Interim Target	0	Negligible
R23	Residential - Ashton New Road	76 - 94% of Interim Target	0	Negligible
R24	Residential - Bank Street	76 - 94% of Interim Target	0	Negligible
R25	Residential - Bank Street	76 - 94% of Interim Target	0	Negligible
R26	Ravensbury Street Primary School	76 - 94% of Interim Target	0	Negligible
R27	Residential - Ten Acres Lane	76 - 94% of Interim Target	0	Negligible
R28	Residential - Ten Acres Lane	76 - 94% of Interim Target	0	Negligible

^ Table 7.22 - Operational Phase Road Vehicle Exhaust Emissions - Predicted Impacts PM_{2.5}

- 7.95 As shown in **Table 7.22**, impacts on annual mean PM_{2.5} concentrations as a result of the Proposed Development were predicted to be **negligible** at all receptors. These are considered to be **not significant**.

Operational Phase Potential Future Exposure

- 7.96 The Proposed Development has the potential to cause the exposure of future residents to elevated pollution levels associated with local road vehicle exhaust emissions. Dispersion modelling was undertaken with the inputs described in **Appendix 7.1** to quantify air quality conditions at the Site. Reference should be made to **Figure 7.2.3**, **Figure 7.2.4** and **Figure 7.2.5** for graphical representations of the results.
- 7.97 As shown in **Figure 7.2.3**, annual mean NO₂ concentrations were below the AQO of 40µg/m³ at all proposed residential facades. The maximum level was 33.51µg/m³.
- 7.98 As shown in **Figure 7.2.4**, annual mean PM₁₀ concentrations were below the AQO of 40µg/m³ at all proposed residential facades. The maximum level was 18.46µg/m³.
- 7.99 As shown in **Figure 7.2.5**, annual mean PM_{2.5} concentrations were below the Interim Target of 12µg/m³ at all proposed residential facades. The maximum level was 10.36µg/m³.
- 7.100 Based on the results of the assessment, exposure of future residents to exceedences of the relevant AQOs and Interim Target has not been predicted. As such, the predicted effect is **not significant**.

Interim Planning Guidance for PM_{2.5}

- 7.101 Interim Planning Guidance²⁰ 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 7.23** below, along with the development response.

Question	Response
How has exposure to PM_{2.5} been considered when selecting the development site? • 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 Proposed Development is located in a predominantly industrial area with a number of schools within the vicinity of the Site. These have been considered within the assessment and concentrations are predicted to be below the Interim Target with the Proposed Development in place The Site is located adjacent to Briscoe Lane and associated road vehicle emissions. This road is minor in nature. The assessment has considered the potential for exposure of future users to elevated pollutant levels. This indicated that PM_{2.5} levels at all proposed residential facades were predicted to be below the Interim Target As outlined in Table 7.24 below, 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
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? • 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	A number of mitigation measures have been incorporated into the design of the Proposed Development in order to reduce PM_{2.5} exposure for future residents. These include the following: • Trees will be planted sporadically along the boundary fronting Briscoe Lane and the railway line. This will provide screening from potential vehicle exhaust emissions In order to reduce emissions of PM_{2.5} with associated impacts at nearby receptors, the following measures have also been included: • The Proposed Development will include 100% Electric Vehicle (EV) charging

²⁰ <https://uk-air.defra.gov.uk/pm25targets/planning>.

Question	Response
	• Provision of secure cycle spaces to encourage the use of sustainable transport modes • An Interim Travel Plan is being produced 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

^ Table 7.23 - Interim Planning Guidance Questions

- 7.102 Based on the responses provided in **Table 7.23** and the assessment results, as detailed above, it is considered that the development has identified key sources of air pollution and taken appropriate action to minimise emissions of PM_{2.5}.

Mitigation Measures

- 7.103 Where feasible at this stage measures have been incorporated into the design of the Proposed Development in order to avoid, reduce or offset significant environmental effects. Where this has not been possible, further mitigation measures have been proposed.
- 7.104 The mitigation measures proposed, some of which comprise best practice measures which should be implemented in respect of any construction site, or operational development in order to minimise the impact on the environment, are summarised below.

Construction Phase Fugitive Dust Emissions

- 7.105 Due to the size and nature of the Proposed Development, a Construction Environmental Management Plan (CEMP) will be produced to control potential air quality effects during the construction phase. The measures outlined in **Table 7.24** below will be included within the CEMP to mitigate fugitive dust emissions during construction. These are based on the advice provided within the IAQM guidance²¹ and are therefore considered suitable for the Site.

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 Display the head or regional office contact information Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by MCC
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 MCC when requested

²¹ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

Issue	Control Measure
	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
Monitoring	Carry out regular Site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to MCC when requested 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
Preparing and maintaining the Site	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 boundary that are at least as high as any stockpiles on Site Fully enclose Site or specific operations where there is a high potential for dust production and the Site is 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 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 and burning of waste materials
Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable
Construction	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 Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust

Issue	Control Measure
Trackout	Use water-assisted dust sweepers 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, if necessary

^ Table 7.24 - Construction Phase Fugitive Dust Emissions - Mitigation Measures

Construction Phase Road Vehicle Exhaust Emissions

- 7.106 Air quality effects as a result of construction and operational phase road vehicle exhaust emissions are predicted to be **not significant**. As such, additional mitigation measures were not considered necessary.

Operational Phase Road Vehicle Exhaust Emissions

- 7.107 Air quality effects as a result of operational phase road vehicle exhaust emissions were predicted to be **not significant**. As such, additional mitigation was not considered necessary. However, a number of measures have been included within the Proposed Development in accordance with the requirements of the IAQM document 'Land-Use Planning & Development Control: Planning for Air Quality'²² to encourage the use of sustainable transport modes, manage vehicle flow and reduce pollution around the Site. **Table 7.25** below describes the good practice principles detailed in the IAQM guidance along with how each has been addressed with regards to the Proposed Development.

Phase	Principle	Action
Design Phase	New developments should not contravene the Council's AQAP ²³ , 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	An agreed number of EV charging points are to be included as part of the proposals to encourage use of non-fossil fuelled vehicles
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	The Proposed Development will be 100% EV charging. This includes 1 charge point per dwelling and 1 EV charger per parking space

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

²³ Greater Manchester AQAP 2016-2021, GMCA, 2016.

Phase	Principle	Action
	dwellings, EV charging points for each parking space should be made	
	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	An Interim Travel Plan is being produced for the Proposed Development
	All gas-fired boilers to meet a minimum standard of <40mgNO _x /kWh	Any boilers to be included in the Proposed Development will be provisioned in accordance with the relevant requirements

^ Table 7.25 - Operational Phase Road Vehicle Exhaust Emissions - Good Practice Design Principles for Operational Phase Air Quality Impacts

- 7.108 It is considered the above methods would further reduce potential impacts associated with the Proposed Development.

Cumulative Effects

Construction Phase Fugitive Dust Emissions

- 7.109 Should permission be granted for other committed developments within 250m of the Site, it is possible that cumulative dust effects may occur during construction. However, fugitive dust emissions associated with the Proposed Development will be minimised through the outlined mitigation measures. A similar level of control would also be expected for any other scheme. Therefore, cumulative effects are predicted to be **not significant**.

Construction Phase Road Vehicle Exhaust Emissions

- 7.110 Cumulative vehicle exhaust emissions may occur during construction as a result of additional traffic movements associated with committed developments in the vicinity of the site. However, the number of vehicle trips associated with the development is anticipated to be lower than the relevant screening criteria²⁴, below which negligible impacts would be expected. A similar or lower level of vehicle trip generation would be expected for any other committed development. As such, the screening criteria are unlikely to be exceeded when cumulative trips are considered. Residual cumulative effects are therefore predicted to be **not significant**.

Operational Phase Road Vehicle Exhaust Emissions

- 7.111 Cumulative vehicle exhaust emission effects may occur during operation as a result of additional traffic movements associated with committed developments in the vicinity of the Site. However, the traffic data utilised for the assessment included predicted changes in flows as a result of

²⁴ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

relevant committed developments. As outlined previously, effects were predicted to be **not significant**. As such, cumulative effects are also predicted to be **not significant**.

Residual Effects

- 7.112 Following the effective implementation of the mitigation measures, there are no significant residual effects arising from the Proposed Development during the construction or operational phases. A summary of the air quality effects arising from the Proposed Development are summarised in **Table 7.26** below.

Likely Significant Effect	Receptor	Mitigation	Residual Effect
Construction Phase			
Dust soiling as a result of fugitive dust emissions	Local residents	CEMP	Negligible Not Significant
Increases in PM ₁₀ concentrations as a result of fugitive dust emissions	Local residents	CEMP	Negligible Not Significant
Increases in NO ₂ , PM ₁₀ and PM _{2.5} concentrations associated with vehicle exhaust emissions	Local residents	None	Negligible Not Significant
Operational Phase			
Increases in NO ₂ , PM ₁₀ and PM _{2.5} concentrations associated with vehicle exhaust emissions	Local residents	Inclusion of measures in accordance with the IAQM 'Land-Use Planning & Development Control: Planning for Air Quality', as outlined in Table 1.24	Negligible Not Significant
Exposure of future residents to exceedences of the AQO and Interim Target	Future residents of the Proposed Development	None	Negligible Not Significant

^ Table 7.26 - Summary of Residual Effects

Conclusion

- 7.113 Redmore Environmental Ltd was commissioned by Kellen Homes Limited to undertake an Air Quality Assessment in support of a residential development at River Park Trading Estate, off Riverpark Road, Manchester.
- 7.114 Potential construction phase air quality effects from fugitive dust emissions were assessed as a result of earthworks, construction and trackout.
- 7.115 There is the potential for air quality effects as a result of road traffic exhaust emissions associated with vehicles travelling to and from the Site during the construction phase. These were assessed using best practice guidance. This indicated that effects were not predicted to be significant.

- 7.116 During the operational phase of the Proposed Development there is the potential for air quality effects as a result of road traffic exhaust emissions associated with vehicles travelling to and from the Site. These were assessed using dispersion modelling and best practice guidance. Review of the results indicated that effects were not predicted to be significant at any sensitive receptor location.
- 7.117 The potential for exposure of future residents to poor air quality was also assessed using dispersion modelling. This indicated that pollutant concentrations were below the relevant criteria at all proposed building facades. As such, mitigation measures to control potential future exposure to poor air quality were not considered necessary.
- 7.118 A Construction Environmental Management Plan will be produced in support of the Proposed Development. Measures outlined within the document will be reviewed and updated as necessary. They will then continue to be implemented in order to reduce potential effects associated with fugitive dust emissions during the construction phase as far as practicable.
- 7.119 Based on the results of the assessment, residual air quality effects associated with the Proposed Development are not considered to be significant.