13. Air Quality

Introduction

13.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Development in relation to air quality.

13.2 The Chapter describes the technical consultation that has been undertaken during the EIA, the scope of the assessment and assessment methodology, and a summary of the baseline information that has informed the assessment.

13.3 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendix 2.1 - 2.2**) and iterative scoping process where applicable.

13.4 This Chapter, and its associated **Figure 13.1** is intended to be read as part of the wider ES with particular reference to the introductory Chapters of this ES (**Chapters 1 – 5**). In addition, this Chapter should be read in conjunction with **Chapter 15: Assessment of Cumulative Effects**.

Summary of Consultation

13.5 No technical consultation was undertaken in relation to air quality.

Scope of the Assessment

13.6 An EIA Scoping Report was submitted to MCC on 30th September 2025, as presented as **Appendix 2.1**. The EIA Scoping Opinion was received on 18th November 2025 (**Appendix 2.2**). This section provides an update on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Not Considered to be Significant

13.7 The following effects were not considered significant as part of the EIA Scoping Report and are not considered further in this Chapter:

- Impact of pollutants from road traffic on users of the Proposed Development; and
- Changes to pollutant concentrations resulting from traffic and building emissions generated by the Proposed Development during operation

13.8 Potential effects from operational air quality are covered in the air quality impact assessment supporting the planning application for the Proposed Development.

13.9 Air quality effects during demolition and construction were considered to be not significant as part of the EIA Scoping Report (**Appendix 2.1**). Following the EIA Scoping process, MCC

requested that air quality effects during the construction stage be scoped into the EIA (**Appendix 2.2**).

Effects Considered in the EIA

13.10 The following effects (**Table 13.2**) are reported within this Chapter:

Table 13.1: Effects Considered Likely to be Significant

Likely Significant Effect	Receptors	Applicable Development Stage
Nuisance and disturbance as a result of dust from demolition and construction activities	Existing sensitive human receptors (listed within **Table 13.2**)	Construction
Changes to pollutant concentrations resulting from traffic generated by the Proposed Development during construction		Construction

Assessment Methodology

Legislative Framework, Policy and Guidance

13.11 The following legislation and policy has informed the assessment of effects within this Chapter:

- The EU 2008 Ambient Air Quality Directive[1];
- The Air Quality (England) Regulations 2000[2];
- The Environment Act 1995[3];
- The Environment Act 2021[4];
- The Air Quality Strategy 1997[5];
- The Air Quality Strategy, as amended 2007[6];
- The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020[7];
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023[8]
- The Air Quality Strategy: Framework for Local Authority Delivery 2023[9];
- Environmental Improvement Plan 2023[10];
- National Planning Policy Framework 2024[11];

- Planning Practice Guidance (PPG) for air quality (2019)[12]; and
- Manchester Local Plan Core Strategy[13].

13.12 The following guidance has informed the assessment of effects within this Chapter:

- Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (January 2024)[14];
- Manchester City Council Air Quality & Planning Technical Guidance[15]; and
- Department for Environment, Food and Rural Affairs (DEFRA), Local Air Quality Management Technical Guidance LAQM.TG (22) (August 2022)[16].

Defining the Study Area

13.13 Under the IAQM guidance a more detailed assessment is normally required if there is:

- A 'human receptor' within 250m of the site boundary; or within 50m of any public-highway route used by construction vehicles (up to 250m from the site entrance(s)).
- An 'ecological receptor' within 50m of the site boundary; or within 50m of any public-highway route used by construction vehicles (up to 250m from the site entrance(s)).

13.14 From the study areas defined above, the closest receptors or groups of receptors in each direction from the Site have been identified in **Table 13.2**, along with the approximate minimum distance between the receptor and the Site boundary for Phase A and Phase B. The assessment focusses on these receptors; air quality effects will be lower at receptors further from the Site. Faraday Tower to the south of the Site will be unoccupied during demolition works and therefore has not been considered.

Table 13.2: Sensitive Receptor Locations Modelled for Construction Traffic Impacts

Receptor(s)	X	Y	Receptor ID	Direction from site	Approximate distance from the Phase A Site boundary, m	Approximate distance from the Phase B Site boundary, m
Echoes Day Nursery	384424	397510	ER1	West	50	N/A
Weston Halls Student Accommodation	384513	397525	ER2	West	0	N/A
Ibis Hotel	384388	397525	ER3	West	80	0
Princess Street residential buildings	384353	397478	ER4	West	125	45
Pariser Building (University of Manchester)	384537	397530	ER5	East	16	50
John Garside Building (University of Manchester)	384486	397375	ER6	South	35	9
George Begg Building (University of Manchester)	384468	397382	ER7	South	35	9

Background Studies to Inform the ES / Establishing the Baseline

13.15 **Table 13.3** summarises all studies/surveys/analysis/evaluations undertaken to inform the assessment presented within this Chapter.

Table 13.3: Background Studies / Surveys / Evaluations /Analysis

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Desktop Data Review	Air quality monitoring data in the vicinity of the Site were collated, along with mapped data provided by Defra, were collated and reviewed to feed into the detailed air dispersion modelling. Monitored air quality data were obtained from MCC.	November 2025
Baseline Dispersion Modelling	Baseline air quality conditions at and in the vicinity of the Site were predicted using the approach detailed in the 'Assessment Methodology'. To ensure robust results, the model's performance was verified against monitoring data identified during the desktop review.	November 2025

Assessment Process

Construction Dust

13.16 The construction dust assessment follows the guidance set by the IAQM**.** The methodology is divided into a four-step process to assess the potential impacts of dust and fine particulate matter (PM_{10}) released during construction activities:

Step 1: Screening

13.17 The first step screens the need for a detailed assessment by identifying if "sensitive receptors" are present within specific distances of the site. A detailed assessment is required if:

- Human receptors are within 250m of the site boundary or within 50m of the construction vehicle route (up to 250m from the site entrance); or
- Ecological receptors are within 50m of the site boundary or the construction vehicle route.

Step 2: Risk Assessment

13.18 If the screening criteria are met, the risk of dust impacts is evaluated for four distinct activities: Demolition, Earthworks, Construction, and Trackout. This step is subdivided into three parts:

Step 2A: Define Dust Emission Magnitude:

13.19 The potential scale of dust emissions is classified as Small, Medium, or Large for each of the four activities. This classification is based on factors such as building volume (for demolition), site area (for earthworks), and the number of heavy-duty vehicle movements (for trackout).

Step 2B: Define the Sensitivity of the Area:

13.20 The sensitivity of the surrounding area is classified as Low, Medium, or High. This considers:

- The specific sensitivities of local receptors (e.g., health effects, dust soiling, or ecological effects);
- The number of receptors and their proximity to the source; and
- Background PM_{10} concentrations.

Step 2C: Define the Risk of Impacts:

13.21 The Dust Emission Magnitude (Step 2A) is combined with the Sensitivity of the Area (Step 2B) using a matrix to determine the risk of dust impacts for each activity. The risk is categorised as Negligible, Low, Medium, or High.

Step 3: Site-Specific Mitigation

13.22 Based on the risk level identified in Step 2, appropriate site-specific mitigation measures are determined. The guidance provides a range of recommended measures (e.g., dampening down, wheel washing, covering stockpiles) proportionate to the risk level.

Step 4: Determine Significant Effects

13.23 The final step assesses the residual effects after mitigation is applied. The methodology assumes that with the implementation of effective, site-specific mitigation, the residual effect will typically be "not significant"

Construction Traffic

Assessment Models and Traffic Data

13.24 The construction traffic has been modelled on the local roads. ADMS-Roads (Version 5.0.1) was utilised to undertake the modelling for 2028 without and with construction traffic. Traffic data was provided by the traffic consultant (SLR Consulting Limited). Vehicle emission factors were derived from DEFRA's Emission Factor Toolkit (EFT v13.1), and meteorological data from Manchester Airport (2024) was used.

Model Verification

13.25 To ensure accuracy, the model was verified against local monitoring data.

- Verification Method: Modelled road-contribution NOx was compared against measured data from roadside monitors (Manchester Oxford Road (for both NO_2 and PM_{10}), MA24NO, MA29ANO and MA82NO, MA83NO and MA84NO (triplicate)).
- Adjustment Factors:
  - NO_2: A verification factor of 2.2751 was applied.
  - PM_{10}: A verification factor of 4.814 was applied.

- Performance: Following verification, the Root Mean Square Error (RMSE) was within 10% of the objective, which is considered ideal

  – Surface roughness and Monin-Obukhov length (MO) – Site – a surface roughness of 1.5m and a MO length of 100m were utilised in the dispersion model. These are considered representative of the location of the in Central Manchester.

  – Surface roughness and Monin-Obukhov length – recording station – a surface roughness of 0.5m and an MO of 10m were utilised in the dispersion model for the recording station. These are considered representative of the Manchester Airport recording station on the edge of the Manchester area in a suburban setting with urban and industrial uses.

  – Background pollutant concentrations: Background NO_2 monitoring was undertaken as part of a previous diffusion tube monitoring survey in the vicinity of the Site. This background monitor was utilised to provide background NO_2 concentrations. No background monitoring of PM_{10} or $PM_{2.5}$ was undertaken in the study area and therefore background concentrations of PM_{10} and $PM_{2.5}$ for the study area were obtained from the pollutant concentrations maps provided by Defra as a 1km x 1km grid of the UK for the years of assessment

  – Model verification: model verification was undertaken using diffusion tube monitoring data derived from MCC-operated monitoring locations in the study area.

Sensitive Receptor Locations

13.26 Concentrations of NO_2, PM_{10} and $PM_{2.5}$ were predicted at the identified existing receptor locations (ER1–ER7). Receptor heights were modelled at 1.5m to represent average breathing height at ground floor level.

Reporting of the Environmental Effect and Significance Criteria

13.27 The assessment of likely significant environmental effects as a result of the Proposed Development has taken into account the construction stage. The following sections define the approach adopted within the assessment for the determination of sensitivity (or value/importance), magnitude of change (or impact), the level of effect and significance.

Determining Sensitivity of Receptor

13.28 The sensitivity of affected receptors has been considered on a scale of high, medium, low or negligible, informed by the criteria in **Table 13.4** and **13.5**.

Table 13.4: Examples of Where the Air Quality Objectives Apply

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

Table 13.5: Factors Defining Sensitivity of an Area

Sensitivity	Examples Human Receptors
High	Users would expect a high level of amenity High aesthetic or value property People expected to be present continuously for extended periods of time Locations where members of the public are exposed over a time period relevant to the AQO for PM_{10} e.g. residential properties, hospitals, schools and residential care homes
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 an extended period as part of the normal pattern of use of the land e.g. parks and places of work
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

13.29 For the purpose of this assessment, the sensitivity of ER1 and ER2 is considered to be high, ER3 – ER7 is considered to be medium. Receptors with negligible sensitivity include buildings that are not typically or currently occupied, such as the Charles Street car park and Faraday Tower. Air quality and dust assessments have not been carried out at these receptors.

Determining the Magnitude of Change

13.30 The magnitude of change has been considered as the change experienced from the current baseline conditions at the sensitive receptor and has been considered on a scale of **large**, **medium**, **small** or **negligible**.

Construction Traffic

13.31 The magnitude is determined from the percentage change in pollutant concentrations relative to the air quality objective, as detailed below. This is in accordance with IAQM and EPUK guidance.

13.32 For the assessment of construction stage road traffic impacts, predicted pollutant concentrations were compared to the relevant air quality objectives. The current relevant air quality standards and objectives are detailed in **Table 13.6**.

Table 13.6: Air Quality Objectives/Interim Target

Pollutant	Air Quality Objective/Interim Target/Concentration Target	
	Concentration (µg/m³)	Averaging Period
NO_2	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
$PM_{2.5}$	12	Annual mean, Interim Target to be achieved by end of 2028
	10	Annual mean, Concentration Target to be achieved by 2040

13.33 Sensitive receptors were identified at locations where the annual mean air quality objectives apply.

13.34 The matrix used to determine the impact at individual receptors is presented in **Table 13.7.** The terminology set out is in accordance with IAQM and EPUK guidance, with the EIA terminology following in brackets for consistency across the ES.

Table 13.7: Matrix for Traffic Impacts

Long term average concentration at receptor	% Change in Concentration Relative to Air Quality Objective			
	<1%	2 – 5%	6 – 10%	>10%
75% or less of Objective	Negligible	Negligible	Minor (Small)	Moderate (Medium)
76 – 94% of Objective	Negligible	Minor (Small)	Minor (Small)	Moderate (Medium)
95 – 102% of Objective	Minor (Small)	Moderate (Medium)	Moderate (Medium)	Major (Large)
103 – 109% of Objective	Moderate (Medium)	Moderate (Medium)	Major (Large)	Major (Large)
110% or more	Moderate (Medium)	Major (Large)	Major (Large)	Major (Large)

Note: Figures are rounded up to the nearest whole number, therefore any value less than 1% after rounding (effectively less than 0.5%) will be described as negligible.

Dust Soiling

13.35 **Tables 13.8** and **13.9** (obtained from the IAQM Construction Dust Guidance) are used to determine the magnitude of dust-generating construction activities and the sensitivity of the surrounding area to dust impacts. These criteria are then combined to assess the overall risk of dust effects associated with a development.

Table 13.8: Matrix for Dust Impacts from Demolition

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

Table 13.9: Matrix for Dust Impacts from Earthworks, Construction and Trackout

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

Determining the Level of Effect

13.36 The level of effect has been informed by the magnitude of change due to the Proposed Development and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and **Table 13.10** has been a tool which has assisted with this process.

13.37 Whilst **Table 13.10** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement. For each effect, it has been concluded whether the effect is '*beneficial*' or '*adverse*'.

Table 13.10: Matrix to Support Determining the Level of Effect

		Sensitivity (or value / importance)			
		High	Medium	Low	Negligible
Magnitude of Change	Large	Major	Moderate	Minor	Negligible
	Medium	Moderate	Moderate	Minor	Negligible
	Small	Minor	Minor	Negligible	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

13.38 The following terms have been used to define the level of the effects identified and these can be 'beneficial' or 'adverse':

- **Major effect**: where the Proposed Development is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- **Moderate effect**: where the Proposed Development is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;

- **Minor effect**: where the Proposed Development is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Development is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change; and

- **Negligible**: where the Proposed Development is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change.

13.39 The duration of the effect has been assessed as either 'short-term', 'medium-term' or 'long-term'. Short-term is considered to be up to 1 year, medium-term is considered to be between 1 and 10 years and long-term is considered to be greater than 10 years.

Determining Significance

13.40 For each effect, a statement has been made as to whether the level of effect is '**Significant**' or '**Not Significant**'. This determination has been based on professional judgement and/or relevant guidance/legislation where applicable.

13.41 Significance has only been concluded for residual effects (i.e. following the identification of secondary mitigation).

Baseline Conditions

13.42 The Site is located within the Greater Manchester Combined Authority Air Quality Management Area (AQMA). This area was declared due to historic exceedances of the annual mean Nitrogen Dioxide (NO_2) and 24-hour mean Particulate Matter (PM_{10}) objectives.

Nitrogen Dioxide (NO_2)

13.43 The assessment reviewed data from MCC's monitoring network. The closest monitoring station is MA72NO, a roadside monitor located near the A57(M) Mancunian Way, similar to the Site. Recent monitoring shows that Nitrogen Dioxide (NO_2) and PM_{10} levels are consistently below the national Air Quality Objective (40µg/m³), as follows:

- 2021: 27.5µg/m³;
- 2022: 26.3µg/m³;
- 2023: 24.3µg/m³; and
- 2024: 24.0µg/m³.

Particulate Matter (PM_{10})

- 2023: 17.5µg/m³; and
- 2024: 20.5µg/m³.

Background Pollutant Concentrations

13.44 The assessment used DEFRA background maps for the Site's grid square (384500, 397500) for the year 2024, as follows:

- Nitrogen Dioxide (NO_2): 22.5µg/m³ (Objective: 40µg/m³);
- Particulate Matter (PM_{10}): 15.1µg/m³ (Objective: 40µg/m³); and
- Fine Particulate Matter ($PM_{2.5}$): 8.1µg/m³ (Interim Target: 12µg/m³).

13.45 The future year background concentrations, for 2028, are as follows:

- Nitrogen Dioxide (NO_2): 19.4µg/m³ (Objective: 40µg/m³);
- Particulate Matter (PM_{10}): 14.9µg/m³ (Objective: 40µg/m³); and
- Fine Particulate Matter ($PM_{2.5}$): 7.9µg/m³ (Interim Target: 12µg/m³).

13.46 All background concentrations are predicted to be well below the relevant air quality objectives.

13.47 The prevailing winds in the area blow from the west and south-west, which means that receptors located to the east and north-east of the Site are most likely to be affected by any potential dust releases during construction.

Future Baseline

13.48 SLR have advised that "traffic in Manchester City Centre is not growing and in fact has been falling over time, therefore the Baseline flows are equivalent to future years". The DEFRA background pollutant concentrations have also been reducing over recent years, and this trend is anticipated to continue.

Primary and Tertiary Mitigation

Construction Stage

13.49 The following tertiary mitigation will be applied to the Site.

Construction Environmental Management Plan ('CEMP')

13.50 A Construction Environmental Management Plan (CEMP) will be prepared for the Proposed Development.

13.51 It is assumed that the measures set out within the CEMP prepared for each phase of the development will be adopted during the construction process and that preparation of the CEMP will be secured by an appropriately worded planning condition (and updated where and if necessary to suit each phase of development).

Demolition Specifics

- **Soft Strip:** Soft strip the inside of buildings (retaining walls and windows where possible) before demolition to provide a screen against dust.
- **Water Sprays:** Use effective water suppression during demolition. Hand-held sprays are preferred over hoses attached to equipment as they can be better directed.
- **Blasting:** Avoid explosive blasting and use appropriate manual or mechanical alternatives.

Communication and Management

- **Stakeholder Engagement:** Develop and implement a communication plan that involves community engagement before work begins.
- **Contact Information:** Display the name and contact details of the person accountable for air quality (e.g., site manager) and the regional head office on the site boundary.
- **Complaints Handling:** Record all dust and air quality complaints in a logbook, identify causes, take appropriate measures to reduce emissions, and make the log available to the local authority upon request.

Monitoring

- **Dust Management Plan (DMP):** Develop and implement a DMP approved by the Local Authority, which may include monitoring of dust deposition, dust flux, or real-time PM monitoring.
- **Inspections:** Undertake daily on-site and off-site inspections (including nearby roads and furniture for soiling) and increase frequency during dry or windy conditions.
- **Baseline Monitoring:** Where possible, commence baseline monitoring (e.g., dust deposition) at least three months before work commences.

Site Layout and Operations

- **Equipment Location:** Plan the site layout to locate machinery and dust-causing activities as far away from receptors as possible.
- **Barriers and Enclosures:**
  - Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles.
  - Enclose specific operations with high dust potential if they are active for an extensive period.
- **Bonfires:** Strictly avoid bonfires and the burning of waste materials.

Construction and Maintenance

- **Stockpiles:** Cover, seed, or fence stockpiles to prevent wind whipping. Stockpiles should be kept 5m from the boundary and limited to 5m in height.
- **Water Suppression:** Ensure an adequate water supply for dust suppression is available, using non-potable water where possible.
- **Cleanliness:** Keep site fencing, barriers, and scaffolding clean using wet methods.
- **Spillages:** Clean up dry spillages as soon as reasonably practicable using wet cleaning methods.

Vehicle and Travel Management

- **Wheel Washing:** Implement a wheel washing system and use water-assisted dust sweepers on access roads to remove tracked-out material.

- **Vehicle Loads:** Ensure all vehicles entering or leaving the site with loose product are sheeted.
- **Idling:** Ensure all vehicles switch off engines when stationary (no idling).
- **Speed Limits:** Impose a maximum speed limit of 15mph on surfaced haul roads and 10 mph on unsurfaced areas.
- **Sustainable Travel:** Implement a Travel Plan that encourages public transport, cycling, walking, and car-sharing.
- **Construction Traffic Routes:** Only utilise the recommended traffic routes as per the CEMP.

Assessment of Effects, Secondary Mitigation and Residual Effects

Construction Stage

Nuisance and disturbance as a result of dust from demolition and construction activities

13.52 **Table 13.11** sets out the magnitude of change from dust effects without any mitigation (i.e. the CEMP) in place.

Table 13.11: Air Quality/Dust Impacts (excluding traffic) Magnitude of Change

Receptor	Magnitude of change							
	Phase A				Phase B			
	Demolition	Earthworks	Construction	Trackout	Demolition	Earthworks	Construction	Trackout
ER1	Medium	Small	Large	Medium	N/A			
ER2	Medium	Small	Large	Medium	N/A			
ER3	Medium	Small	Large	Medium	Medium	Small	Large	Medium
ER4	Medium	Small	Large	Medium	Medium	Small	Large	Medium
ER5	Medium	Small	Large	Medium	Medium	Small	Large	Medium
ER6	Medium	Small	Large	Medium	Medium	Small	Large	Medium
ER7	Medium	Small	Large	Medium	Medium	Small	Large	Medium

13.53 The sensitivity of ER1 and ER2 is considered to be high, ER 3 – ER7 is considered to be medium. With the mitigation in place, as identified in the CEMP which is tertiary mitigation and integral to the Proposed Development, the magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be negligible.

Secondary Mitigation or Enhancement

13.54 No secondary mitigation or enhancement is required.

Residual Effect

13.55 In the absence of secondary mitigation, the residual effect is the same as reported in the pre-mitigation scenario.

Significance

13.56 This effect is considered to be **Not Significant.**

Changes to pollutant concentrations resulting from traffic generated by the Proposed Development during construction

13.57 The pollutant concentrations with and without the construction traffic on the local roads has been modelled and is identified in **Tables 13.12, 13.3** and **13.4**.

Table 13.12: NO_2 Modelling Results at Sensitive Receptors - With and Without Construction Traffic

Receptor	Future Year No Construction	Future Year With Construction	Change	% Change	% AQAL	Impact
ER1	22.2	22.3	0.0	0.1	55.6	Negligible
ER2	22.0	22.0	0.1	0.1	55.1	Negligible
ER3	23.0	23.2	0.2	0.5	57.9	Negligible
ER4	23.3	23.3	0.0	0.0	58.3	Negligible
ER5	22.3	22.4	0.1	0.3	55.9	Negligible
ER6	24.0	24.0	0.0	0.0	60.0	Negligible
ER7	23.8	23.8	0.0	0.0	59.6	Negligible

Table 13.13: PM_{10} Modelling Results at Sensitive Receptors - With and Without Construction Traffic

Receptor	Future Year No Construction	Future Year With Construction	Change	% Change	% AQAL	Impact
ER1	15.7	15.7	0.0	0.0	39.2	Negligible
ER2	15.7	15.7	0.0	0.0	39.2	Negligible
ER3	15.9	15.9	0.0	0.1	39.8	Negligible
ER4	15.9	15.9	0.0	0.0	39.7	Negligible
ER5	15.8	15.8	0.0	0.1	39.6	Negligible
ER6	16.3	16.3	0.0	0.0	40.7	Negligible
ER7	16.2	16.2	0.0	0.0	40.6	Negligible

Table 13.14: $PM_{2.5}$ Modelling Results at Sensitive Receptors - With and Without Construction Traffic

Receptor	Future Year No Construction	Future Year With Construction	Change	% Change	% AQAL	Impact
ER1	8.3	8.3	0.0	0.0	69.5	Negligible
ER2	8.3	8.3	0.0	0.1	69.6	Negligible
ER3	8.5	8.5	0.0	0.1	70.6	Negligible
ER4	8.5	8.5	0.0	0.0	70.5	Negligible
ER5	8.4	8.4	0.0	0.1	70.2	Negligible
ER6	8.7	8.7	0.0	0.0	72.4	Negligible
ER7	8.7	8.7	0.0	0.0	72.2	Negligible

13.58 The predicted changes for all of the pollutant concentrations is less than 1%.

13.59 The sensitivity of ER1 and ER2 is considered to be high and the sensitivity of ER 3 – ER7 is considered to be medium. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Secondary Mitigation or Enhancement

13.60 No secondary mitigation or enhancement is required.

Residual Effect

13.61 In the absence of secondary mitigation, the residual effect is the same as reported in the pre-mitigation scenario.

Significance

13.62 This effect is considered to be **Not Significant.**

Limitations and Assumptions

13.63 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- At this early stage, specific construction techniques, durations, and phasing have not been fully determined. This results in uncertainty regarding predicted dust levels.
- There are inherent uncertainties in dispersion modelling (ADMS-Roads) and input data. To reduce this, the model was verified using local monitoring data, providing reasonable confidence in the results.
- Local micro-climatic conditions may affect pollutant concentrations in ways the model cannot fully account for.

- Baseline traffic flows were used as future year flows, based on advice that traffic in Manchester City Centre is not growing.

Summary

13.64 **Table 13.15** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter.

13.65 The table only provides a summary of the residual effects identified within the assessment and details of all primary, secondary and tertiary mitigation that has been taken into account is set out in detail within the Chapter and summarised within Environmental Management Plan included within **Volume 3: Environmental Management Plan**.

Table 13.15: Summary of Residual and Significant Effects

Effect	Receptor	Residual Effect	Is the Effect Significant?
Construction Stage			
Nuisance and disturbance as a result of dust from demolition and construction activities	Existing sensitive human receptors located adjacent to the Site boundary of the Proposed Development experiencing dust soiling as a result of the demolition and construction of the Proposed Development	Negligible	No
Changes to pollutant concentrations resulting from traffic generated by the Proposed Development during construction	Existing sensitive human receptors located adjacent to the road network experiencing changes in traffic as a result of the construction of the Proposed Development	Negligible	No

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