



Environmental Statement Volume 1: Main Text

At Former Particular Baptist Chapel,
35 Rochdale Road, Manchester

On behalf of City Point Residences Ltd

February 2025

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1. INTRODUCTION

- 1.1 Regulation 3 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter referred to as the “EIA Regulations”) prohibits the grant of planning permission for EIA development unless an EIA has been carried out in respect of that development. EIA Regulation 4(1) defines EIA as a process which includes the preparation of an Environmental Statement. EIA Regulation 4(2) sets out the factors upon which the EIA must identify, describe and assess the direct and indirect significant effects of the Proposed Development.
- 1.2 This Environmental Statement (ES) has been prepared to accompany the application for planning permission that is being submitted by Zerum to Manchester City Council ('the Council'). Volume 1 of this Environmental Statement (ES) has been prepared by Zerum, with input from the technical and design team, on behalf of City Point Residences Ltd ('the applicant'), in support of a Proposed Development at the former Particular Baptist Chapel, 35 Rochdale Road, Manchester ('the site').

OVERVIEW OF THE PROPOSED SCHEME

- 1.3 The development is for a full planning application following development:

“Partial demolition of rear of existing building and erection of a 23 storey residential building comprising 133 units with ground floor commercial unit (Use Class E) and associated works”

LEGAL FRAMEWORK

- 1.4 The procedures for undertaking an EIA are set out within the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('EIA Regulations 2017'). The Proposed Development does not fall within an identified Schedule 1 development for which EIA would be compulsory, nor does it align with the thresholds of Schedule 2, 10b for urban development projects. However, pre-application discussions with the Council concluded that an ES was required.
- 1.5 The EIA process is objective and systematic in identifying, assessing, reporting, mitigating and monitoring significant environmental effects. This Environmental Statement ('ES') reports on the findings of the EIA.
- 1.6 In accordance with Regulation 18(3) of the EIA Regulations, this ES includes the minimum requirements:

EIA Regulations	Inclusion within the ES
(a) a description of the Proposed Development comprising information on the site, design, size and other relevant features of the development	The full description of development is provided at Chapter 5
(b) a description of the likely significant effects of the Proposed Development on the environment;	Descriptions of the likely significant effects of the Proposed Development on the environment is

	set out in the technical chapters 7 – 13
(c) a description of any features of the Proposed Development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;	Descriptions of mitigation measures to offset likely significant effects of the Proposed Development on the environment is set out in the technical chapters 7 - 13
(d) description of the reasonable alternatives studied by the developer, which are relevant to the Proposed Development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;	The reasonable alternatives have been considered in Chapter 3 'Design Evolution and Alternatives'
(e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d)	A Non-Technical Summary (Volume 3) forms part of this ES
(f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.	The specific characteristics of the development are set out in Chapter 2 'The Site'

- 1.7 The ES will be produced in accordance with Schedule 4 of the EIA Regulations 2017, PPG and will follow best practice in the production of the ES.
- 1.8 In accordance with Regulation 18(4)a, an ES must be based on the most recent scoping opinion or direction issued (so far as the Proposed Development remains materially the same). Regulation 18(4)b requires the ES to include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment. EIA Regulation 18(4)c requires the ES to take into account the results of any relevant UK environmental statement, with a view to avoiding duplication of assessment.
- 1.9 EIA Regulation 18(5)(a) states that in order to ensure the completeness and quality of the ES, the developer must ensure that the environmental statement is prepared by competent experts. The ES must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts. In this respect, this Chapter sets out the team of experienced consultants and the author and their experience is confirmed at the start of each Chapter.
- 1.10 Schedule 4 of the EIA Regulations provides a list of the information for inclusion in Environmental Statements.

Table 1.1: Requirements of Environmental Statements

EIA Regulations	Inclusion within the ES
A description of the location of the development	The description of the location of the development is included in Chapter 2
A description of the characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;	The description of the physical characteristics of development is included in Chapter 4
A description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used	This is included in Chapters 7-13
An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases	Estimates are included within each technical chapter (7-13)
A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects	A description of the reasonable alternatives is provided in Chapter 3
A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution there of without implementation of the development as far as natural changes from the baseline scenario can be assessed	A description of the current baseline conditions and of the future baseline has been included in Chapters 7 - 13
A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development	A description of the likely significant effects of the development on the environment is provided within Chapters 7-13
A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment	The methodology used to identify and assess the significant effects on the environment is set out within Chapters 7-13

A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangement	The expected effects of the development are set out within Chapters 7-13
A non-technical summary of the information provided under paragraphs 1-8	A Non-Technical Summary has been provided as a standalone document (Volume 3)
A reference list detailing the sources used for the descriptions and assessments included in the ES	Reference lists have been provided at the end of each technical chapter

STRUCTURE OF THE ES

- 1.11 The ES for the Proposed Development comprises this main document (Volume 1) together with the accompanying Appendices (Volume 2) and a Non-Technical Summary. The ES reflects the Zerum Scoping Request Report (7th October 2024) at Appendix 1.1 and the Scoping Opinion issued by the Council on the 2nd December 2024 at Appendix 1.2.
- 1.12 Volume 1 (this document) is structured as follows:
- Chapter 1: Introduction, prepared by Zerum
 - Chapter 2: The Site, prepared by Zerum
 - Chapter 3: Alternatives and Design Evolution, prepared by Zerum
 - Chapter 4: The Proposed Development, prepared by Zerum
 - Chapter 5: Planning Policy, prepared by Zerum
 - Chapter 6: Methodology, prepared by Zerum
 - Chapter 7: Daylight/Sunlight, prepared by WSP
 - Chapter 8: Greenhouse Gas Emissions, prepared by Buro Happold
 - Chapter 9: Built Heritage, prepared by Stephen Levrant Heritage Architecture
 - Chapter 10: Townscape and Visual Impact Assessment, prepared by RBMP
 - Chapter 11: Socio-Economics, prepared by Buro Happold
 - Chapter 12: Wind Microclimate, prepared by WSP
 - Chapter 13: Air Quality prepared by Redmore Environmental
 - Chapter 14: Summary of Impacts, prepared by Zerum

CONSULTANT TEAM

- 1.13 The EIA Team is being led by Zerum, an experienced EIA co-ordinator, with input from other specialist technical consultants. The EIA Team comprises the following:

Table 1.2: EIA Team

Discipline	Consultant
Architect	Hodder + Partners
EIA Coordinator Planning Consultant	Zerum
Daylight/Sunlight	WSP
Greenhouse Gas Emissions	Buro Happold
Heritage	SHLA
Socio-Economic	Buro Happold
Townscape and Visual Impacts	RBMP
Wind Microclimate	WSP
Air Quality	Redmore Environmental

- 1.14 The Project Team comprises:

Table 1.3: Project Team

Discipline	Consultant
Architect	Hodder + Partners
EIA Coordinator Planning	Zerum
Air Quality	Redmore Environmental
Archaeology	Orion Heritage
Consultation	Counter Context
Daylight/Sunlight	WSP
Ecology/Bats	Rachel Hacking
Fire	Jensen Hughes
Greenhouse Gas Emissions	Buro Happold
Highways	SK Transport
Heritage	SHLA
Noise	Jameson Acoustics
Socio-Economic	Buro Happold

Townscape and Visual Impacts	RBMP
TV and Radio Reception	GTech
Wind Microclimate	WSP
Sustainability	Futureserv

EXPERTISE

- 1.15 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 at 18(5) require that an ES is prepared by competent experts, and that the ES be accompanied by a statement outlining the relevant expertise or qualifications of such experts.
- 1.16 This EIA has been prepared and co-ordinated by Nikki Sills MA (Hons) MSc MRTPI (Partner) and Deborah Baker Barnett BA (Hons) MPLAN MRTPI AssocIHBC (Associate Director). Nikki and Deborah are fully chartered members of the RTPI who have co-ordinated a number of EIAs over the past few years and are therefore competent at the production and co-ordination of EIAs.
- 1.17 As EIA coordinators we have prepared the framework, templates and introductory chapters of this ES. We also co-ordinated and prepared the introductory chapters of the Scoping Report.
- 1.18 The sub-consultant team who have prepared the subject chapters of this ES have been checked to ensure that they have the relevant qualifications and experience. Their chapters set out how they have complied with the relevant legislation and professional guidelines. The impacts and assessments within each chapter have been reviewed individually and jointly by Zerum.
- 1.19 We consider that this Statement demonstrates that Zerum has sufficient expertise to ensure the completeness and quality of the statement.

2. THE SITE

THE EXISTING SITE

- 2.1 The site is circa 800sqm. It is located to the north-east of Manchester City Centre, approximately 188m from the city centre boundary. The site comprises the former Particular Baptist Church and its curtilage which includes a car park to the north-eastern side. The site is also known as 35 Rochdale Road.
- 2.2 The chapel is built of deep red brick with buff-colour terracotta detailing. It was constructed between 1907 and 1908 to replace an earlier chapel on the same site. It has been vacant for some time.
- 2.3 A Site Location Plan is provided at Appendix 2.1.
- 2.4 The site is located adjacent to identified areas of transition, including New Cross to the south-east and NOMA / Angel Meadows to the north-west. These locations have benefited from extensive regeneration and redevelopment.

THE SURROUNDING AREA

- 2.5 The site is bound by Rochdale Road to the south-east; Sharp Street to the north-east; and Dyche Street to the north-west.
- 2.6 The area surrounding the site accommodates a range of uses including residential, hotel and commercial. Scales vary from the six storey residential apartments on Dyche Street to the 19 storey residential apartments opposite the site to the southern side of Rochdale Road.
- 2.7 There is a Co-op convenience foodstore 160m from the site. The site is less than 200m from the closest part of the city centre which offers a range of employment, leisure, retail and services.
- 2.8 Bus stops on Rochdale Road are adjacent to the site, with services into the city centre and to Manchester Royal Infirmary, Bury Interchange, Middleton Bus Station and North Manchester General Hospital. The site is 400m from Shudehill bus station and 800m from Manchester Victoria Railway station. It is extremely well connected by sustainable modes of transport.

DESIGNATIONS

- 2.9 There are no ecology or environmental designations covering the site and it predominantly consists of hardstanding. There are no trees on the site or on adjacent sites that could be affected by the development.
- 2.10 The site is located within the Air Quality Management Area (AQMA) that covers Manchester city centre. There is potential for the exposure of future occupants to poor air quality and for emissions generated by the site during operation to increase pollution levels in this sensitive area.

- 2.11 The site is located in Flood Risk Zone 1.
- 2.12 The site is not protected by any built heritage designations; it does not contain any statutorily listed buildings, nor does it lie within a Conservation Area. At the time of writing, the Council do not have a local list of heritage assets, however the existing building is considered to be a non-designated heritage asset due to its local historic and architectural interest.

3. ALTERNATIVES AND DESIGN EVOLUTION

- 3.1 Part of the EIA process involves considering alternatives to the Proposed Development to assist in identifying different approaches which could reduce or minimise environmental effects. The EIA Regulations 2017 Schedule 4 Part 2 sets out that environmental statements should include, "A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects." The main alternatives considered are outlined below.

DO NOTHING ALTERNATIVE

- 3.2 Best practice guidance in carrying out an EIA suggests that it is good practice to consider the evolution of a site in the absence of the development proposed (i.e. a 'no development' scenario).
- 3.3 If the scheme which is the subject of this ES did not proceed, then the previous use of the site as a vacant former chapel would continue. The 'do nothing' alternative therefore assumes the continuation of the current use of the site as a vacant former chapel with surface car parking.
- 3.4 However, in light of the benefits that can be delivered by the proposal including (but not limited to) the partial retention of a non-designated heritage asset, provision of new homes, new commercial floorspace and the contribution the site can make to the vision and objectives for urban regeneration in the areas close to the city centre, it is realistic to assume for the purposes of the ES that a 'do nothing' scenario is highly unlikely.
- 3.5 As such, no further consideration has been given to the 'do nothing' scenario beyond this chapter.
- 3.6 The effects that would derive from this 'do nothing' scenario are set out below.

Table 3.1: Impact of the 'Do Nothing' scenario on topics

Chapter/Topic	Summary Review of the Do Nothing Alternative
Chapter 6: Daylight/Sunlight	If the Proposed Development was not delivered, the existing daylight and sunlight baseline conditions in the surrounding sensitive receptors would not be expected to change.
Chapter 7: Greenhouse Gas Emissions	The greenhouse gas emissions associated with the demolition, construction and operational phases would not be released.
Chapter 8: Built Heritage	If the Proposed Development did not take place the setting of some of the existing designated and non-designated heritage assets would change as a result of the committed developments in the vicinity of the site. It is likely

	that with no active use, the non-designated heritage asset would decline.
Chapter 10: Socio-Economic	The socio-economic benefits of the Proposed Development would not be delivered.
Chapter 11: Townscape and Visual Impacts	If the Proposed Development was not delivered, the townscape conditions would change as a result of the committed developments in the vicinity of the site.
Chapter 12: Wind Microclimate	If the Proposed Development was not delivered, the wind microclimate would be expected to remain the same.
Chapter 13: Air Quality	If the Proposed Development was not delivered, the air quality would be expected to remain the same.

CONSIDERATION OF ALTERNATIVE LOCATIONS

- 3.7 The locality is notably mixed-use in its nature. There are residential, commercial and hotel uses of varying scales, including the 19 storey residential apartments close by on the southern side of Rochdale Road.
- 3.8 The site is fully suitable for a development of this nature and scale.
- 3.9 On this basis, a detailed assessment of the need for the site and consideration of alternative sites is not considered necessary for the scope of this EIA.

ALTERNATIVE USES

- 3.10 The site is located within the boundary of the Regional Centre. The Core Strategy encourages high density housing alongside commercial uses, as follows:
- **Providing High Quality, Sustainable New Homes:** The Regional Centre is to be the focus for high quality city living, usually at higher densities and involving the diversification of housing types. It is recognised that new residential development will support regeneration and the drive for regional growth.
 - **An Economic Role:** Higher density mixed-use development set within a high-quality environment is envisaged in the Regional Centre (Policy EC3).
 - **Building Inclusive Communities:** Delivering well-designed places which consider the needs of all members of society (Policy SP1).
 - **Sustainability and Resilience:** All development should include measures to reduce carbon emissions and include sustainable features; and priority should be given to pedestrians over vehicles.
 - **Density and Place-Making:** Increasing the density of development is recognised as delivering sustainable growth, long term economic competitiveness, vibrancy and the opportunity to incorporate multiple land

uses. The appropriate density of urban development should therefore balance economic viability, urban density and policy objectives.

- 3.11 The Core Strategy seeks residential led mixed use schemes at density in this location, recognising the regeneration benefits that can be delivered. For these reasons, alternative uses were discounted.

DESIGN EVOLUTION

- 3.12 A wide range of specialist consultants and other stakeholders have provided input into the evolving scheme which has informed the design process and served to reduce environmental effects, improve the design of the Proposed Development, and to ensure that the development is viable and responds to the client's brief.
- 3.13 The key constraints, principles and rationale for the design of the Proposed Development, and its evolution, is described in detail within the Design and Access Statement submitted as a standalone document.
- 3.14 The proposals have been through several iterations, with ongoing dialogue with the Council guiding the evolution of the scheme. Key principles were the inclusion of the non-designated heritage asset; a need to develop at scale given the constrained size of the site; and residential use alongside a ground floor commercial unit.
- 3.15 The pre-application process particularly focused on honing the external appearance of the building to deliver a scheme of the highest quality; achieving a suitable height; and ensuring that internal retention of the chapel space was maximised. At the same time, it was of paramount importance that the amenity of surrounding residents and uses was upheld and that a high quality living experience would be achieved for future residents. The relevant design concepts were explored, developed and refined to arrive at the submitted scheme.

CONCLUSION

- 3.16 The Proposed Development as outlined in the next chapter has been designed to respond to a range of comments by stakeholders, planning policies and guidance, local site characteristics and the result of public consultation.

4. THE PROPOSED DEVELOPMENT

INTRODUCTION

4.1 This ES relates to a full planning application. Full planning permission is sought for the partial demolition of the existing chapel building and the erection of a residential-led block of 23 storeys with commercial unit to ground floor. There are extensive ancillary residents' facilities including co-working space, gym and outdoor terrace on the first and 20th floors. The proposals aim to deliver 133 residential units in total.

4.2 The description of development is:

“Partial demolition of rear of existing building and erection of a 23 storey residential building comprising 133 units with ground floor commercial unit (Use Class E) and associated works”

4.3 Detailed development plans and a Design and Access Statement submitted in support of the detailed planning application include detailed information about the design of the Proposed Development.

CONSTRUCTION METHODOLOGY

4.4 A number of assumptions have been made in terms of the demolition and construction processes and activities to be undertaken as part of the Proposed Development. The non-designated heritage asset is to be partially retained. Enabling plans are submitted as part of this application which demonstrate the elements to be retained. This strategy has been arrived upon following careful analysis from structural and heritage experts.

4.5 The Proposed Development will be completed in three stages; partial demolition, enabling works and above ground works.

4.6 A Construction Environmental Management Plan (CEMP) will be produced to control potential impacts during the construction phase. The mitigation measures outlined in the Air Quality Assessment have been included within the draft CEMP submitted in support of the Application, to mitigate fugitive dust emissions during construction. These are based on the advice provided within IAQM guidance, 'Guidance on the Assessment of Dust from Demolition and Construction V1.1'.

4.7 Further details of the methods to address construction issues, as well as roles and responsibilities, is provided within the CEMP submitted with the application (Appendix 4.1).

Programme

4.8 For the purpose of this EIA, the construction phase of the Proposed Development will take approximately 72 weeks or 18 months. On the assumption that the grant of full planning permission will be received in Q1 2025, works commencing in Q3 2025 and scheme completion at the end of Q4 2026.

OPERATIONAL DEVELOPMENT

- 4.9 The Proposed Development would deliver 133 residential apartments, as demonstrated in the Design and Access Statement and plans.

Use and Amount

- 4.10 The Proposed Development is residential-led and incorporates 133 residential apartments. The proposed housing mix is confirmed by Table 4.1 below.

Table 4.1: Housing Mix

Unit type	Frequency	Percentage (%)
1 bed	40	30
2 bed	93	70

- 4.11 To ground floor, 89sqm of commercial floorspace (Use Class E) is proposed, in the form of a single unit, independently accessed from the street.
- 4.12 The entrance to the residential building is via the existing chapel entrance. Its existing format will be retained through the incorporation of staff/security office and post room to each side of the entrance, with two mirrored sets of stairs up to the balcony. The ground floor comprises a co-working facility which will make use of the former chapel space including the balcony.
- 4.13 To the rear of the ground floor is plant, bin store and bicycle store. The bin and bike stores are accessible from Dyche Street and from within the development for ease of use. The mezzanine provides additional co-working space alongside a gym and yoga area and additional plant areas.

Layout

- 4.14 The layout is principally driven by the retention of the chapel. The building's original entrance will be retained and provides access to all apartments via a foyer which will be designed to facilitate co-working. This area will only be accessible to residents. A separate commercial unit is placed adjacent to the church so as to facilitate access from the street. This creates an active frontage to Rochdale Road whilst respecting the 'secondary' function of Sharp Street and Dyche Street.
- 4.15 The ground floor will accommodate the ancillary spaces such as a bin store, cycle storage and plant. This level will also include the staff/security office and a post room. Above the ground floor sits the mezzanine level that has been designed to accommodate additional co-working space on the balcony. It will also accommodate a gym and yoga area and additional plant areas. Level 1 provides further amenity space intended to be used as an ancillary spa along with an external terrace.
- 4.16 Residential accommodation is then provided from Level 2. This level accommodates structural apparatus connected with the construction of the tower

over the existing chapel. It therefore has only 2x two-bedroom apartments. From the third to nineteenth levels, there are 5x two-bedroom apartments and two one-bedroom apartments per floor. From level 20, the building steps in to the rear, and accommodates 2x two-bedroom and 2x one-bedroom apartments. The 20th floor has a terrace to the north-western side.

Scale and Massing

- 4.17 The proposed building occupies the majority of the site. It retains the setback to the frontage and introduces a slight setback to the rear. The land that is currently given over to parking will be developed.
- 4.18 The proposed building will 23 storeys high. It steps in at first floor and at the 20th floor to incorporate terraces. Due to the relatively dense built form and the proximity of existing residential properties, potential issues of overlooking between the north-western facing apartments and on the adjacent site have been carefully considered.
- 4.19 The key design drivers for massing are site constraints and contextual scale relationships.
- 4.20 The massing of the Proposed Development allows for retention of the chapel and the historic development footprint whilst making effective use of the site. The Proposed Development is a maximum of 23 storeys high, with step-ins to the rear at levels 3 and 20. The tallest section of the building fronts Rochdale Road which includes tall buildings in this location.

Landscaping

- 4.21 Given the retention of the historic chapel, there are limited options for greening of the public realm. The intention is for the residents' terraces to be subject to extensive landscaping at the detailed design stage. The 20th storey terrace is buffered by the taller element of the building and will be a pleasant place to spend time.

Highway Works

- 4.22 Redundant access points will be reinstated and footways resurfaced. Tactile paving and dropped kerbs are already in place at the junctions in the immediate vicinity of the site (i.e. Sharp Street/Dyche Street and Sharp Street/Rochdale Road).
- 4.23 The building line has been set back to allow the footways to be widened on the principal frontages of the site and with the development will provide widths of 3.3m to 4.5m on Rochdale Road; and 2m to 2.2m on Dyche Street.
- 4.24 The development is proposed to be car-free given the site's excellent sustainability credentials. It will provide 50% cycle parking rather than the initial 100% due to the recognition that many residents will prefer to keep their bicycles in their own apartments rather than in communal storage, despite its secure credentials.

Decommissioning

- 4.25 The development has been designed to be operational in excess of 100 years and thereafter will comprise development land in perpetuity. The assessment does not address decommissioning.

5. PLANNING POLICY

- 5.1 This Chapter of the Environmental Statement assesses the planning policy background against which the Proposed Development is to be assessed. The scope of this chapter is to identify the relationship between the Proposed Development and the relevant national and local planning policy.
- 5.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that when determining a planning application, the decision maker must make their determination in accordance with the development plan unless material considerations indicate otherwise.

LOCAL DEVELOPMENT PLAN

- 5.3 As outlined earlier, Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that planning applications be determined in accordance with the statutory development plan, unless material considerations indicate otherwise. For development management decisions, the development plan for Manchester currently comprises the Core Strategy and saved policies of the Manchester Unitary Development Plan (UDP).

Core Strategy 2012-2027 (11th July 2012)

- 5.4 The following Core Strategy policies are considered relevant to this application:
- Policy SP1 Spatial Principles
 - Policy EC3 Regional Centre
 - Policy EC4 North Manchester
 - Policy H1 Overall Housing Provision
 - Policy H8 Affordable Housing
 - Policy T1 Sustainable Transport
 - Policy T2 Accessible Areas of Opportunity and Need
 - Policy EN1 Design Principles and Strategic Character Areas
 - Policy EN2 Tall Buildings
 - Policy EN3 Heritage
 - Policy EN4 Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
 - Policy EN5 Strategic Areas for Low and Zero Carbon Decentralised Energy Infrastructure
 - Policy EN6 Target Framework for CO2 Reductions from Low or Zero Carbon Energy Supplies
 - Policy EN8 Adaption to Climate Change
 - Policy EN14 Flood Risk

- Policy EN15 Biodiversity and Geological Conservation
- Policy EN16 Air Quality
- Policy EN17 Water Quality
- Policy EN19 Waste
- Policy DM1 Development Management

Manchester Unitary Development Plan (1995)

5.5 The Manchester Unitary Development Plan (UDP) was adopted in July 1995 and some policies remain extant, notwithstanding the adoption of the Manchester Core Strategy and the NPPF. The saved policies most relevant to the Proposed Development are:

- Policy DC7.1 New Housing Development which sets out that the Council will negotiate with developers to ensure that new housing is accessible at ground floor level to disabled people, including those who use wheelchairs, wherever this is practicable. All new developments containing family homes will be expected to be designed so as to be safe areas within which children can play and, where appropriate, the Council will also expect play facilities to be provided.
- Policy DC26 Development and Noise which seeks to use the development control process to reduce the impact of noise on people living and working in, or visiting, the City. In giving effect to this intention, the Council will consider both: a. the effect of new development proposals which are likely to be generators of noise; and b. the implications of new development being exposed to existing noise sources which are effectively outside planning control. New noise sensitive developments (including large-scale changes of use of existing land or buildings), such as housing, schools, hospitals or similar activities, will be permitted subject to their not being in locations which would expose them to high noise levels from existing uses or operations, unless the effects of the noise can realistically be reduced. In giving effect to this policy, the Council will take account both of noise exposure at the time of receiving a planning application and of any increase that may reasonably be expected in the foreseeable future.

Places for Everyone Joint Development Plan Document

5.6 The Plan forms part of the statutory development plan for nine Greater Manchester authorities including Manchester. It is a joint plan setting out the strategic long-term direction of the region in relation to jobs, new homes and sustainable growth.

5.7 The following policies are considered relevant to the development proposals:

- Policy JP-Strat1 Core Growth Area
- Policy JP-Strat 2 City Centre
- Policy JP-S1 Sustainable Development
- Policy JP-S2 Carbon and Energy

- Policy JP-S4 Flood Risk and the Water Environment
- Policy JP-S5 Clean Air
- Policy JP-S6 Resource Efficiency
- Policy JP-H1 Scale, Distribution and Phasing of New Housing Development
- Policy JP-H2 Affordability of New Housing
- Policy JP-H3 Type, Size and Design of New Housing
- Policy JP-H4 Density of New Housing
- Policy JP-P1 Sustainable Places
- Policy JP-P2 Heritage
- Policy JP-C1 An Integrated Network
- Policy JP-C2 Digital Connectivity
- Policy JP-C8 Transport Requirements of New Development

OTHER MATERIAL CONSIDERATIONS

NATIONAL PLANNING POLICY

- 5.8 The latest version of the National Planning Policy Framework (NPPF) was published in December 2024 and provides a framework within which locally prepared plans for housing and other development can be produced. It is a material consideration in planning decisions.
- 5.9 The NPPF has a clear presumption in favour of sustainable development at its heart (para 11). Sustainable development means that the planning system pursues economic, social and environmental objectives (para 8), although they are not criteria against which every decision can or should be judged (para 9).
- 5.10 Section 4 of the NPPF relates to 'Decision Making'. Paragraph 39 states that local planning authorities should approach decisions on Proposed Development in a positive and creative way, with decision-makers at every level required to seek to approve applications for sustainable development where possible. They should use the full range of planning tools available and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area.
- 5.11 Section 5 of the NPPF focuses on delivering a sufficient supply of housing. Within this section it is set out how local planning authorities should plan to implement planning policies and how these should be produced in order to meet needs in relation to type, size and tenure of housing (Paragraph 63). In summary, it is the government's objective to significantly boost the supply of homes through utilisation of a sufficient variety of land types which can come forward to meet the needs of various groups with specific needs as outlined in Paragraph 61.
- 5.12 Section 8 of the promotes healthy and safe communities. As part of this paragraph 96 states that planning decisions should aim to achieve healthy, inclusive and safe places which: promote social interaction through design features including the creation of active frontages; are safe and accessible, so that crime, disorder and

fear of crime don't undermine quality of life or community cohesion; and enable and support healthy lifestyles, especially where this would address identified local health and well-being needs, such as through the provision of accessible green space, shops and layouts that encourage walking and cycling.

- 5.13 Section 9 of the NPPF relates to the promotion of sustainable transport. Paragraph 110 highlights that significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This will support reductions in emissions and reduce congestion. The sites will make best use of existing sustainable transport modes and make use of the easy reach of many services and facilities.
- 5.14 Paragraph 116 states that, 'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe'.
- 5.15 Development should prioritise pedestrian and cycle movements; facilitate access to high quality public transport; address the needs of those with disabilities and reduced mobility; create places that are safe, secure and attractive with minimal scope for conflicts between various road users; allow for efficient delivery of goods and emergency access; and be designed to enable charging of plug-in and other ultra-low emission vehicles (Paragraph 117). Development generating significant movement should provide a travel plan (Paragraph 118).
- 5.16 Section 11 of the NPPF related to 'Making Effective Use of Land'. Planning decisions should promote the effective use of land by making as much use as possible of previously developed land (Paragraph 124).
- 5.17 Paragraph 125 states that planning policies and decisions should give substantial weight to the value of using suitable brownfield land for homes and other identified needs, proposals for which should be approved unless substantial harm would be caused, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land. Policies and decisions should reflect changes in the demand for land (Paragraph 127) and should support applications for alternative uses of land which is currently developed but not allocated for a specific purpose, where this would help to meet identified needs (para 128).
- 5.18 Paragraph 129 states that planning policies and decisions should support development that makes efficient use of land, taking into account the need for different types of housing and the availability of land suitable for accommodating it; local market conditions and viability; the availability and capacity of infrastructure and services; the desirability of maintaining an area's prevailing character and setting, or of promoting regeneration and change; and the importance of securing well-designed, attractive and healthy places.
- 5.19 Section 12 of the NPPF focuses on achieving well designed places. Paragraph 131 sets out that the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities.

- 5.20 Paragraph 135 sets out that planning decisions should ensure that developments:
- Will function well and add to the overall quality of the area.
 - Are visually attractive as a result of good architecture, layout and appropriate and effective landscaping.
 - Are sympathetic to local character and history, including the surrounding built environment and landscape setting, whilst not preventing or discouraging appropriate innovation or change.
 - Establish or maintain a strong sense of place.
 - Optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development and support local facilities and transport networks.
 - Create places that are safe, inclusive and accessible and which promote health and well-being.
- 5.21 Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design and style of emerging schemes is important for clarifying expectations and reconciling local and commercial interests (Paragraph 137).
- 5.22 Section 14 of the NPPF seeks to meet the challenges of climate change, flooding and coastal change. New development should avoid increasing vulnerability to the range of impacts arising from climate change. It should also be planned in ways which can help reduce greenhouse gas emissions, such as through location, orientation and design as discussed in paragraph 164.
- 5.23 Section 15 looks at conserving and enhancing the natural environment. Planning decisions should contribute to and enhance the natural and local environment by avoiding unacceptable levels of soil, air, water or noise pollution. Additionally, proposals should seek to remediate and mitigate despoiled, degraded, derelict, contaminated and unstable land and provide net gains for biodiversity (para 187).
- 5.24 Section 16 seeks to conserve and enhance the historic environment. It requires applicants to describe the significance of any heritage assets affected (para 207); and asks decision makers to take account of the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation; the positive contribution that conservation of assets can make; and the desirability of new development making a positive contribution to local character and distinctiveness (Paragraph 210). It explains how potential impacts should be assessed including the attribution of weight to conservation (Paragraph 212) and the justification required for harm or loss of significance (Paragraph 213-7). In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement is sought, having regard to the scale of any harm or loss and the significance of the heritage asset.

Guide to Development in Manchester Supplementary Planning Document (2007) and Technical Guidance (2015)

- 5.25 The Guide to Development in Manchester - Supplementary Planning Document and Planning Guidance (SPD) was originally adopted on 11 April 2007. The document reflects and provides guidance on the importance of creating attractive, well-designed, well-maintained neighbourhoods. It includes a set of reasoned principles which will guide developers, designers and residents to the sort of development which is anticipated in Manchester.
- 5.26 In addition, technical guidance for developers was published in December 2015. It is composed of two documents, GD03 Environmental Protection and GD05 Planning and Noise.

Manchester Residential Quality Guidance (2017)

- 5.27 The purpose of the document is to outline the consideration, qualities and opportunities that will help to deliver high quality residential development as part of successful and sustainable neighbourhoods across Manchester. Above all the guidance seeks to ensure that Manchester can become a city of high quality residential neighbourhoods and a place for everyone to live. The document outlines nine components that combine to deliver high quality residential development, and through safe, inviting neighbourhoods where people want to live. They are as follows:
- Make it Manchester;
 - Make it bring people together;
 - Make it animate street and spaces;
 - Make it easy to get around;
 - Make it work with the landscape;
 - Make it practical;
 - Make it future proof;
 - Make it a home; and
 - Make it happen.

6. METHODOLOGY

- 6.1 The ES will be produced in accordance with Schedule 4 of the EIA Regulations 2017, PPG and will follow best practice in the production of the ES.

SCREENING

- 6.2 The Proposed Development falls within Category 10(b) of Schedule 2 to the EIA Regulations as an urban development project. Whilst it does not exceed any of the stated thresholds, the Council confirmed that the Proposed Development would constitute EIA development. Therefore, a screening request was not submitted by the applicant, and the Proposed Development automatically constitutes EIA development by reason of submission of this ES as part of the planning application.

SCOPING

- 6.3 In line with the EIA Regulations, a Scoping Opinion Request was submitted to the Council on 7th October 2024 (Appendix 1.1). This included a Scoping Report which outlined the scope, content and methodology of the proposed assessment. The Scoping Report concluded that the following topics associated with the Proposed Development should be considered within the ES:

- Daylight/Sunlight;
- Greenhouse Gas Emissions;
- Built Heritage;
- Townscape and Visual Impacts;
- Socio-Economic;
- Wind Microclimate; and
- Air Quality.

- 6.4 A Scoping Opinion was received on the 2nd December 2024 and is contained at Appendix 1.2.

- 6.5 In line with EIA Regulation 18(4(a)) this ES is based upon the Scoping Opinion.

- 6.6 The Scoping Opinion confirmed that the aforementioned topics should be scoped in, and that the following topics are scoped out:

- Aviation
- Archaeology
- Ecology

- Flood Risk and Drainage
- Ground conditions
- Highways
- Noise and Vibration
- Telecommunications
- Lighting
- Risk of major accidents and disasters
- Sustainability
- Utilities; and
- Waste.

6.7 The opinion stated that Human Health should be included within relevant chapters. As such, the impact on Human Health is to be considered across technical chapters of the ES rather than in a dedicated ES chapter.

PUBLIC CONSULTATION

- 6.8 In addition to the statutory consultation which has taken place with statutory bodies, a public consultation exercise has been undertaken to seek feedback.
- 6.9 A flyer was distributed to the closest 2,727 households and businesses, outlining the key aspects of the scheme, in addition to a CGI of the Proposed Development. The flyer signposted to a dedicated website which hosted information and a survey.
- 6.10 A press release was also issued.
- 6.11 The elected members for the Piccadilly ward, within which the site is situated, were contacted. No responses were received.
- 6.12 The comments received during the consultation process have been reviewed by the design team and minor alterations were made to the scheme following the public consultation exercise. Further details can be found in the supporting Statement of Community Involvement which is submitted with the planning application. For completeness, this is included as Appendix 6.1.

GEOGRAPHIC SCOPE

- 6.13 The site as shown in Appendix 2.1 identifies the area covered by the EIA. It is important to note however, that the influence of many predicted impacts can extend beyond the immediate site boundary. By way of example, visual impacts will extend beyond the site boundary. Off-site impacts have also been assessed as part of the EIA.

TEMPORAL SCOPE

- 6.14 It is anticipated that the development could commence during Q3 2025 and be complete in Q4 2026 based on an 18 month construction programme.
- 6.15 The EIA is based on the comparison of expected impacts created by the construction and operation of the Proposed Development compared with current or recent baseline environmental conditions unless stated in individual technical chapters.

TECHNICAL SCOPE

- 6.16 A formal Scoping exercise has been undertaken. This comprised steps including the identification of the key characteristics of the site, the establishment of the environmental baseline through a series of desk and field studies, informal consultation with key stakeholders, and the initial consideration of the potential sources and nature of environmental impacts through assessment against the environmental baseline.
- 6.17 This initial assessment was prepared and submitted as a Scoping Report to the Council who subsequently undertook a period of formal consultation with consultees and provided a formal Scoping Response.
- 6.18 As set out in the Scoping Report, there are a number of issues which have been assessed as unlikely to give rise to significant environmental effects, and subsequently agreed with the Council. The reasons why these topics are agreed to not give rise to significant environmental effects are detailed below. No additional topics have been scoped out since the preparation of the Scoping Report.
- 6.19 Notwithstanding the above topics that are scoped out of the ES, the planning application is supported by further assessments and technical reports which cover 'scoped out' topics in many cases. The assessments and reports ensure that relevant planning policies are considered, and that other relevant legislation and guidance is complied with. A list of documents submitted with the planning application is included at Appendix 2.2.

Aviation

- 6.20 The Council confirmed aviation can be scoped out of the EIA. It was acknowledged that the site is within an urban area in the fringe of Manchester City Centre where there are many other existing buildings of a similar or taller height. It was agreed that there would be no significant environmental impacts which require consideration in this regard as a result of the development.

Archaeology

- 6.21 It was agreed with the Council that archaeology can be scoped out. An Archaeological Desk-Based Assessment has been prepared to support the planning application. The study site is considered to have a low potential for archaeological remains dating to all periods. It is likely that any archaeological deposits would be of up to low or local importance.

- 6.22 The comments of GMAAS are noted, namely that it is anticipated that some intrusive archaeological investigation will be required in due course, not least to determine whether any human remains survive in the former graveyard associated with the chapel. It may also be appropriate to implement a historic building investigation in advance of any future development works.

Ecology

- 6.23 It was agreed with the Council that ecology can be scoped out. The Council note the comments of GMEU seeking a bat survey. Two bat surveys have been undertaken and form part of the submission.
- 6.24 Due to the site's characteristics and location, it has limited potential to support protected species and there are no protected or sensitive habitats on the site or within its immediate vicinity. There are no statutory or non-statutory nature conservation designations on the site. There are unlikely to be any direct or indirect impacts from the Proposed Development on any statutory designated sites during construction and operational phases. The Proposed Development will therefore not have significant environmental impacts.

Flood Risk and Drainage

- 6.25 It was agreed with the Council that flood risk and drainage can be scoped out of the EIA. The site is located entirely within Flood Risk Zone 1 as defined by the Environment Agency Flood Risk Map for Planning. The site is below 1 hectare and therefore a Flood Risk Assessment is not required to support the planning application. Nevertheless, a Flood Risk Statement and Drainage Strategy has been prepared by Civic Engineers to support the planning application as a standalone report.

Ground Conditions

- 6.26 Ground conditions has been scoped out of the ES. A standalone Phase 1 Geo-Environmental Investigation has been prepared by Civic Engineers. There is potential for made ground on site yet there are no expected off-site contamination, geotechnical hazards or other constraints. This topic was agreed with the Council to be excluded from the ES.

Highways

- 6.27 It was agreed with the Council that a Highways chapter would be scoped out of the ES.
- 6.28 SK Transport have prepared a standalone Transport Statement and Framework Travel Plan that considers the highways impact, with reference to comments received from Manchester City Council Highway Services.

Noise & Vibration

- 6.29 It was agreed with the Council that the noise impacts from the Proposed Development on nearby sensitive receptors could be scoped out. A Noise Impact Assessment has been undertaken by Jameson Acoustics Limited to support the planning application, which considers the operational noise impacts.

Telecommunications

- 6.30 It was agreed with the Council that this topic could be scoped out of the ES. GTech Surveys Limited have prepared a standalone Television and Radio Reception Survey which considers the potential and magnitude of television interference as a result of operational and development phases of the Proposed Development.

Lighting

- 6.31 Lighting was agreed with the Council to be scoped out of the ES.

Risk of Major Accidents and Disasters

- 6.32 Given the Proposed Development's location in the UK, seismic events are rare. Considering the nature of the Proposed Development, the commitment to building regulations and statutory requirements, a chapter assessing major accidents and or natural disasters is scoped out of the ES. This was agreed with the Council.

Utilities

- 6.33 This can be scoped out. A Broadband Connectivity Assessment has been prepared by GTech Surveys Limited to support the application.

Waste

- 6.34 This topic can be scoped out of the ES. Waste during construction will be dealt with in a Construction and Environmental Management Plan and by a Waste Management Strategy and Proforma to cover the operational phase.

ASSESSMENT CRITERIA

- 6.35 The general approach to the EIA is to study and understand the baseline environmental characteristics and conditions, and to assess the potential changes to this baseline as a result of the development. In determining whether a change or effect is significant, it will be necessary to understand the value, importance or significance of a 'receptor' and then to understand the magnitude and nature of the change.

RECEPTOR SENSITIVITY

- 6.36 The sensitivity of a receptor refers to its importance, i.e. its environmental value/attributes. Receptors with very high sensitivity for example would include a UNESCO World Heritage site, whereas one with low sensitivity may include of Conservation Area. The terminology defining sensitivity can vary according to discipline or the methodology being used. However, within this ES sensitivity is generally determined as high, moderate, low or negligible.
- 6.37 Each individual chapter within this ES considers the attributes of specific receptors in more detail.

IMPACT MAGNITUDE

- 6.38 Magnitude is determined by predicting the scale of any potential change in the baseline conditions. Where possible, magnitude has been quantified; however, where this has not been possible a fully defined qualitative assessment has been undertaken. Magnitude will be defined within each chapter along a sliding scale and will generally be described as high, medium, low or negligible. Magnitude of change will be defined as high, medium, low or negligible.

DETERMINING SIGNIFICANCE OF IMPACT

- 6.39 The level of impact is identified by combining receptor sensitivity with the magnitude of change. Chapters will typically include a matrix identifying how the two combine, to determine the level of impact. The assessment of potential effects will relate to both the construction and operational phases of development.
- 6.40 The sensitivity or value of the receptor is usually derived from:
- legislative controls;
 - designated status;
 - the number of individual receptors (e.g. residents);
 - characteristics such as rarity or condition; and
 - the ability of the receptor to absorb change.
- 6.41 Determination of significance has regard to the following:
- extent and magnitude of the impact;
 - type of impact (beneficial or adverse);
 - nature of impact (direct, indirect, reversible or irreversible);
 - duration of impact (permanent, long-term, short-term, reversible or irreversible);

- frequency of impact; and
- comparison with environmental policies and quality standards.

6.42 Table 6.1 indicates how sensitivity and magnitude are considered together to determine the significance of an impact. This is a standard methodology that has been used on all the technical chapters. Where topics have deviated from this method and used different assessment criteria this is clearly stated within the relevant chapter.

Table 6.1: Matrix for determining significance of impact

Magnitude of change/impact	Receptor Sensitivity/Importance			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

6.43 Where an impact is considered to be significant, this will generally be classified as negligible, minor, moderate or major. Impacts can be beneficial, adverse or not significant. In general, the definition of these impacts can be described as follows.

- Negligible: No or barely perceptible change from the baseline position.
- Minor: These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in the detailed design of the project and consideration of mitigation or compensation measures.
- Moderate: These effects, if adverse, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource. They represent issues where effects will be experienced but mitigation measures and detailed design work may ameliorate/enhance some of the consequences upon affected communities or interests. Some residual effects will still arise.
- Major: These effects are likely to be important considerations at a regional or district scale, and if adverse, are potential concerns to the project, depending upon the relative importance attached to the issue during the decision-making process. Mitigation measures and detailed design work are unlikely to remove all of the effects upon the affected communities or interests.

MITIGATION

6.44 Schedule 4 Part 7 of the EIA Regulations sets out the information that must be included in as ES. This includes 'Description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That

description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.'

- 6.45 The assessment of magnitude is carried out considering any embedded mitigation, i.e. any relevant design features which form part of the development as proposed. Since EIA is an iterative process which has taken place as part of the design process, significant mitigation has already been incorporated into the scheme. Embedded mitigation is described in Chapter 4 and within each technical chapter where relevant.
- 6.46 Additional or secondary mitigation may be required in order to reduce identified impacts further. Therefore, impacts are identified in relation to the Proposed Development, and subsequently 'residual impacts' are identified taking 'additional mitigation' into consideration. The subsequent assessment of residual environmental effects is the final outcome of the EIA process. Residual effects are identified as being significant or not.
- 6.47 Mitigation can include measures to prevent impacts arising, to reduce the magnitude of effects, to off-set effects or enhance positive aspects of the development.

CUMULATIVE EFFECTS

- 6.48 The EIA Regulations also require the consideration of the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.
- 6.49 The list of cumulative developments that could have significant combined effects is provided at Appendix 6.2.

STRUCTURE OF TECHNICAL CHAPTERS

- 6.50 A common structure has been used for each of the technical chapters throughout the ES as follows:
- Introduction
 - Relevant Legislation and Guidance
 - Assessment Methodology and Significance Criteria
 - Baseline Conditions
 - Sensitive Receptors
 - Assessment of Effects
 - Mitigation

- Cumulative Effects
- Summary and Residual Effects
- References

- 6.51 The penultimate chapter of the ES considers the Proposed Development's cumulative and interactive effects, to consider firstly the inter-relationships between the Proposed Development and the committed developments in the area surrounding the site, and secondly the inter-relationship between the identified impacts arising from the Proposed Development.
- 6.52 The final chapter collates the impacts upon receptors that have been identified in each of the technical chapters of this ES and confirms the residual effects once the mitigation measures have been incorporated into the Proposed Development.

ASSUMPTIONS AND LIMITATIONS

- 6.53 The EIA Regulations require that the ES must include the information reasonably required for reaching a conclusion on the significant effects of the environment, taking into account current knowledge and methods of assessment. The ES must also state any "details or difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties known". Each chapter in this ES has a section on assumptions and limitations.
- 6.54 A number of assumptions have been made during the preparation of the EIA, as set out below. Assumptions include:
- The assessment includes the year 2024 as the 'baseline year' (unless otherwise stated). Impacts arising from enabling works/site clearance works are highlighted where appropriate along with mitigation measures.
 - The assumed year for first occupation of the Proposed Development will be 2027. It is expected that the construction programme will commence in 2025 and be completed over a period of 18 months.
 - Baseline conditions have been established from a variety of sources, including historical data. Due to the dynamic nature of certain aspects of the environment, conditions may change during the construction and operation of the scheme.
 - All relevant legislative requirements will be met.
 - The Proposed Development will be demolished and constructed in accordance with industry standard techniques and currently enforced mandatory minimum standards and assumes suitably experienced contractors will be appointed to design, construct and commission the development.
 - A Construction Environmental Management Plan (CEMP) will be prepared prior to commencement of demolition/construction and will contain all the design and additional mitigation as identified and reported within this ES

and any subsequently agreed requirements, expected to be enforced by planning conditions. The details of these documents would be agreed with the local planning authority (LPA) and environmental health prior to construction commencing.

6.55 The EIA is subject to the following limitations:

- The nature of the EIA requires subjective and objective assessment to be made of the predicted impacts, and as such includes a degree of professional judgement. The assessment is explicit in recognising areas of limitation and any assumptions made. Where appropriate, the assessment of significance has been given confidence levels.
- Although surveys and assessments are accurate at the time of completion, due to the dynamic nature of the environment, conditions may change over time.

7. DAYLIGHT AND SUNLIGHT

INTRODUCTION

- 7.1 The Daylight Sunlight and Overshadowing (DSO) chapter outlines the assessment methodology and presents the quantitative results evaluating the potential impacts of the Proposed Development on daylight, sunlight and overshadowing within the surrounding area.
- 7.2 The DSO assessment determines the likely loss of light to adjacent buildings and open amenity areas resulting from the Proposed Development. This study quantifies the daylight and sunlight availability to the identified receptors and derives the resulting ratio between the baseline and the proposed conditions to define the impact.
- 7.3 Sensitive receptors, such as adjacent residential properties, schools, and other buildings that rely on natural light for their operation, are identified. These areas are where occupants reasonably expect to receive daylight and sunlight, including the proposed amenity areas within and off-site. Surrounding open amenity spaces, such as gardens and playgrounds that may be affected by the application site, are also part of the assessment.
- 7.4 The quantitative assessment includes detailed calculations and simulations to measure the changes in daylight and sunlight levels. The results are presented in terms of Vertical Sky Component (VSC), Annual Probable Sunlight Hours (APSH), and No Sky Line (NSL) for the identified receptors. The findings provide a comprehensive understanding of the potential impacts, ensuring an accurate evaluation of the project's environmental implications
- 7.5 This Assessment is accompanied by Appendices 1-5 as listed below.
- **Appendix 7.1:** Images of the 3D model used for the assessments
 - **Appendix 7.2:** Daylight and Sunlight Sensitive Receptors (for VSC, PSB and NSL assessments)
 - **Appendix 7.3:** Detailed Daylight Assessment Results (VSC and NSL)
 - **Appendix 7.4:** Detailed Sunlight Assessment Results (APSH and WPSH)
 - **Appendix 7.5:** Detailed Overshadowing Assessment Results

PLANNING POLICY CONTEXT

Legislative Framework

- 7.6 There is no specific national legislation dealing with daylight, sunlight and overshadowing. However, most local authorities in the UK recognise the guidelines set out in the BRE Guide 'Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice (2022) as the most appropriate method for Daylight, Sunlight and Overshadowing Assessments.

National Planning Policy Framework NPPF (2024)

- 7.7 The National Planning Policy Framework (NPPF) as amended (December 2024) refers to the efficient use of land in promoting a healthy environment in paragraph 124 of Chapter 11 (Making Effective Use of Land):

"Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions."

- 7.8 Paragraph 135 in the NPPF emphasizes the importance of ensuring that developments create safe, inclusive, and accessible places that promote health and well-being. It states:

"f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience."

- 7.9 The NPPF also refers to reducing light pollution from artificial light on local amenity areas at paragraph 198 (c) of Chapter 15 (Conserving and Enhancing the Natural Environment):

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."

Places For Everyone (2024): Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan

- 7.10 The Places for Everyone Plan took effect and became part of the statutory development plan for each of the nine Greater Manchester districts on March 21, 2024. The document does emphasize the importance of sustainable development and creating healthy living environments, which implicitly includes considerations for natural light. The document states:

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

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

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

B. Addressing microclimate issues such as sunlight, indoor air quality, overheating, shade, wind and shelter"

Manchester's Local Development Framework (LDF), Core Strategy Development Plan Document, (2012)

7.11 Policy DM1 of the Manchester Core Strategy states that:

"All development should have regard to the following specific issues for which more detailed guidance may be given with a supplementary planning document: Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation. This could also include proposals which would be sensitive to existing environmental conditions, such as noise."

7.12 Policy EN4 states that in order to reduce CO2 emissions:

"All development must follow the principle of the Energy Hierarchy, being designed to reduce the need for energy through design features that provide passive heating, natural lighting, and cooling."

GUIDANCE

7.13 The following guidance documents have been used during the preparation of this Chapter:

Manchester Residential Quality Guidance (2017)

7.14 The Manchester Residential Quality Guidance document emphasizes the importance of natural light in residential developments, both for the well-being of residents and the quality of the living environment. It provides specific guidelines on how to maximize daylight within new developments and minimize the impact on neighbouring properties.

7.15 The document advises that new developments should aim to minimize the loss of daylight to neighbouring residential properties. This is to ensure that existing residents are not adversely affected by new constructions that might block natural light. The document states at page 112:

"New development should seek to minimise loss of daylight to neighbouring residential properties, complying with statutory requirements and best practice."

7.16 It highlights the importance of designing homes to maximize natural light, which includes having adequate floor-to-ceiling heights and larger windows. This approach not only reduces the need for artificial lighting but also enhances the overall living experience. At Page 112 it states:

"Maximising natural daylight is important, with floor to ceiling heights at a minimum 2.4m in living and bedroom spaces. A minimum height of 2.5m will be strongly encouraged in all habitable areas. Added to this, there should be larger windows,

particularly to living areas, with an aspect of the sky and direct views of external spaces such as gardens, courtyards, streets, parks and open spaces."

- 7.17 The document stresses that the quality of daylight is crucial. It recommends avoiding single aspect, north-facing accommodations, as these are less likely to receive direct sunlight. Instead, designs should aim to allow direct sunlight into living spaces:

"The quality of daylight is also important. Where possible, there should be direct sunlight into living spaces; single aspect, north facing accommodation, or that is orientated 45 degrees either side of north, should be avoided."

BRE 209 Site Layout Planning for Daylight and Sunlight (2022) ERROR! BOOKMARK NOT DEFINED.

- 7.18 The BRE Guide: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice (2022) is recognised as the most appropriate method for daylight, sunlight and overshadowing assessments. These guidelines were first published in 1991 and superseded the 1971 Department of the Environment Document Sunlight and Daylight. The latest edition was published in 2011 and updated in 2022.

- 7.19 Whilst the BRE Guide provides numerical guidelines for daylight, sunlight and overshadowing, the Guide is not an instrument of planning policy, therefore some level of flexibility should be applied where appropriate.

- 7.20 The BRE Guide does not provide stringent numerical criteria to determine whether the impact on the daylight levels on the adjacent receptors is significant or not. The BRE Guide discusses this in Appendix H: Environmental impact assessment:

"H1 The guidelines in this book may be used as the basis for environmental impact assessment, where the skylight and sunlight impact of a new development on its surroundings are taken into account.

H2 Where a new development affects a number of existing buildings or open spaces, the clearest approach is usually to assess the impact on each one separately. It is also clearer to assess skylight and sunlight impacts separately.

H3 Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space.

H4 The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.

H5 Where the loss of skylight or sunlight fully meets the guidelines in this document, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines, and a larger number of windows or open space area are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.

H6 Where the loss of skylight or sunlight does not meet the guidelines in this document, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:

- only a small number of windows or limited area of open space are affected*
- the loss of light is only marginally outside the guidelines*
- an affected room has other sources of skylight or sunlight*
- the affected building or open space only has a low level requirement for skylight or sunlight*
- there are particular reasons why an alternative, less stringent, guideline should be applied, for example an overhang above the window or a window standing unusually close to the boundary.*

H7 Factors tending towards a major adverse impact include:

- a large number of windows or large area of open space are affected*
- the loss of light is substantially outside the guidelines*
- all the windows in a particular property are affected*
- the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground."*

ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

- 7.21 The assessment of effects on the receptors surrounding the site is based on an assessment of the change from the 'Baseline Scenario' i.e., the existing buildings in the Site and the existing properties surrounding it, (including the properties under construction at the time of the assessment presented in their final form). Images of the model can be found in Appendix 7.1.
- 7.22 In the 'Proposed Scenario' the Proposed Development is introduced on the site replacing the existing buildings for a direct comparison with the baseline. This approach allows determining the relative impact that the Proposed Development will have on the surrounding properties in terms of daylight, sunlight and overshadowing. Images of the model can be found in Appendix 7.1.
- 7.23 In the 'Cumulative Scenario', the assessment would typically consider the combined impact of the Proposed Development along with other consented developments in the vicinity. However, all the consented schemes in close proximity to the site are already under construction and are therefore included in both the Baseline Scenario and Proposed Scenario. Consequently, the cumulative impacts are inherently accounted for within these scenarios, eliminating the need for a separate cumulative assessment.

7.24 The DSO assessment in this chapter comprises 2 scenarios:

- Baseline Scenario: Assessment of the existing buildings on the site with the existing surrounding context.
- Proposed Scenario: Assessment of the Proposed Development on the site with the existing surrounding context.

PURPOSE OF THE STUDY

7.25 The purpose of this study is to determine the effect of the Proposed Development on the daylight and sunlight availability to windows, rooms, and amenity areas of the surrounding developments, as well as the amenity areas within the site.

7.26 Therefore, the daylight, sunlight, and overshadowing assessment determines the likely loss of light to adjacent buildings and open amenity areas resulting from the Proposed Development.

7.27 The study identifies sensitive receptors as the habitable rooms, windows of habitable rooms, and the surrounding open amenity areas that face the application site. These areas are where occupants reasonably expect to receive daylight and sunlight, including the proposed amenity areas within the Site.

7.28 The study quantifies the likely daylight and sunlight availability to the receptors identified and derives the resulting ratio of impact.

EXTENT OF THE STUDY AREA

7.29 The site of the Baptist Church project is located on Rochdale Road. The Proposed Development is a residential scheme situated within a cluster of residential schemes along Rochdale Road.

7.30 For this assessment, the study area extends up to approximately 300m in radius from the centre of the site. This area encompasses the sensitive receptors, which are detailed in Section 4 (Identified Sensitive Receptors for this Assessment). The existing site and surrounding properties are shown in Figure 7.1 below.

Figure 7.1 – Existing Baptist Church Site



ASSESSMENT MODELLING

- 7.31 A 3D model has been created for the Daylight, Sunlight, and Overshadowing Assessment. The 3D model for the DSO Assessment comprises the Baptist Church site and its surroundings within an approximate 300m radius from the Site centre. Images of the model can be found in Appendix 7.1.
- 7.32 The development of the 3D model is based on models and drawings from the design team, complemented by information from available mapping data, 3D survey data where accessible, and photographic documentation of the site and its surroundings. The details of model information used to prepare the 3D model are presented in Table 7.1 below.

Table 7.1: Drawing Sets Used to Construct Model

Model Date	File name	Data type	Usage
15/08/2024	hodderandpartners_area-schedule_2024-08-15_1156	2D and 3D data sets	Constructing the Proposed Development in 3D

METRICS FOR THE ASSESSMENT OF LOSS OF LIGHT TO EXISTING PROPERTIES

- 7.33 The assessment has been carried out to determine the level of adherence to the recommended BRE Guide (2022) on the existing adjacent properties.
- 7.34 The BRE Guide uses a set of metrics to quantify the potential effect on daylight and sunlight levels including:

- Obstruction Angle (25°);
- Vertical Sky Component (VSC);
- No-Sky Line (NSL); and,
- Probable Sunlight Hours (PSH: Annual Probable Sunlight Hours - APSH and Winter Probable Sunlight Hours - WPSH).

Obstruction Angle

- 7.35 This is an initial check to identify any potential impacts. If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected, and further detailed studies should be carried out.

Vertical Sky Component (VSC)

- 7.36 When the obstruction angle and the visible sky angle (θ) vary significantly when multiple windows are involved, then the Vertical Sky Component (VSC) should be used instead. The calculation of VSC usually requires specialist computer software. The VSC, in simple terms, measures the amount of sky that can be viewed from the centre of a window accounting for all external obstructions, (with 40% being the maximum value for an unobstructed window). The recommended value for VSC is 27% or greater to maintain good levels of daylight. For existing surrounding windows, if the VSC is below 27%, then a comparison of the existing and proposed VSC levels with the new development in place is calculated and a ratio of impact is derived. The BRE Guide recommends that the maximum reduction of the VSC to existing windows should be 0.8 times their former value.

No-Sky Line (NSL)

- 7.37 The No-Sky Line (NSL) is used to evaluate the impact of a development on the daylight distribution within neighbouring properties. It identifies the areas of a room's working plane that have direct view of the sky.
- 7.38 If a significant portion (typically exceeding 20%) of the working plane lies beyond the NSL, the room's daylight levels may be insufficient, necessitating additional artificial lighting. The BRE Guide recommend that the maximum reduction in the NSL for existing rooms should not exceed 20%.
- 7.39 Accurate room layouts are essential for precise NSL calculations. Estimated layouts may lead to inaccurate results and are not recommended.

Combined NSL and VSC criteria

- 7.40 To ensure adequate daylighting, a room must meet both the NSL and Vertical Sky Component (VSC) criteria:

- NSL Criterion: The area of the working plane receiving direct sky light should not decrease by more than 20% compared to the existing condition.
- VSC Criterion: At least one primary window must maintain a VSC of at least 27% and should not experience a reduction exceeding 20%.

Probable Sunlight Hours (PSH)

7.41 Access to sunlight is measured from the windows of habitable rooms facing within 90° of due south. The Probable Sunlight Hours (PSH) calculation method measures the proportion of the window assessed that is sunlit for a period of time. The BRE Guide recommend that the PSH is calculated for the annum (APSH) and for the winter months (WPSH) (21st September to 21st of March). The recommended sunlight criteria for existing buildings potentially affected by a new development, are as follows:

- The window reference point should receive more than 25% of APSH, including at least 5% of WPSH.
- If the available sunlight hours are both less than the amount given above and less than 0.8 times their former value, either over the whole year or during the winter, then the occupants of the existing building will notice some loss of sunlight.
- The overall loss of sunlight should be maintained below 4%.

Overshadowing of Open Amenity Areas

7.42 For gardens or amenity areas, the BRE Guide suggests that at least half the area (50%) should receive at least two hours of sunlight on 21st of March (sunlight at an altitude of 10° or less is excluded). If, as a result of a new development, an existing garden (usually the main back garden of a house) or amenity area does not meet the above criteria and the area that can receive two hours of sunlight on 21st of March is less than 0.8 times its former value, then the loss of sunlight is likely to be significant.

SENSITIVE RECEPTORS

7.43 The receptors for the daylight and sunlight assessment include habitable rooms within adjacent properties that require natural light, as well as open amenity spaces. Habitable rooms are assessed for daylight and sunlight levels, while open amenity spaces have been evaluated for overshadowing.

7.44 In order to undertake the assessment, the key sensitive receptors around the site need to be identified. According to the BRE Guide, sensitive receptors are described as rooms and windows to habitable rooms facing the site where the occupants have a reasonable expectation of natural light.

7.45 The guidelines for sunlight have been applied to the existing properties for the windows facing within 90° of due south.

- 7.46 Sensitive receptors for overshadowing of open spaces include gardens and open amenity spaces on adjacent properties, excluding public footpaths, front gardens and car parks.

DETERMINING THE SENSITIVITY OF RECEPTORS

- 7.47 A sensitivity rating has been developed using professional judgement based on the BRE Guide, which is described below and categorised into high, medium and low based on the function or use of the space being assessed. This rating is indicative and there will be occasions where the sensitivity may be interpreted differently:

Daylight

- Habitable rooms such as living rooms, kitchens and bedrooms within residential developments generally require good levels of daylight to render them more enjoyable and adequate to their function. Windows to such spaces are classified as having high sensitivity to daylight.
- Non-domestic buildings where the occupants have a reasonable expectation of daylight but where artificial light is common and do not solely rely on natural light, such as offices, hotels, hostels, and schools, have been classified as having a medium sensitivity to daylight.
- Retail developments usually rely on mechanical control and are not considered spaces where there would be an expectation of daylight by the user. Thus, windows to such spaces can be classified as having low sensitivity to daylight.

Sunlight

- Windows of residential dwellings have been classified as having high sensitivity to sunlight, particularly for living rooms and conservatories. In the absence of internal layout information of the surrounding residential developments, all windows on the southern façades have been classified as having a high sensitivity to sunlight as a worst-case scenario.
- Windows of non-domestic buildings where people spend a considerable amount of their time, such as offices, hotels, hostels, and schools, are classified as having a medium sensitivity to sunlight particularly for the windows on the southern facades.
- Retail developments usually rely on mechanical climate control to achieve comfort and reduce the effect of outside air and noise pollution, particularly in urban areas. Receptors to these spaces are classified as having a low sensitivity to sunlight.

Overshadowing of Open Amenity Spaces

- For the purpose of the overshadowing assessments, gardens and open amenity spaces on adjacent properties are classified as having a high sensitivity.

- Open areas which are not designated to be used by the general public as an amenity area, such as street landscape, and roundabouts, are classified as having a low sensitivity.

7.48 For the purpose of this assessment and given the nature of the locality, only receptors with Medium and High sensitivity have been assessed.

DETERMINING MAGNITUDE OF CHANGE

7.49 The BRE Guide's criteria have been used to assess the likely levels of daylight and sunlight to habitable rooms in the surrounding properties. Compliance with the (BRE Guide) guidelines is achieved if the levels of daylight/sunlight within the identified receptors of the surrounding properties are equal to or greater than the recommended values given in the BRE Guide.

7.50 Compliance with the BRE Guide is also achieved for the identified receptors of the surrounding properties if the ratio of impact between the 'Baseline Scenario' and the 'Proposed Scenario' is 0.80 or higher, i.e., the reduction in daylight or sunlight hours is 20% or less. An additional criterion of overall annual loss for APSH values also needs to be satisfied to comply with the recommended BRE guidelines.

7.51 A negligible magnitude of change is defined if compliance with the BRE criteria is met. When the criteria are not met, the BRE Guide document does not provide guidelines for determining the magnitude of the impact. Therefore, a scale to measure the magnitude of change has been provided using professional judgement, which is discussed below.

7.52 For the affected receptors that lie below the recommended BRE guidelines, the magnitude of change has been rated depending on the ratio of impact between the 'Baseline Scenario' and the 'Proposed Scenario'. The criteria to be used for determining the magnitude of change for the VSC, NSL, APSH and WPSH results is detailed in Tables Table 7.2 to Table 7.5 below.

Table 7.2: Magnitude of Change for Vertical Sky Component (VSC) Results

VSC Values	Ratio of Impact	Magnitude of Change
VSC $\geq$ 27%	$\geq$ 0.8	Negligible
VSC $\geq$ 27%	$<$ 0.8	Negligible
VSC $<$ 27%	$>$ 0.8	Negligible
VSC $<$ 27%	0.7 – 0.8	Low
VSC $<$ 27%	0.6 – 0.7	Medium
VSC $<$ 27%	$<$ 0.6	High

Table 7.3: Magnitude of Change for No-Sky Line (NSL) Results

NSL Values	Ratio of Impact	Magnitude of Change
NSL $\geq$ 80%	$\geq$ 0.8	Negligible

NSL $\geq$ 80%	< 0.8	Negligible
NSL $< 80\%$	> 0.8	Negligible
NSL $< 80\%$	$0.7 - 0.8$	Low
NSL $< 80\%$	$0.6 - 0.7$	Medium
NSL $< 80\%$	< 0.6	High

Table 7.4: Magnitude of Change for Annual Probable Sunlight Hours (APSH) Results

APSH Values	Ratio of Impact	Absolute reduction	Magnitude of Change
APSH $\geq 25\%$	>0.8	$\leq 4\%$	Negligible
APSH $\geq 25\%$	>0.8	$> 4\%$	Negligible
APSH $\geq 25\%$	<0.8	$> 4\%$	Negligible
APSH $< 25\%$	>0.8	$\leq 4\%$	Negligible
APSH $< 25\%$	>0.7	$>4\%$	Low
APSH $< 25\%$	$0.6 - 0.7$	$>4\%$	Medium
APSH $< 25\%$	< 0.6	$>4\%$	High

Table 7.5: Magnitude of Change for Winter Probable Sunlight Hours (WPSH) Results

WPSH Values	Ratio of Impact	Magnitude of Change
WPSH $\geq 5\%$	>0.8	Negligible
WPSH $\geq 5\%$	<0.8	Negligible
WPSH $< 5\%$	>0.8	Negligible
WPSH $< 5\%$	$0.7 - 0.8$	Low
WPSH $< 5\%$	$0.6 - 0.7$	Medium
WPSH $< 5\%$	< 0.6	High

DETERMINING THE SIGNIFICANCE OF EFFECTS

Vertical Sky Component, No-Sky Line, Probable Sunlight Hours

Assessment of Sensitive Receptor: Windows and Rooms

- 7.53 Guided and expanding from the BRE guidelines, a matrix for determining the significance of effects on each window or room has been developed taking into account the sensitivity of the receptor and the magnitude of change (Table 7.6).

Table 7.6: Significance of effects for VSC, NSL and PSH receptors with High Sensitivity (Windows or Rooms)

Magnitude of Change	Significance of Effect 13.1
Negligible	Negligible effect
Low	Minor Adverse
Medium	Moderate Adverse
High	Major Adverse

Assessment of Sensitive Receptor Buildings

7.54 The following matrix is used to assess the significance of daylight impacts on high sensitivity residential buildings. These buildings include habitable rooms such as living rooms, kitchens, and bedrooms, which require good levels of natural light. The matrix considers the percentage of windows or rooms affected and the magnitude of change to determine the overall impact on each building.

7.55 The matrix is shown in Table 7.7 and is illustrated below:

1. Minor Adverse Impact:

- All windows (100%) have negligible magnitude of change.
- 80-100% of windows have negligible magnitude of change, with the majority of the remaining windows experiencing low, medium, or high magnitude of change.
- 70-79% of windows have negligible magnitude of change, with the majority of the remaining windows experiencing low to medium magnitude of change.
- 60-69% of windows have negligible magnitude of change, with the majority of the remaining windows experiencing low magnitude of change.

2. Moderate Adverse Impact:

- 70-79% of windows have negligible magnitude of change, with the majority of the remaining windows experiencing medium to high magnitude of change.
- 60-69% of windows have negligible magnitude of change, with the majority of the remaining windows experiencing medium magnitude of change.

3. Major Adverse Impact:

- 60-69% of windows have negligible magnitude of change, with the majority of the remaining windows experiencing high magnitude of change.
- 0-59% of windows have negligible magnitude of change, with the majority of the remaining windows experiencing low, medium, or high magnitude of change.

Table 7.7: Significance of effects for VSC, NSL and PSH receptors (Adjacent Buildings)

Percentage of Windows with Negligible Magnitude of Change	Magnitude of Impact	Significance of Effect
100%	-	Minor Adverse
80-100%	Low, Medium, High	Minor Adverse
70-79%	Low	Minor Adverse
	Medium	Minor Adverse
	High	Moderate Adverse
60-69%	Low	Minor Adverse
	Medium	Moderate Adverse
	High	Major Adverse
0-59%	Low, Medium, High	Major Adverse

Significance of Effects for Overshadowing of Open Amenity Areas

- 7.56 The BRE Guide recommends that for a garden or amenity area to appear adequately sunlit throughout the year, at least half of an amenity area should receive at least two hours of sunlight on 21st of March. The BRE Guide also indicates that if, as a result of a new development, an existing garden or amenity area does not meet these guidelines, and the area that can receive some sun on the 21st of March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable.
- 7.57 The following overshadowing significance of effects has been used in this assessment:
- **Negligible** - Where the assessment results fall within the BRE criteria either because $\geq 50\%$ of amenity area achieves ≥ 2 hours of sunlight on 21st of March; or by retaining ≥ 0.8 of its former value;
 - **Minor Adverse** – Where the assessment results fall below the BRE criteria (< 0.8 of its former value) but not by a significant margin (40-50% of the area assessed receives ≥ 2 hours of sunlight on 21st of March);

- **Moderate Adverse** – Where the assessment results fall below the BRE criteria (<0.8 of its former value) by a moderate margin (30-40% of the area assessed receives ≥2 hours of sunlight on 21st of March); and,
- **Major Adverse** – Where the assessment results fall below the BRE criteria (<0.8 of its former value) by a significant margin (<30% of the area assessed receives ≥2 hours of sunlight on 21st of March).

7.58 For the purposes of this assessment, all negligible and minor effects are considered insignificant. Moderate and Major effects are considered significant.

7.59 Additional considerations could be taken based on professional judgment, especially when evaluating specific factors related to the Proposed Development or the sensitive receptors themselves. These factors, as outlined in the BRE Guide (2022), include:

- The presence of other sources of skylight or sunlight in the affected room.
- The affected building or open space having a low requirement for natural light.
- Situations where an alternative, less stringent guideline might be appropriate, such as when there is an overhang above the window or the window is unusually close to the boundary.

7.60 These considerations allow for a more nuanced assessment, taking into account the unique characteristics and requirements of each receptor.

IDENTIFIED SENSITIVE RECEPTORS FOR THIS ASSESSMENT

7.61 The receptors for this assessment were selected in accordance with the criteria outlined in the Assessment Methodology and Significance Criteria section above. The list of receptors comprises the surroundings adjacent to the Proposed Development, considering their proximity to the site and their sensitivity to natural light.

7.62 The receptors selected for the daylight and sunlight assessments (VSC, PSH, and NSL) are listed in Table 7.8 and, Table 7.9 and illustrated in Figure 4-1 below.

Table 7.8: List of Sensitive Receptors – VSC and PSH

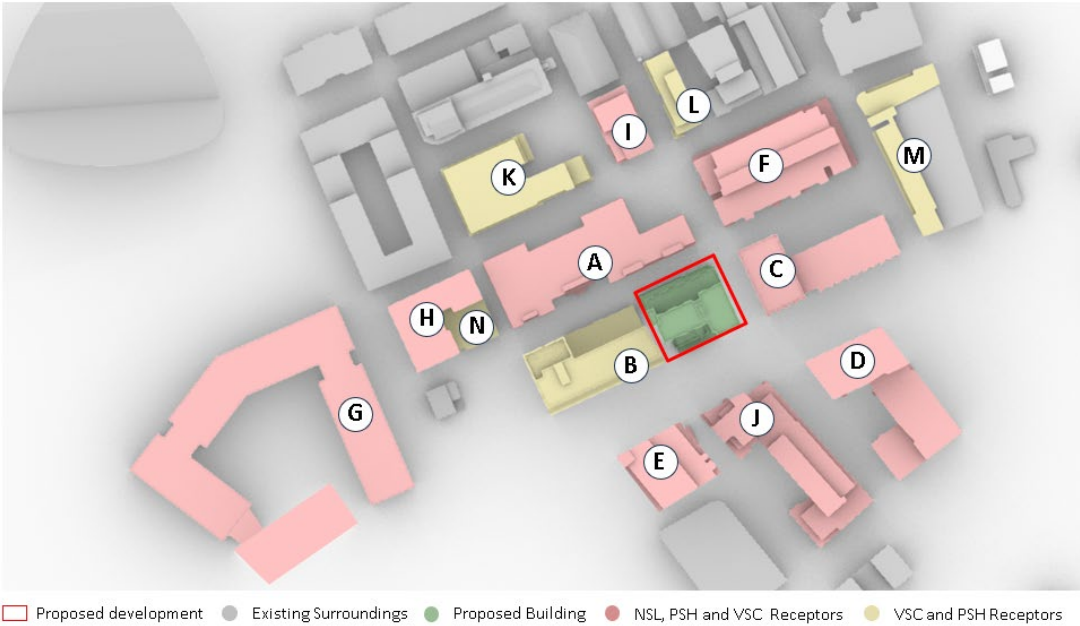
Receptor ID	Description/Location	Sensitivity	Building Use
A	Northern Angel	High	Residential
B	25 Rochdale Road	Medium	Hospitality
C	Hampton by Hilton	Medium	Hospitality
D	Ancoats gardens	High	Residential
E	10 Rochdale Road	High	Residential

F	Skyline Chambers	High	Residential
G	Corner Building	High	Residential
H	Grey Building	High	Residential
I	Krupa Building	High	Residential
J	12 Rochdale Road	High	Residential
K	Halo Building	High	Residential
L	Sharp Street	High	Residential
M	Courtyard Building	High	Residential
N	11 Dyche St..	High	Residential

Table 7.9: List of Sensitive Receptors – NSL

Receptor ID	Description/Location	Sensitivity	Building Use
A	Northern Angel	High	Residential
C	Hampton by Hilton	Medium	Hospitality
D	Ancoats gardens	High	Residential
E	10 Rochdale Road	High	Residential
F	Skyline Chambers	High	Residential
G	Corner Building	High	Residential
H	Grey Building	High	Residential
I	Krupa Building	High	Residential
J	12 Rochdale Road	High	Residential

Figure 7.2 – Sensitive Receptors Surrounding the Proposed Development (VSC, PSH, NSL)

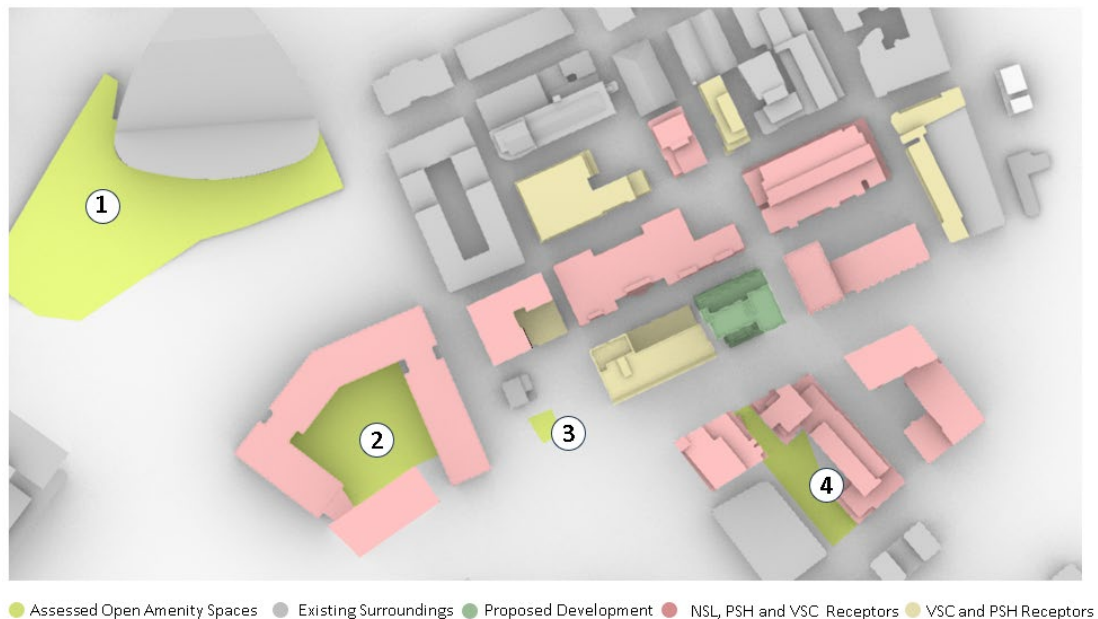


7.63 The receptors selected for the External Overshadowing assessment are listed in Table 7.10 and illustrated in Figure 7.3 below.

Table 7.10: List of Sensitive Receptors – Overshadowing

Receptor ID	Description/Location	Sensitivity
1	The Cooperative Group	High
2	Corner Building courtyard	High
3	Angel Pub	High
4	Skyline chambers	High

Figure 7.3 – Sensitive Receptors Open Amenity Areas Surrounding the Proposed Development



ASSESSMENT OF THE BASELINE SCENARIO

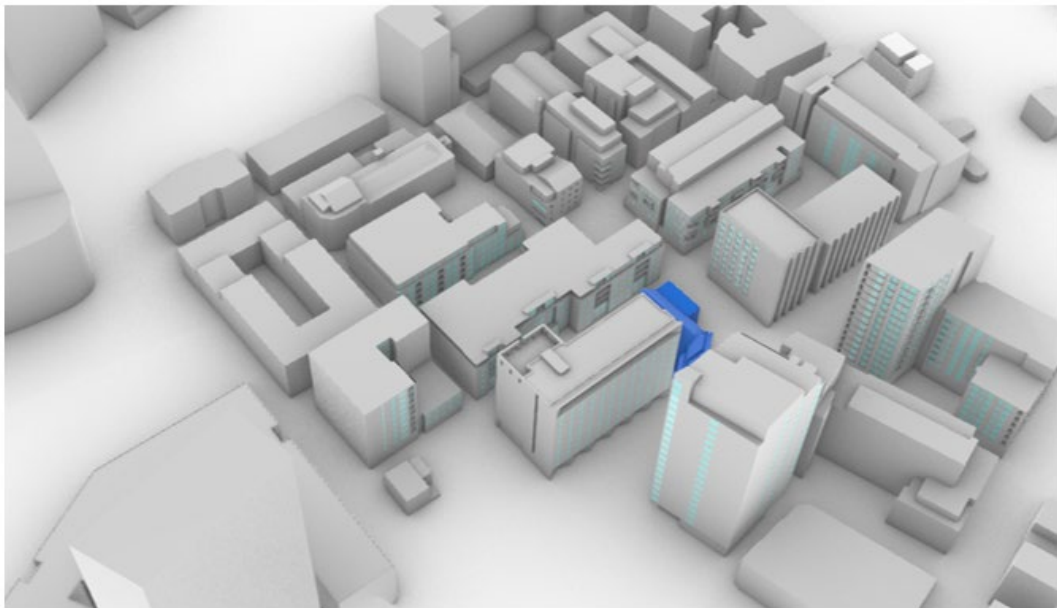
Baseline Conditions

- 7.64 The Baseline assessment has been conducted based on the current Proposed Development site, which includes the existing Baptist Church buildings and their surroundings, as shown in Figure 7.4. This assessment establishes the existing conditions at the site, providing a reference point for evaluating the potential impacts of the Proposed Development.
- 7.65 The baseline model (Figure 7.5) was defined using information collected from various sources, including existing drawings, topographical surveys, mapping data, aerial photographs, and planning portal documents.
- 7.66 It is important to note that the baseline model includes additional buildings which do not appear in the current satellite image. This is because the baseline model incorporates consented schemes that are under construction at the time of this assessment. These details are further discussed in the Assessment Methodology and Significance Criteria section of this chapter.

Figure 7.4 – Existing Baseline – Satellite View



Figure 7.5 – Existing Baseline Model – South-west View



● Existing buildings on site ● Existing Surroundings

BASELINE ASSESSMENT

7.67 This section presents the results of the Daylight, Sunlight and Overshadowing Assessments for the baseline model. Detailed results can be found in Appendices 7.3 to 7.5.

- 7.68 An assessment of the baseline model (which consists of the existing buildings on the Site and the existing and under construction properties surrounding the site), has been carried out prior to the assessment of the impact of the Proposed Development.

BASELINE DAYLIGHT ASSESSMENT – VSC RESULTS ON ADJACENT WINDOWS

- 7.69 The results of the baseline scenario showed that 926 out of the 1915 windows assessed (48%) are within the recommended daylight criteria, indicating VSC values above 27%. The number of receptors where the criteria are not met is 989 (52%), indicating VSC values below the recommended by the BRE criteria. Windows that are below the VSC criteria are partly due to their own self-shading geometry and/or to the close proximity between buildings, which causes the reduced levels of VSC to some windows.
- 7.70 The VSC results in the baseline scenario are presented in detail in Table 7.11 below.

Table 7.11: Vertical Sky Component (VSC) Results – Baseline Scenario

Receptor		No. of Windows	Above BRE Criteria		Below BRE Criteria	
ID	Description/Location		No.	%	No.	%
A	Northern Angel	153	0	0%	153	100%
B	25 Rochdale Road	146	19	13%	127	87%
C	Hampton by Hilton	40	25	63%	15	38%
D	Ancoats Gardens	544	368	68%	176	32%
E	10 Rochdale Road	311	219	70%	92	30%
F	Skyline Chambers	146	21	14%	125	86%
G	Corner Building	240	184	77%	56	23%
H	Grey building	72	22	31%	50	69%
I	Krupa Building	15	3	20%	12	80%
J	12 Rochdale Road	63	31	49%	32	51%
K	Halo buildings	99	11	11%	88	89%
L	Sharp Street	16	1	6%	15	94%
M	Courtyard buildings	60	22	37%	38	63%
N	11 Dyche St.	10	0	0%	10	100%
Total		1915	926	48%	989	52%

Summary of Findings – Baseline VSC

- 7.71 The baseline scenario results indicate that 52% of the windows assessed do not meet the BRE criteria for Vertical Sky Component (VSC), primarily due to self-shading and close proximity between buildings.

DAYLIGHT ASSESSMENT – NSL RESULTS ON ADJACENT ROOMS

- 7.72 The NSL assessment considered the adjacent properties to the site where internal layout information was available at the time of the study, in line with the BRE Guide. This includes receptors A: Northern Angel, C: Hampton by Hilton, D: Ancoats Gardens, E: 10 Rochdale Road, F: Skyline Chambers, G: Corner Building, H: Grey Building, I: Krupa Building, and J: 12 Rochdale Road.
- 7.73 The results of the baseline scenario showed that 149 out of the 313 rooms assessed (48%) are within the recommended daylight criteria, indicating NSL values above 80%. The number of receptors where the criteria are not met is 164 (52%).
- 7.74 The NSL results in the baseline scenario are presented in Table 7.12 below.

Table 7.12: NSL Results – Baseline Scenario

Receptor		No. of Rooms	Above BRE Criteria		Below BRE Criteria	
ID	Description/Location		No.	%	No.	%
A	Northern Angel	51	14	27%	37	73%
C	Hampton by Hilton	40	40	100%	0	0%
D	Ancoats Gardens	28	24	86%	4	14%
E	10 Rochdale Road	51	38	75%	13	25%
F	Skyline Chambers	53	6	11%	47	89%
G	Corner Building	35	10	29%	25	71%
H	Grey building	24	11	46%	13	54%
I	Krupa Building	7	0	0%	7	100%
J	12 Rochdale Road	24	6	25%	18	75%
Total		313	149	48%	164	52%

Summary of Findings – Baseline NSL

- 7.75 The baseline scenario results show that 52% of the rooms assessed do not meet the BRE criteria for No Sky Line (NSL), highlighting significant areas where daylight access is insufficient.

SUNLIGHT ASSESSMENT – PSH RESULTS ON ADJACENT WINDOWS

- 7.76 In accordance with the BRE Guide, spaces facing the site and within 90° of due south were assessed for sunlight availability.
- 7.77 The results for the Probable Sunlight Hours (APSH and WPSH) assessment of the baseline scenario showed that 729 out of the 1182 windows assessed (62%) are above the minimum criteria set in the BRE Guide for sunlight availability during the whole year, including the minimum recommended for winter months. The number of receptors where the criteria are not met is 453 (38%), indicating APSH values below 25% and/or WPSH values below 5%.
- 7.78 The PSH results in the baseline scenario are presented in Table 7.13 below.

Table 7.13: PSH Results – Baseline Scenario

Receptor		No. of Windows	Above BRE Criteria		Below BRE Criteria	
ID	Description/Location		No.	%	No.	%
A	Northern Angel	153	30	20%	123	80%
B	25 Rochdale Road	118	94	80%	24	20%
C	Hampton by Hilton	40	9	23%	31	78%
D	Ancoats Gardens	260	205	79%	55	21%
E	10 Rochdale Road	87	85	98%	2	2%
F	Skyline Chambers	146	66	45%	80	55%
G	Corner Building	105	90	86%	15	14%
H	Grey building	64	44	69%	20	31%
I	Krupa Building	15	11	73%	4	27%
J	12 Rochdale Road	9	0	0%	9	100%
K	Halo buildings	99	27	27%	72	73%
L	Sharp Street	16	8	50%	8	50%
M	Courtyard buildings	60	50	83%	10	17%
N	11 Dyche st.	10	10	100%	0	0%
Total		1182	729	62%	453	38%

Summary of Findings – Baseline PSH

- 7.79 The baseline scenario results indicate that 38% of the windows assessed do not meet the BRE criteria for Probable Sunlight Hours (PSH), indicating a considerable number of windows with inadequate sunlight availability.

OVERSHADOWING ASSESSMENT OF OPEN AMENITY AREAS - RESULTS ON ADJACENT AMENITY AREAS

- 7.80 In relation to the Overshadowing Assessment of open amenity areas, all the open spaces of the properties adjacent to the Proposed Development have been assessed.
- 7.81 The results for the baseline scenario indicated that three out of four (75%) of the existing adjacent open amenity areas satisfy the BRE criteria, i.e., they receive at least two hours of sunlight on the 21st of March on at least 50% of the area.
- 7.82 The overshadowing results in the baseline scenario are presented in Table 7.14.

Table 7.14: External Overshadowing Results – Baseline Scenario

Receptor ID	Description/Location	Area sees at least 2 hours of sun on 21 March (%)	Above BRE Criteria?
1	The Cooperative group- Amenity spaces	99%	Yes
2	Corner Building - Courtyard	16.9%	No
3	Angel pub amenity space	100%	Yes
4	Skyline central amenity space	82.93%	Yes

Summary of Findings – Baseline Overshadowing of Open Spaces

- 7.83 The baseline scenario results show that 25% of the adjacent open amenity areas do not meet the BRE criteria for sunlight exposure, suggesting that less than half of these areas receive insufficient sunlight.

ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS – PROPOSED SCENARIO

Demolition and Construction

- 7.84 The effects during the Site preparation, earthworks, and construction phase have not been quantitatively assessed as the impacts will be temporary and variable. The assessment of effects has primarily focused on comparing the baseline scenario and the completed Proposed Development, as these impacts are permanent. As the demolition and construction of the Proposed Development progress, the availability and obstruction of natural light will vary, gradually adjusting to that of the completed Proposed Development.
- 7.85 During periods of demolition, as the site becomes relatively free of obstructions, there will be greater levels of daylight and sunlight to existing surrounding buildings. However, as construction develops, the new structures' obstruction to daylight and

sunlight will gradually increase until reaching their completed condition. The effects of the completed conditions are described below.

Completed and Operational Development

- 7.86 This section presents the results of the Daylight, Sunlight and Overshadowing Assessments for the proposed scenario (which consists of the Proposed Development on the site and the existing properties surrounding the Site). Detailed results can be found in Appendices 7.3 to 7.5.
- 7.87 It should be noted that, to correctly interpret the results of the impact assessment, consideration must be given to the fact that the baseline scenario is assessed based on absolute criteria using the recommended levels for daylight sunlight and overshadowing, whereas the results of the proposed scenario also account for the ratio of impact between the baseline and the proposed scenario. This means that, in accordance with the guidelines, the criteria in the proposed scenario are met if the assessed receptors either achieve the recommended values or if the reduction caused is within 20% of the baseline condition, which explains why in some cases the proposed scenario presents a higher passing rate than the baseline.

Daylight Assessment - VSC Results on Adjacent Windows

- 7.88 The Vertical Sky Component (VSC) assessment for the proposed scenario indicates significant variations in daylight availability across different receptors. According to the BRE guidelines, a VSC value of 27% or greater is recommended to maintain good levels of daylight. The results indicate that out of the 1915 windows assessed, 1516 windows (79.2%) meet the recommended VSC criteria, while 399 windows (20.8%) fall below the recommended threshold.
- 7.89 The details of the VSC results per receptor in the proposed scenario are shown in Table 7.15 and described below:
- **Northern Angel (Receptor A):** 27 out of 153 windows (17.6%) meet the criteria. **Impact: Major Adverse.** This impact is considered **significant**. In the Baseline Scenario, none of the windows met the VSC criteria, due to self-shading and close proximity between buildings. When a receptor already has poor daylight, even a small change can significantly impact the results.
 - **25 Rochdale Road (Receptor B):** 121 out of 146 windows (82.9%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
 - **Hampton by Hilton (Receptor C):** None of the 40 windows meet the criteria. **Impact: Major Adverse.** This impact is considered **significant**. In the Baseline Scenario, 25 out of 40 windows (63%) met the criteria. The building's close proximity to the Proposed Development means that any reduction can significantly impact the VSC ratio.
 - **Ancoats Gardens (Receptor D):** 504 out of 544 windows (92.6%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
 - **10 Rochdale Road (Receptor E):** 241 out of 311 windows (77.5%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.

- **Skyline Chambers (Receptor F):** 112 out of 146 windows (76.7%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**. In the Baseline Scenario, only 21 out of 146 windows (14%) met the criteria, indicating an improvement in the Proposed Scenario.
- **Corner Building (Receptor G):** All 240 windows (100%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
- **Grey Building (Receptor H):** All 72 windows (100%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
- **Krupa Building (Receptor I):** 14 out of 15 windows (93.3%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
- **12 Rochdale Road (Receptor J):** 9 out of 63 windows (14.3%) meet the criteria. **Impact: Major Adverse.** This impact is considered **significant**. In the Baseline Scenario, 31 out of 63 windows (49%) met the criteria. The affected windows are directly facing the Proposed Development, and existing poor daylight conditions means that any reduction can significantly impact the VSC ratio.
- **Halo Buildings (Receptor K):** 95 out of 99 windows (96%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
- **Sharp Street (Receptor L):** 11 out of 16 windows (68.8%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
- **Courtyard Buildings (Receptor M):** All 60 windows (100%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.
- **11 Dyche St. (Receptor N):** All 10 windows (100%) meet the criteria. **Impact: Minor Adverse.** This impact is considered **insignificant**.

Table 7.15: VSC Results – Proposed Scenario

Receptor		No. of Windows	Above BRE Criteria		Below BRE Criteria (Low)		Below BRE Criteria (Medium)		Below BRE Criteria (High)	
ID	Description /Location		No.	%	No.	%	No.	%	No.	%
A	Northern Angel	153	27	17.6	20	13.1	15	9.8	91	59.5
B	25 Rochdale Road	146	121	82.9	15	10.3	0	0	10	6.8
C	Hampton by Hilton	40	0	0	0	0	3	7.5	37	92.5
D	Ancoats Gardens	544	504	92.6	23	4.2	9	1.7	8	1.5
E	10 Rochdale Road	311	241	77.5	34	10.9	22	7.1	14	4.5
F	Skyline Chambers	146	112	76.7	13	8.9	6	4.1	15	10.3
G	Corner Building	240	240	100	0	0	0	0	0	0
H	Grey Building	72	72	100	0	0	0	0	0	0
I	Krupa Building	15	14	93.3	1	6.7	0	0	0	0
J	12 Rochdale Road	63	9	14.3	0	0	2	3.2	52	82.5
K	Halo Buildings	99	95	96	2	2	1	1	1	1
L	Sharp Street	16	11	68.8	3	18.8	1	6.2	1	6.2
M	Courtyard Buildings	60	60	100	0	0	0	0	0	0
N	11 Dyche St.	10	10	100	0	0	0	0	0	0
Total		1915	1516	79.2	111	5.8	59	3.1	229	12

7.90 The significance of the effects is determined by the percentage of windows meeting the BRE criteria and the magnitude of change. For receptors with high sensitivity, the impact ranges from negligible to major adverse. The results indicate

that several receptors, such as Northern Angel, Hampton by Hilton, and 12 Rochdale Road, experience major adverse impacts due to the high percentage of windows below the VSC threshold. These impacts are considered significant. However, for Northern Angel, the baseline scenario already showed 100% of windows below the criteria, suggesting that the existing conditions are already challenging due to self-shading and close proximity of buildings. Conversely, receptors like Ancoats Gardens, Corner Building, and Grey Building show a high percentage of windows meeting the criteria, resulting in negligible to minor adverse impacts, which are considered insignificant.

- 7.91 These findings highlight the varying degrees of daylight obstruction across different receptors. For receptors with significant impacts, such as Northern Angel and Hampton by Hilton, the existing baseline conditions already indicate substantial daylight limitations, which are further influenced by the Proposed Development. This context helps to understand the significant impacts observed in these areas. Additionally, when a receptor already has poor daylight, even a small change can significantly impact the results with regard to the ratio. This highlights the sensitivity of receptors with existing low daylight levels, to further reductions.
- 7.92 It is also important to note that The BRE Guide recommends that the guidelines are applied flexibly, considering factors such as the presence of other sources of skylight or sunlight in the affected room, and situations where an alternative, less stringent guideline might be appropriate. Examples include when there is an overhang above the window (as is the case for Receptors A and J) or when the window is unusually close to the boundary (as is the case for Receptors A, C, and J). These considerations allow for a more objective assessment, taking into account the unique characteristics and requirements of each receptor.

Summary of Findings – Proposed Scenario VSC

- 7.93 The Vertical Sky Component (VSC) assessment for the proposed scenario shows that 79.2% of the windows meet the BRE criteria, indicating that the majority of receptors remain unaffected.
- 7.94 Additionally, only windows facing the site were assessed, meaning that the untested windows are expected to have a negligible impact as well. However, significant adverse impacts are noted for receptors such as Northern Angel, Hampton by Hilton, and 12 Rochdale Road, where a high percentage of windows fall below the VSC threshold. It is important to note that Hampton by Hilton is a hotel, which unlike houses, has a lower expectation for daylight.
- 7.95 These findings highlight the varying degrees of daylight obstruction across different receptors, with some experiencing major adverse impacts due to existing poor daylight conditions which the Proposed Development influences further. The BRE Guide allows for flexibility in applying the criteria, considering factors like overhangs and proximity to boundaries, which can affect the assessment outcomes.

Daylight Assessment – (NSL) Results on Adjacent Rooms

- 7.96 The NSL assessment considered the adjacent properties to the site where internal layout information was available at the time of the study, in line with the BRE Guide. This includes receptors A: Northern Angel, C: Hampton by Hilton, D: Ancoats

Gardens, E: 10 Rochdale Road, F: Skyline Chambers, G: Corner Building, H: Grey Building, I: Krupa Building, and J: 12 Rochdale Road.

- 7.97 The NSL results in the proposed scenario shown in Table 6-2 indicate that, the majority of the rooms assessed meet the BRE criteria indicating that these would remain unaffected. However for a significant number of the considered rooms, the No-Skyline would fall below the BRE criteria after the introduction of the Proposed Development. Specifically, Northern Angel (Receptor A) and Hampton by Hilton (Receptor C) have a substantial number of rooms below the criteria, highlighting significant daylight limitations. Northern Angel has 41% of rooms meeting the criteria in the Proposed Scenario, compared to 27% in the baseline scenario, with 8% experiencing low impact and 51% experiencing high impact. Hampton by Hilton has only 20% of rooms meeting the criteria in the proposed scenario, compared to 100% in the baseline scenario, with 20% experiencing medium impact and 60% experiencing high impact.
- 7.98 Conversely, Ancoats Gardens (Receptor D) demonstrates better daylight distribution, with 89% of rooms meeting the criteria in the proposed scenario, compared to 86% in the baseline scenario, 4% experiencing low impact, and 7% experiencing medium impact. 10 Rochdale Road (Receptor E) also shows a relatively positive outcome, with 78% of rooms meeting the criteria in the proposed scenario, compared to 75% in the baseline scenario, 8% experiencing low impact, and 14% experiencing medium impact. Skyline Chambers (Receptor F) performs well, with 91% of rooms meeting the criteria in the proposed scenario, compared to 11% in the baseline scenario, 8% experiencing low impact, and 2% experiencing medium impact.
- 7.99 Corner Building (Receptor G), Grey Building (Receptor H), and Krupa Building (Receptor I) have all rooms meeting the criteria (100%) in the proposed scenario, indicating no significant impact. 12 Rochdale Road (Receptor J), however, has only 38% of rooms meeting the criteria in the proposed scenario, compared to 25% in the baseline scenario, with 17% experiencing medium impact and 46% experiencing high impact.
- 7.100 The details of the NSL results per receptor in the proposed scenario are shown in Table 7.16 and illustrated below:
- **Northern Angel (Receptor A):** 21 out of 51 rooms (41%) meet the criteria. Impact: Major Adverse. This impact is considered significant.
 - **Hampton by Hilton (Receptor C):** 8 out of 40 rooms (20%) meet the criteria. Impact: Major Adverse. This impact is considered significant.
 - **Ancoats Gardens (Receptor D):** 25 out of 28 rooms (89%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.
 - **10 Rochdale Road (Receptor E):** 40 out of 51 rooms (78%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.
 - **Skyline Chambers (Receptor F):** 48 out of 53 rooms (91%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.

- **Corner Building (Receptor G):** All 35 rooms (100%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.
- **Grey Building (Receptor H):** All 24 rooms (100%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.
- **Krupa Building (Receptor I):** All 7 rooms (100%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.
- **12 Rochdale Road (Receptor J):** 9 out of 24 rooms (38%) meet the criteria. Impact: Major Adverse. This impact is considered significant.

Table 7.16: NSL Results – Proposed Scenario

Receptor		No. of Rooms	Above BRE Criteria		Below BRE Criteria (Low)		Below BRE Criteria (Medium)		Below BRE Criteria (High)	
ID	Description /Location		No.	%	No.	%	No.	%	No.	%
A	Northern Angel	51	21	41	4	8	0	0	26	51
C	Hampton by Hilton	40	8	20	0	0	8	20	24	60
D	Ancoats Gardens	28	25	89	1	4	2	7	0	0
E	10 Rochdale Road	51	40	78	4	8	7	14	0	0
F	Skyline Chambers	53	48	91	4	8	1	2	0	0
G	Corner Building	35	35	100	0	0	0	0	0	0
H	Grey Building	24	24	100	0	0	0	0	0	0
I	Krupa Building	7	7	100	0	0	0	0	0	0
J	12 Rochdale Road	24	9	38	0	0	4	17	11	46
Total		313	217	69	13	4	22	7	61	19

Summary of Findings – Proposed Scenario NSL

7.101 Overall, the NSL results indicate that 69% of the receptors remain unaffected, with the majority of rooms meeting the BRE criteria. Additionally, only rooms facing the site were assessed, meaning that the untested rooms are expected to have a negligible impact as well. However, the impact on daylight distribution is significant

for Northern Angel (Receptor A), Hampton by Hilton (Receptor C), and 12 Rochdale Road (Receptor J), with major adverse effects. It is important to note that Hampton by Hilton is a hotel, which unlike houses, has a lower expectation for daylight. The impact is minor adverse for 10 Rochdale Road (Receptor E) and minor adverse for the remaining receptors, indicating that the overall effect is significant.

- 7.102 These findings coincide with the VSC results, where the same receptors show a significant impact, mainly due to the presence of an overhang above some windows in Receptors A and J, and the windows being in close proximity to the site boundary, as is the case for Receptors A, C, and J. These considerations allow for a more nuanced judgement, taking into account the unique characteristics and requirements of each receptor.

Daylight Assessment – Combined VSC & NSL Results On Adjacent Rooms

- 7.103 To ensure adequate daylighting, a room must meet both the NSL and Vertical Sky Component (VSC) criteria. The NSL criterion requires that the area of the working plane with direct view of the sky should not decrease by more than 20% compared to the existing condition. The VSC criterion stipulates that at least one primary window must maintain a VSC of at least 27% and should not experience a reduction exceeding 20%.
- 7.104 The details of the combined NSL and VSC assessment results per receptor in the Proposed Scenario shown in are illustrated below:

Northern Angel (Receptor A):

- **NSL Results:** 21 out of 51 rooms (41%) meet the criteria. Impact: Major Adverse.
- **Combined NSL and VSC Results:** 6 out of 51 rooms (11.8%) meet the criteria.
- Considering the combined criteria, the passing rate for Northern Angel has significantly reduced from 41% to 11.8%, making the impact more significant.

Hampton by Hilton (Receptor C):

- **NSL Results:** 8 out of 40 rooms (20%) meet the criteria. Impact: Major Adverse.
- **Combined NSL and VSC Results:** 0 out of 40 rooms (0%) meet the criteria.
- For Hampton by Hilton, the passing rate has dropped to 0%, indicating a more significant impact when considering both criteria.

Ancoats Gardens (Receptor D):

- **NSL Results:** 25 out of 28 rooms (89%) meet the criteria. Impact: Minor Adverse.
- **Combined NSL and VSC Results:** 25 out of 28 rooms (89.3%) meet the criteria.

- Ancoats Gardens shows a consistent passing rate, with a negligible change when combining the criteria. Therefore, the impact remains insignificant.

10 Rochdale Road (Receptor E):

- **NSL Results:** 40 out of 51 rooms (78%) meet the criteria. Impact: Minor Adverse.
- **Combined NSL and VSC Results:** 32 out of 51 rooms (62.7%) meet the criteria.
- For 10 Rochdale Road, the passing rate has reduced from 78% to 62.7%, indicating a more significant impact.

Skyline Chambers (Receptor F):

- **NSL Results:** 48 out of 53 rooms (91%) meet the criteria. Impact: Minor Adverse.
- **Combined NSL and VSC Results:** 43 out of 53 rooms (81.1%) meet the criteria.
- Skyline Chambers shows a reduction in the passing rate from 91% to 81.1%, however, the impact remains insignificant.

Corner Building (Receptor G):

- **NSL Results:** All 35 rooms (100%) meet the criteria. Impact: Minor Adverse.
- **Combined NSL and VSC Results:** All 35 rooms (100%) meet the criteria.
- The Corner Building maintains a 100% passing rate, indicating no change in impact. The impact remains insignificant.

Grey Building (Receptor H):

- **NSL Results:** All 24 rooms (100%) meet the criteria. Impact: Minor Adverse.
- **Combined NSL and VSC Results:** All 24 rooms (100%) meet the criteria.
- The Grey Building also maintains a 100% passing rate, indicating no change in impact. The impact remains insignificant.

Krupa Building (Receptor I):

- **NSL Results:** All 7 rooms (100%) meet the criteria. Impact: Minor Adverse.
- **Combined NSL and VSC Results:** 4 out of 7 rooms (57.1%) meet the criteria.
- For Krupa Building, the passing rate has reduced significantly from 100% to 57.1%, making the impact more significant.

12 Rochdale Road (Receptor J):

- **NSL Results:** 9 out of 24 rooms (38%) meet the criteria. Impact: Major Adverse.

- **Combined NSL and VSC Results:** 8 out of 24 rooms (33.3%) meet the criteria.
- For 12 Rochdale Road, the passing rate has slightly reduced from 38% to 33.3%, indicating a more significant impact.

Table 7.17: VSC + NSL Results – Proposed Scenario

Receptor		No. of Rooms	Above BRE Criteria		Below BRE Criteria	
ID	Description/Location		No.	%	No.	%
A	Northern Angel	51	6	11.8	45	88.2
C	Hampton by Hilton	40	0	0	40	100
D	Ancoats Gardens	28	25	89.3	3	10.7
E	10 Rochdale Road	51	32	62.7	19	37.3
F	Skyline Chambers	53	43	81.1	10	18.9
G	Corner Building	35	35	100	0	0
H	Grey building	24	24	100	0	0
I	Krupa Building	7	4	57.1	3	42.9
J	12 Rochdale Road	24	8	33.3	16	66.7
Total		313	177	57	136	43

Summary of Findings – Proposed Scenario VSC & NSL Combined

- 7.105 Overall, the combined NSL and VSC results show that out of 313 rooms, 177 rooms (57%) meet the criteria, indicating that the majority of rooms remain unaffected.
- 7.106 Additionally, only rooms facing the Site were assessed, meaning that the untested rooms are expected to have a negligible impact as well. However, considering that the criteria require passing both the NSL and at least one main window to pass the VSC criteria, the passing rate has reduced in several cases compared to the NSL results, making the overall impact more significant for certain receptors.
- 7.107 This combined assessment highlights the varying degrees of impact on daylight distribution across different receptors, with some experiencing significant adverse effects while the majority show minor or no adverse effects.

Sunlight Assessment – PSH Results on Adjacent Windows

- 7.108 The assessment of probable sunlight hours (PSH) for adjacent windows in the proposed scenario is summarised in Table 7.18. This table evaluates the impact on sunlight exposure for various receptors, considering the BRE criteria for acceptable sunlight levels.

7.109 The results show that; While 78.5% of the assessed windows meet the BRE criteria, a significant proportion of windows, particularly in Receptors A, C, F, I, and L, experience adverse impacts on sunlight exposure.

7.110 The details of the PSH results per receptor are illustrated below:

- **Northern Angel (Receptor A):** 23 out of 153 windows (15%) meet the criteria. Impact: Major Adverse. This impact is considered significant.
- **25 Rochdale Road (Receptor B):** 118 out of 118 windows (100%) meet the criteria. Impact: None. This impact is considered insignificant.
- **Hampton by Hilton (Receptor C):** 0 out of 40 windows (0%) meet the criteria. Impact: Major Adverse. This impact is considered significant.
- **Ancoats Gardens (Receptor D):** 260 out of 260 windows (100%) meet the criteria. Impact: None. This impact is considered insignificant.
- **10 Rochdale Road (Receptor E):** 87 out of 87 windows (100%) meet the criteria. Impact: None. This impact is considered insignificant.
- **Skyline Chambers (Receptor F):** 89 out of 146 windows (61%) meet the criteria. Impact: Moderate Adverse. This impact is considered significant.
- **Corner Building (Receptor G):** 105 out of 105 windows (100%) meet the criteria. Impact: None. This impact is considered insignificant.
- **Grey Building (Receptor H):** 61 out of 64 windows (95.3%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.
- **Krupa Building (Receptor I):** 6 out of 15 windows (40%) meet the criteria. Impact: Major Adverse. This impact is considered significant.
- **12 Rochdale Road (Receptor J):** 9 out of 9 windows (100%) meet the criteria. Impact: None. This impact is considered insignificant.
- **Halo Buildings (Receptor K):** 90 out of 99 windows (90.9%) meet the criteria. Impact: Minor Adverse. This impact is considered insignificant.
- **Sharp Street (Receptor L):** 10 out of 16 windows (62.5%) meet the criteria. Impact: Moderate Adverse. This impact is considered significant.
- **Courtyard Buildings (Receptor M):** 60 out of 60 windows (100%) meet the criteria. Impact: None. This impact is considered insignificant.
- **11 Dyche St. (Receptor N):** 10 out of 10 windows (100%) meet the criteria. Impact: None. This impact is considered insignificant.

Factors Influencing the Impacts on Sunlight

7.111 Receptor A is in very close proximity to the proposed site, which significantly affects its sunlight exposure. For Receptor C, the assessed windows are almost oriented west and are included in the assessment due to a slight angle in the building orientation. Consequently, these windows do not have high exposure to the sun in the baseline

scenario. Similarly, for Receptor F, many windows are west-oriented and in close proximity to the Site, resulting in less access to sunlight.

- 7.112 Receptors I and L are short buildings with a limited number of tested windows, meaning any small obstruction can significantly impact the percentage of windows falling below the criteria. Additionally, the majority of these windows do not meet the criteria in the baseline scenario, so even a small change can appear significant.

Summary of Findings – Proposed Scenario PSH

- 7.113 The assessment of probable sunlight hours (PSH) for the proposed scenario shows that 78.5% of the windows assessed meet the BRE criteria, indicating that the majority of receptors remain unaffected.
- 7.114 Additionally, only windows facing the Site were assessed, meaning that the untested windows are expected to have a negligible impact as well. However, significant adverse impacts are noted for Northern Angel, Hampton by Hilton, Skyline Chambers, Krupa Building, and Sharp Street. It is important to note that Hampton by Hilton is a hotel, which unlike houses, has a lower expectation for daylight. These impacts are primarily due to the close proximity of these buildings to the Proposed Development and their existing poor sunlight conditions.
- 7.115 The results highlight the varying degrees of sunlight obstruction across different receptors, with some experiencing major adverse impacts due to the Proposed Development's influence. Factors such as building orientation and proximity to the Site significantly affect sunlight exposure, especially for receptors with already low baseline scenario sunlight levels.

Table 7.18: PSH Results – Proposed Scenario

Receptor		No. of Window	Above BRE Criteria		Below BRE Criteria (Low)		Below BRE Criteria (Medium)		Below BRE Criteria (High)	
ID	Description /Location		No.	%	No.	%	No.	%	No.	%
A	Northern Angel	153	23	15	2	1.3	7	4.6	121	79.1
B	25 Rochdale Road	118	118	100	0	0	0	0	0	0
C	Hampton by Hilton	40	0	0	0	0	0	0	40	100
D	Ancoats Gardens	260	260	100	0	0	0	0	0	0
E	10 Rochdale Road	87	87	100	0	0	0	0	0	0

F	Skyline Chambers	146	89	61	5	3.4	9	6.2	43	29.5
G	Corner Building	105	105	100	0	0	0	0	0	0
H	Grey building	64	61	95.3	1	1.6	2	3.1	0	0
I	Krupa Building	15	6	40	1	6.7	3	20	5	33.3
J	12 Rochdale Road	9	9	100	0	0	0	0	0	0
K	Halo Buildings	99	90	90.9	2	2	2	2	5	5.1
L	Sharp Street	16	10	62.5	1	6.2	2	12.5	3	18.8
M	Courtyard Buildings	60	60	100	0	0	0	0	0	0
N	11 Dyche St.	10	10	100	0	0	0	0	0	0
Total		1182	928	78.5	12	1	25	2.1	217	18.4

Overshadowing Assessment of Open Amenity Areas - Results on Adjacent Amenity Areas

- 7.116 The overshadowing assessment of open amenity areas in the proposed scenario evaluates the impact of the Proposed Development on sunlight exposure for adjacent amenity spaces. The results are summarized in Table 7.19, which compares the baseline scenario and proposed scenario to determine the ratio of impact and whether the areas meet the BRE criteria.
- 7.117 **The Cooperative Group - Amenity Spaces:** In the baseline scenario, 99% of the amenity space receives adequate sunlight, and this remains unchanged in the proposed scenario. The ratio of impact is 1, indicating no change. This area meets the BRE criteria. The impact is considered insignificant.
- 7.118 **Corner Building - Courtyard:** The courtyard of the Corner Building receives 16.9% sunlight in both the baseline scenario and proposed scenario, with a ratio of impact of 1. This area also meets the BRE criteria. The impact is considered insignificant.
- 7.119 **Angel Pub Amenity Space:** The amenity space at the Angel Pub receives 100% sunlight in both scenarios, maintaining a ratio of impact of 1. This area meets the BRE criteria. The impact is considered insignificant.
- 7.120 **Skyline Central Amenity Space:** In both the baseline scenario and proposed scenario, 82.93% of the Skyline Central amenity space receives adequate sunlight, with a ratio of impact of 1. This area meets the BRE criteria. The impact is considered insignificant.

Table 7.19: External Overshadowing Results – Proposed Scenario

Receptor ID	Description/Location	Baseline (%)	Proposed (%)	Ratio of Impact	Above BRE Criteria?
1	The Cooperative group- Amenity spaces	99%	99%	1	Yes
2	Corner Building - Courtyard	16.9%	16.9%	1	Yes
3	Angel pub amenity space	100%	100%	1	Yes
4	Skyline central amenity space	82.93%	82.93%	1	Yes

Summary of Findings – Proposed Scenario Overshadowing of Open Spaces

- 7.121 In this assessment, all the evaluated amenity areas meet the BRE criteria, either by achieving at least 50% sunlight on 21st of March or by retaining at least 0.8 of their former value. Therefore, the overshadowing impact on these areas is considered negligible, indicating that the Proposed Development will not significantly affect the sunlight exposure of these open amenity spaces. Overall, with 100% of the amenity spaces meeting the BRE criteria for Overshadowing, the effect is considered insignificant.

SUMMARY OF EFFECTS

- 7.122 The assessment of Vertical Sky Component (VSC), Probable Sunlight Hours (PSH), combined NSL and VSC, and overshadowing of open amenity areas has identified a combination of insignificant and significant adverse impacts on Daylight and Sunlight. Receptors such Northern Angel, Hampton by Hilton, 12 Rochdale Road, and Krupa Building experience more significant adverse impact.

Summary of Significant Effects

- 7.123 Northern Angel (Receptor A):
- The combined NSL and VSC assessment shows a significant reduction in the passing rate from 41% to 11.8%.
 - The close proximity of the development and existing poor daylight conditions (as evidenced by the Baseline Scenario where 100% of windows failed to meet the criteria) exacerbate the issue.
- 7.124 **Hampton by Hilton (Receptor C):**
- The combined NSL and VSC assessment shows a significant reduction in the passing rate, dropping to 0%.

- The building's west-facing orientation and proximity to the development further exacerbate the impact on daylight levels.

7.125 **12 Rochdale Road (Receptor J):**

- Both the NSL and combined NSL and VSC assessments indicate a major adverse impact.
- The direct alignment of the building with the development, coupled with existing poor daylight conditions, significantly reduces sunlight access.

7.126 **Krupa Building (Receptor I):**

- The combined NSL and VSC assessment shows a significant reduction in the passing rate from 100% to 57.1%.
- The building's short height and limited number of tested windows make it particularly vulnerable to shadowing, especially considering the low performance in the Baseline Scenario.

7.127 **10 Rochdale Road (Receptor E):**

- The combined NSL and VSC assessment shows a reduction in the passing rate from 78% to 62.7%, indicating a more significant impact.

7.128 **Skyline Chambers (Receptor F):**

- The PSH assessment indicates a moderate adverse impact, with a reduction in sunlight access due to the building's west-facing orientation and proximity to the Site.

7.129 **Sharp Street (Receptor L):**

- The PSH assessment indicates a moderate adverse impact, with a reduction in sunlight access for a significant proportion of windows. The building's short height and limited number of tested windows also contribute to its vulnerability.

Mitigation

7.130 Although certain receptors, such as Northern Angel, Hampton by Hilton, and 12 Rochdale Road, experience significant impacts due to their close proximity to the Site and existing poor daylight conditions, it is important to note that the majority of receptors assessed remain unaffected by the development. It is also important to note that Hampton by Hilton is a hotel, which unlike houses, has a lower expectation of daylight.

7.131 Potential strategies could involve optimizing the building's design to minimize shadowing, such as adjusting the building's height or orientation. For example, incorporating setbacks on upper floors or using reflective materials to enhance light distribution. However, given the specific context and constraints of the development, the implementation of such measures may not be practical.

- 7.132 The BRE Guide explicitly recognizes that deviations from the guidance may be unavoidable in such settings, particularly when the surrounding area is already constrained by low levels of daylight or sunlight. Its criteria are not absolute standards but provide guidance that should be interpreted flexibly, considering the urban context and existing conditions.

LIMITATIONS AND ASSUMPTIONS

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

- **Data Limitations:** The assessment relied on available data, including drawings, models, and satellite imagery. In some cases, estimations were necessary, particularly regarding the height and massing of surrounding properties.
- **Scope of Assessment:** The daylight and sunlight impact assessment was conducted in accordance with UK standards and planning requirements but does not constitute a full-scale Right of Light survey.
- **NSL Assessment Limitations:** Due to data limitations, the majority of receptors were not assessed for No-Sky Line (NSL) criteria. This constraint limits the ability to fully assess the impact on specific room uses, particularly those with high daylight expectations, such as kitchens and living rooms. The BRE Guide (2022) at para. 2.1.14 highlights the significance of these spaces, as adverse impacts on their daylighting can be more pronounced. However, without detailed room-level information, a comprehensive assessment of these impacts is not feasible.

- 7.134 It is important to note that while these limitations may affect the precision of the assessment, the overall conclusions drawn from the analysis remain robust and provide a reliable indication of the potential impacts of the development on adjacent properties.

SUMMARY AND CONCLUSIONS

Assessment Overview

- 7.135 The Daylight, Sunlight and Overshadowing (DSO) assessment evaluates the impact of the Proposed Development on surrounding properties, focusing on changes in daylight and sunlight levels. Key metrics include Vertical Sky Component (VSC), No-Sky Line (NSL), and Probable Sunlight Hours (PSH). A comparative analysis was conducted between existing conditions (baseline scenario) and the conditions with the completed Proposed Development (proposed scenario). Sensitive receptors, such as residential properties and open amenity spaces, were identified and assessed.
- 7.136 The results of the baseline scenario are summarised below:

Baseline Scenario Findings

- **Vertical Sky Component (VSC):** The baseline scenario results indicate that 52% of the windows assessed do not meet the BRE criteria for Vertical Sky Component (VSC), primarily due to self-shading and close proximity between buildings.
- **No Sky Line (NSL):** The baseline scenario results show that 52% of the rooms assessed do not meet the BRE criteria for No Sky Line (NSL), highlighting significant areas where daylight access is insufficient.
- **Probable Sunlight Hours (PSH):** The baseline scenario results indicate that 38% of the windows assessed do not meet the BRE criteria for Probable Sunlight Hours (PSH), indicating a considerable number of windows with inadequate sunlight availability.
- **Overshadowing:** The baseline scenario results show that 75% of the adjacent open amenity areas do not meet the BRE criteria for sunlight exposure, suggesting that less than half of these areas receive insufficient sunlight.

7.137 The demolition and construction phases are not assessed in detail as their impacts are temporary and variable. The assessment focuses on the long-term, permanent impacts of the completed development.

7.138 The assessment results of the completed and operational development (proposed scenario) are summarised below:

Proposed Scenario Findings

- **Vertical Sky Component (VSC):** 79.2% of windows meet the BRE criteria, indicating that the majority of receptors remain unaffected. Only windows facing the site were assessed, meaning untested windows are expected to have a negligible impact as well. However, significant adverse impacts are noted for Northern Angel, Hampton by Hilton, and 12 Rochdale Road. Hampton by Hilton is a hotel, which unlike houses, has a lower expectation for daylight.
- **No Sky Line (NSL):** 69% of receptors remain unaffected, with the majority of rooms meeting the BRE criteria. Only rooms facing the Site were assessed, meaning untested rooms are expected to have a negligible impact as well. However, significant impacts are noted for Northern Angel, Hampton by Hilton, and 12 Rochdale Road.
- **Combined (NSL) and (VSC):** 57% of rooms meet the criteria, indicating that the majority remain unaffected. Only rooms facing the site were assessed, meaning untested rooms are expected to have a negligible impact. However, the overall impact is more significant for certain receptors than it is in the NSL assessment.
- **Probable Sunlight Hours (PSH):** 78.5% of windows meet the BRE criteria, indicating that the majority remain unaffected. Only windows facing the site were assessed, meaning untested windows are expected to have a negligible impact. However, significant impacts are noted for Northern Angel, Hampton by Hilton, Skyline Chambers, Krupa Building, and Sharp

Street. Hampton by Hilton is a hotel, which unlike houses, has a lower expectation for daylight.

- **Overshadowing:** All evaluated amenity areas (100%) meet the BRE criteria, indicating they remain unaffected. The overshadowing impact is considered negligible.

Mitigation

- 7.139 Although certain receptors, such as Northern Angel, Hampton by Hilton, and 12 Rochdale Road, experience significant impacts due to their close proximity to the Site and existing poor daylight conditions, it is important to note that the majority of receptors assessed remain unaffected by the development. It is also important to note that Hampton by Hilton is a hotel, which unlike houses, has a lower expectation for daylight.
- 7.140 Potential strategies could involve optimizing the building's design to minimize shadowing, such as adjusting the building's height or orientation. For example, incorporating setbacks on upper floors or using reflective materials to enhance light distribution. However, given the specific context and constraints of the development, the implementation of such measures may not be practical.
- 7.141 In summary, the assessment shows that while some significant adverse impacts on daylight and sunlight levels are identified for a few receptors, such as Northern Angel, Hampton by Hilton, and 12 Rochdale Road, most receptors remain unaffected. These impacts stem from the proximity of certain buildings and existing poor baseline conditions, which are common challenges in dense urban areas.
- 7.142 The BRE Guide's flexibility acknowledges such deviations, particularly in high-density settings. Overshadowing impacts on open spaces are negligible, and potential mitigation strategies are constrained by the site context. The impacts align with expectations for developments in similar urban environments.

Table 7.20: Summary of Effects on All Assessed Receptors – Proposed Scenario

Receptor ID	Description/Location	Sensitivity	VSC Impact	NSL Impact	Combined VSC & NSL Impact	PSH Impact	Overshadowing Impact	Overall Impact
A	Northern Angel	High	Major Adverse	Major Adverse	Major Adverse	Major Adverse	N/A	Significant
B	25 Rochdale Road	Medium	Minor Adverse	N/A	N/A	Negligible	N/A	Insignificant
C	Hampton by Hilton	Medium	Major Adverse	Major Adverse	Major Adverse	Major Adverse	N/A	Significant
D	Ancoats Gardens	High	Minor Adverse	Minor Adverse	Minor Adverse	Negligible	N/A	Insignificant
E	10 Rochdale Road	High	Minor Adverse	Minor Adverse	Moderate Adverse	Negligible	N/A	Insignificant
F	Skyline Chambers	High	Minor Adverse	Minor Adverse	Minor Adverse	Moderate Adverse	N/A	Significant
G	Corner Building	High	Minor Adverse	Minor Adverse	Minor Adverse	Negligible	N/A	Insignificant
H	Grey Building	High	Minor Adverse	Minor Adverse	Minor Adverse	Minor Adverse	N/A	Insignificant
I	Krupa Building	High	Minor Adverse	Minor Adverse	Major Adverse	Major Adverse	N/A	Significant
J	12 Rochdale Road	High	Major Adverse	Major Adverse	Major Adverse	Negligible	N/A	Significant
K	Halo Buildings	High	Minor Adverse	N/A	N/A	Minor Adverse	N/A	Insignificant
L	Sharp Street	High	Minor Adverse	N/A	N/A	Moderate Adverse	N/A	Significant
M	Courtyard Buildings	High	Minor Adverse	N/A	N/A	Negligible	N/A	Insignificant
N	11 Dyche St.	High	Minor Adverse	N/A	N/A	Negligible	N/A	Insignificant
1	The Cooperative Group	High	N/A	N/A	N/A	N/A	Negligible	Insignificant
2	Corner Building courtyard	High	N/A	N/A	N/A	N/A	Negligible	Insignificant
3	Angel Pub	High	N/A	N/A	N/A	N/A	Negligible	Insignificant
4	Skyline Chambers	High	N/A	N/A	N/A	N/A	Negligible	Insignificant

GLOSSARY

Term	Definition
Daylight	Natural light from the sun during the daytime, important for the illumination of indoor spaces.
Sunlight	Direct light from the sun, important for both illumination and thermal comfort.
Overshadowing	The effect of a new development casting shadows on surrounding open spaces, reducing their access to daylight and sunlight.
Sensitive Receptors	Buildings or spaces that are particularly sensitive to changes in daylight, sunlight, and overshadowing, such as residential properties, schools, and open amenity areas.
Habitable Rooms	Rooms within a building that are used for living purposes, such as living rooms, kitchens, and bedrooms, which require good levels of daylight and sunlight.
Baseline / Baseline Scenario	The existing conditions at the site before any development takes place, used as a reference point for assessing the impact of the Proposed Development.
Proposed Scenario	The conditions at the site after the Proposed Development is completed, used to assess the impact on daylight, sunlight, and overshadowing.
Cumulative Scenario	An assessment that considers the combined impact of the Proposed Development along with other consented developments in the vicinity.
Extent of the Study Area	The geographical area around the development site that is considered in the assessment, typically extending up to 300 meters from the site centre.
BRE Guide	The Building Research Establishment's guide titled "Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice," which provides guidelines for assessing daylight, sunlight, and overshadowing impacts.
VSC (Vertical Sky Component)	A measure of the amount of sky visible from the centre of a window, used to assess the availability of daylight.
NSL (No-Sky Line)	A measure of the distribution of daylight within a room, indicating the areas that receive direct skylight.
APSH (Annual Probable Sunlight Hours)	A measure of the amount of sunlight a window is likely to receive over a year, expressed as a percentage of the total possible sunlight hours.
WPSH (Winter Probable Sunlight Hours)	A measure of the amount of sunlight a window is likely to receive during the winter months, expressed as a percentage of the total possible sunlight hours.
PSH (Probable Sunlight Hours)	A measure of the amount of sunlight a window is likely to receive, calculated for both the entire year (APSH) and the winter months (WPSH).

Obstruction Angle	An initial check to identify potential impacts on daylight by measuring the angle of obstruction from a window to the top of a new building or extension.
Magnitude of Change	The extent to which daylight, sunlight, or overshadowing levels are altered by the Proposed Development, categorized as negligible, low, medium, or high.
Significance Criteria	The criteria used to determine the significance of the impact on daylight, sunlight, and overshadowing, based on the sensitivity of receptors and the magnitude of change.

8. GREENHOUSE GAS EMISSIONS

INTRODUCTION

- 8.1 This chapter reports an assessment of the likely significant effects of the former Baptist Church Proposed Development on the global atmosphere through the emission of Greenhouse Gases (GHGs). The chapter is also supported by a Climate Change Resilience Risk Assessment, provided in Appendix 8.1, which sets out an assessment of the Proposed Development's resilience and adaptation to climate change. The chapter and supporting appendices have been prepared by Buro Happold.
- 8.2 This chapter describes the assessment methodology; the baseline conditions; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. This assessment has been undertaken in line with the Institute of Environmental Management and Assessment (IEMA) Guide to Assessing GHG Emissions and Evaluating their Significance 2nd Edition (2022).
- 8.3 The Climate Change Resilience Risk Assessment, provided in Appendix 8.1, sets out an assessment of the Proposed Development's resilience and adaptation to climate change. This assessment follows a risk assessment approach, rather than a traditional assessment of effect significance. This assessment has been undertaken in line with the methodology advocated in the IEMA Guide to Climate Change Resilience and Adaptation 2nd Edition (2020).

RELEVANT LEGISLATION & GUIDANCE

- 8.4 The following legislation, planning policies and guidance are of relevance to the assessment of the effects of the Proposed Development in relation to greenhouse gas (GHG) emissions, and climate change resilience and adaptation.

International

Paris Agreement 2015

- 8.5 The Conference of the Parties (COP) 21 led to the 2015 Paris Agreement, an international treaty with the aim of maintaining the increase in global average temperature to 'well below' 2°C above pre-industrial levels and 'pursue efforts' to limit this further to 1.5°C.
- 8.6 A total of 160 parties, including the UK, made voluntary pledges to reduce emissions by 2030; however the cumulative effect of these would still potentially allow for an estimated warming of 3°C or greater.

The Special Report on Global Warming of 1.5°C, International Panel on Climate Change (IPCC) 2018

- 8.7 The IPCC published a report in response to the 2015 Paris Agreement, to present the impacts of the targeted temperature rise of 1.5°C. The report highlighted that global

emissions must decrease by 45% by 2030 (against a 1990 baseline) to achieve this, and that net zero global emissions (where emissions and removals from the atmosphere are balanced) must be achieved by 2050. They advise that this would require rapid and far-reaching transitions in every sector on an unprecedented scale.

National

The Climate Change Act (2008) & The Climate Change Act (2050 Target Amendment) Order 2019

- 8.8 To support international efforts, the 2008 UK Climate Change Act set a legal GHG target for the year of 2050, to reduce national GHG emissions. The target set by this Act for 2050 is 'at least 80% lower than the 1990 baseline'.
- 8.9 The Act introduced a series of "carbon budgets" to be implemented for successive five-year periods, gradually reducing overall national GHG emissions.
- 8.10 In June 2019 the Climate Change Act was amended to set the overall reduction target by 2050 to 100%, i.e net zero.
- 8.11 According to the Progress in reducing emissions 2024 Report to Parliament, 'The UK has a successful track record of emissions reductions, having met all its targets so far' for its first, second, and third carbon budget, however 'the previous Government signalled a slowing of pace and reversed or delayed key policies. The new Government will have to act fast to hit the country's commitments.' Furthermore, with regards to the UK's 2030 target to reduce emissions by 68% compared to 1990, the report states that 'the country is not on track to hit this target despite a significant reduction in emissions in 2023'.
- 8.12 Section 56 of the Climate Change Act requires the UK Government to undertake a Climate Change Risk Assessment (CCRA) on a five-yearly cycle, with the subsequent development of an adaptation programme to deliver resilience against these risks. This act stipulates that the government must assess 'the risks for the United Kingdom from the current and predicted impacts of climate change'.

Carbon Budgets Order

- 8.13 A series of Orders set the carbon budget for the aforementioned five-year periods. These carbon budgets set a cap on the maximum level of the UK's net carbon emissions for each period. The net UK carbon "account" is defined in section 27 of the Climate Change Act 2008.
- 8.14 There are budgets currently set up to 2037. The UK is currently in the fourth carbon budgetary period (2023-2027), the budget of which is 1,950 MtCO₂e. The UK cannot legally emit more GHGs than this within this budgetary period. The current and future carbon budgets currently set are:
- 2023-2027 1,950 MtCO₂e;

- 2028-2032: 1,725 MtCO₂e; and
- 2032-2037 965 MtCO₂e.

8.15 While budgets are not set beyond this timeframe, there is a legal requirement for the UK to reach 0 MtCO₂e by 2050.

UK Climate Change Risk Assessment (HM Government, 2022)

8.16 The third and most recent UK-wide CCRA was published in January 2022. The document sets out the risks identified and assessed in eight priority risk areas, which are as follows:

- 'Risks to the viability and diversity of terrestrial and freshwater habitats and species from multiple hazards (Priority Risk Area 1)';
- 'Risks to soil health from increased flooding and drought (Priority Risk Area 2)';
- 'Risks to natural carbon stores and sequestration from multiple hazards, leading to increased emissions (Priority Risk Area 3)';
- 'Risks to crops, livestock and commercial trees from multiple climate hazards (Priority Risk Area 4)';
- 'Risks to supply of food, goods and vital services due to climate-related collapse of supply chains and distribution networks (Priority Risk Area 5)';
- 'Risks to people and the economy from climate-related failure of the power system (Priority Risk Area 6)';
- 'Risks to human health, wellbeing and productivity from increased exposure to heat in homes and other buildings (Priority Risk Area 7)';
- 'Multiple risks to the UK from climate change overseas (Priority Risk Area 8)'; and
- 'Additional More Action Needed Risks'

National Planning Policy Framework (NPPF) (MHCLG (formerly DLUHC), December 2024)

8.17 'In determining planning applications, local planning authorities should expect new development to:

- Comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
- take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.'

- 8.18 Section 14 of the NPPF focuses on meeting the challenge of climate change, flooding and coastal change. Paragraph 164 states that new developments should be planned in ways that:

- *'avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through incorporating green infrastructure and sustainable drainage systems.'*; and
- *'help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings in plans should reflect the Government's policy for national technical standards.'*

Other relevant National Planning and Development Strategies

National Planning Practice Guidance (NPPG) (MHCLG (formerly DLUHC), 2024)

- 8.19 The Climate Change Guidance states the importance of planning to consider climate change:

'Effective spatial planning is an important part of a successful response to climate change as it can influence the emission of greenhouse gases. In doing so, local planning authorities should ensure that protecting the local environment is properly considered alongside the broader issues of protecting the global environment. Planning can also help increase resilience to climate change impact through the location, mix and design of development.'

The Building Regulations Part L 2021 Edition

- 8.20 Building regulations Part L1A and Part L2A set out minimum legal requirements for energy efficiency in residential (Part L1A) and non-residential (Part L2A) building construction. These regulations are typically updated every 3 years with new minimum performance benchmarks set. The Proposed Development will have to comply with the relevant version of Part L.

- 8.21 An additional update was issued in February 2023; however, the modifications made within this update are not relevant to the assessment reported in this ES chapter.

Net Zero Strategy: Build Back Greener

- 8.22 On 20th April 2021, the UK Government announced that it 'will set the world's most ambitious climate change target' to reduce emissions by 78% by 2035 compared to 1990 levels as part of its sixth carbon budget.

- 8.23 The Net Zero Strategy includes the following commitments:

- *'Delivering a decarbonised power system by 2035';*

- *'An ambition for 5 GW UK low carbon hydrogen production capacity by 2030';*
- *'Ambition to deliver 6 MtCO₂ per year of industrial CCUS [Carbon Capture, Utilisation and Storage] by 2030, and 9 MtCO₂ per year by 2035';*
- *Ensure the UK's charging infrastructure network is reliable, accessible, and meets the demands of all motorists.*
- *'Making the transition to low carbon buildings affordable and achievable for all by:*
 - *Aiming to phase out the installation of new and replacement natural gas boilers by 2035';*
 - *'Making heat pumps as cheap to buy and run as a gas boiler by growing the heat pump market to support 600,000 installations per year by 2028 and expanding UK manufacturing'; and*
 - *'Consulting on phasing out the dirtiest and most expensive fossil fuels first – new oil, coal and liquefied petroleum gas heating - and replace with low carbon alternatives in non-domestic buildings from 2024 and homes from 2026, following natural appliance replacement cycles'.*

Regional

Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039 (2024)

- 8.24 Places for Everyone (hereafter referred to as PfE) is a 2022-2039 plan for nine Greater Manchester districts with the aim of creating jobs, new homes and sustainable growth. The following policies are relevant to GHG emissions:
- 8.25 Policy JP-S1 states the following: 'To help tackle climate change, development should aim to maximise its economic, social and environmental benefits simultaneously, minimise its adverse impacts, utilise sustainable construction techniques and actively seek opportunities to secure net gains across each of the different objectives. In preparing plans, authorities should make as much use as possible of suitable previously-developed (brownfield) land and vacant buildings to meet development needs.'
- 8.26 Policy JP-S1 additionally states that to 'meet our carbon commitments, we will need to:
- *'Be carbon neutral by 2038*
 - *Hold cumulative carbon dioxide emissions to within our carbon budget*
 - *Initiate a programme of mitigation to reduce emissions including by:*
 - *Significantly upscaling solar photovoltaic energy;*

- Reducing heat demands in homes;
 - Moving away from carbon intensive gas as the primary source of heat;
 - Reducing heating and cooling demand for public and commercial buildings;
 - Increasing biofuel use;
 - Enable sustainable choices for travel and decarbonise transport;
 - Significantly upscaling building retrofit; and
 - Increase the delivery of nature-based solutions and biodiversity net gain.'
- 8.27 Policy JP-S2 states that: 'The aim of delivering a carbon neutral Greater Manchester no later than 2038, with a dramatic reduction in greenhouse gas emissions, will be supported through a range of measures including:
1. Promoting the retrofitting of existing buildings with measures to improve energy efficiency and generate renewable and low carbon energy, heating and cooling;
 2. Promoting the use of life cycle cost and carbon assessment tools to ensure the long-term impacts from development can be captured;
 3. Taking a positive approach to renewable and low carbon energy schemes, particularly schemes that are led by, or meet the needs of local communities;
 4. Increasing the range of nature-based solutions including carbon sequestration through the restoration of peat-based habitats, woodland management, tree-planting and natural flood management techniques;
 5. An expectation that new development will, unless it can be demonstrated that it is not practicable or financially viable;
- a. Be net zero carbon which applies:
- from adoption– to regulated operational carbon emissions;
 - from 2028 - to all emissions 'in construction'.
- 8.28 From 2025, development should also calculate and minimise carbon emissions from unregulated emissions alongside regulated emissions.
- 8.29 Development proposals should set out how this has been achieved in an energy statement in accordance with the energy hierarchy, which in order of importance seeks to:
- i. Minimise energy demand;
 - ii. Maximise energy efficiency;

- iii. Use renewable energy;
- iv. Use low carbon energy; and
- v. Utilise other energy sources.

8.30 From 2025 any residual carbon emissions that cannot be fully mitigated on-site should be offset, in agreement with the relevant local planning authority through a financial contribution to a carbon offset fund.

8.31 As an interim measure, development should be consistent with the 2022 Part L Building Regulations unless superseded by changes to building regulations and/or national or local planning policies.

b. Incorporate adequate electric vehicle charging points, in line with Part S of the Building Regulations, unless superseded by relevant Local Plan policies, to future proof for the likely long-term demand, taking account of the potential maximum energy demand for the site;

c. Where practicable, prioritise connection to a renewable energy/heating/cooling network in the first instance or a low carbon energy/heating/cooling network that is adaptable to non-fossil fuels at a later date;

d. In residential developments, achieve energy demand reductions in terms of space heat demand; hot water energy demand and the delivery of on-site renewable energy generation, in accordance with Table 5.1.

For renewable energy generation priority should be given to PV installation where technically feasible, alternative technologies will be appropriate where the equivalent generation is evidenced.

e. For non-residential developments, achieve at least BREEAM excellent standard (or equivalent) for the 'Ene 01 – reduction of energy use and carbon emissions' category rising to 'BREEAM outstanding' equivalent for ENE 01 from 2028.

f. Include a detailed energy statement to demonstrate via site relevant evidence how the development has sought to maximize reductions in carbon emissions in line with relevant policy targets, including the minimisation of overheating risks and appropriate measures for post occupancy evaluation. Whole life cycle emissions should be considered where possible.

Districts may set out specific carbon emission reduction and energy demand targets within Local Plans.'

8.32 Policy JP-S6 states that: 'The achievement of a circular economy and a zero-waste economy will play a key role in meeting Greater Manchester's ambition of becoming a leading green city region by 2038. The following measures will help achieve this:

- 6. Development and implementation of the Zero Waste Strategy for Greater Manchester which promotes overall reduction in the level of waste

produced and supports resource efficiency within the Plan area in order to gain the maximum value from the things we produce;

7. *Recognition of the role of existing infrastructure in managing our waste and protecting such facilities to ensure adequate waste management capacity is maintained; and*
8. *Using sustainable design and construction techniques to reduce carbon emissions, adapt and future proof to the impact of climate change, reduce and recycle waste and minimise water use.'*

Local Planning Policy

Manchester's Local Development Framework. Core Strategy Development Plan Document (MCC, 2012)

8.33 The Core Strategy was adopted in July 2012. Following the adoption of the PfE document in 2024, some policies in the Core Strategy have been partially replaced by PfE policies previously mentioned, and will not be included in this report. The following spatial objectives relate to the reduction of GHG emissions:

- SO1. Spatial Principles: *'Provide a framework within which the sustainable development of the City can contribute to halting climate change. Within the context of mitigation and adaptation to climate change, the framework will guide the scale and distribution of economic, housing, transport, environmental, health, education and other service and infrastructure investment across the City.'*
- SO6. Environment: *'Protect and enhance both the natural and built environment of the City and ensure the sustainable use of natural resources, in order to mitigate and adapt to climate change, support biodiversity and wildlife, improve air, water and land quality, recreational opportunities and provide networks of high quality green infrastructure, ensuring that the City is inclusive and attractive to residents, workers, investors and visitors. The development of networks of green infrastructure across the City and City Region, together with protecting and enhancing townscape character and securing a high standard of design in all development proposals, will promote healthy, low-carbon lifestyles, contribute to a sense of wellbeing, and help to facilitate the sustainable and inclusive growth of the City.'*

8.34 Policies relevant to GHG emissions are set out below:

8.35 Policy EC 1 Employment and Economic Growth in Manchester states: 'Development proposals should have regard to:

- *Climate change resilience demonstrating how CO2 emissions will be minimised with an aim of zero carbon emissions, through energy efficiency, renewable energy and contributing to low and zero carbon decentralised energy infrastructure;'*

8.36 Policy EC 2 Existing Employment Space states: 'New development should deliver improvements to the quality and accessibility of the centre environment.

Opportunities should be taken to adopt sustainable building design and practises to assist in adapting to climate change'

8.37 Policy EN 4 Reducing CO2 Emissions by Enabling Low and Zero Carbon Development states: 'The Council will seek to reduce fuel poverty and decouple growth in the economy, growth in CO2 emissions, and rising fossil fuel prices, through the following actions:'

- *'Wherever possible new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies.'*
- *'Where possible new development and retrofit projects will be used as a mechanism to help improve energy efficiency and provide low and zero carbon energy supplies to existing buildings.'*
- *'Where appropriate new development and retrofit projects will be required to connect to and/or make contributions to low or zero carbon energy schemes and/or to incorporate provision to enable future connection to any existing / potential decentralised energy schemes.'*
- *'The use of building materials with low embodied carbon in new development and refurbishment schemes.'*

8.38 Policy EN 6 Target Framework for CO2 reductions from low or zero carbon energy supplies states: 'Applications for residential development of 10 or more units and all other development over 1,000 sq m will be expected as a minimum to meet the target shown in Tables 12.1 or 12.2 , unless this can be shown not to be viable. This should be demonstrated through an energy statement, submitted as part of the Design and Access Statement. Such a statement will be expected to set out the projected regulated energy demand and associated CO2 emissions for all phases of the development.'

8.39 Following the adoption of the PfE document in 2024, 'Tables 12.1' and '12.2' have been replaced by PfE Policy JP-S2 (see section 1.25) and have not been included within this report.

8.40 Policy EN 6 also states: 'The energy statement will be required to be submitted at the outset of any proposed development (outline application or before). Developers will be permitted to use green infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO2 mitigation, subject to the energy statement incorporating evidence such as modelling to demonstrate compliance.'

Manchester City Council Climate Change Action Plan 2020-2025

8.41 The Manchester City Council (MCC) Climate Change Action Plan sets out MCC's commitments to tackling climate change from 2020-2025 and builds on previous plans over the last decade.

- 8.42 It summarises the specific actions which are required to ensure that MCC reduces its direct emissions by at least 50% by 2025 (compared to 2019/20) whilst encouraging the wider city to do the same, stating that 'The Council also recognises the importance of supporting and influencing our residents and organisations to take action to reduce their direct and indirect CO₂ emissions and to adapt to the changing climate.'
- 8.43 Commitments that MCC are making related to climate change include:
- *'Deliver at least a 50% reduction in carbon emissions from our buildings, energy and transport by 2025 (from circa 30-32,000 tonnes in 2019/20 to circa 15-16,000 tonnes in 2024/25) via a 13% year on year reduction.*
 - *Report quarterly on progress against the actions in the plan and provide quantitative reports on data in tonnes of CO₂.*
 - *Become zero carbon by 2038 at the latest (based on the Tyndall Centre for Climate Research definition of zero which is at least a 95% reduction i.e. a reduction of 35,547 tonnes CO₂ from the 2018/19 total which would mean that the Council's direct emissions in 2037/38 would be less than 1,871 tonnes CO₂)'*
- 8.44 In 2022, the Action Plan was refreshed to 'show progress made to date, set out new milestones and include new actions, to ensure the Council is remaining on track in reducing its own carbon emissions and importantly, leading by example, giving renewed focus on the City-wide actions, the Council's leadership role, and helping others to take action'.
- 8.45 Commitments stated in this revised version of the action plan include:
- *'Support building retrofit and energy generation across the city's buildings and ensure all future development across the city is as close to zero carbon as possible.'*
 - *'To support external stakeholders to adopt more sustainable practices, including food and reducing the use of Single Use Plastics on Council land.'*
 - *'Ensure that the city's infrastructure is resilient to climate change and that nature-based solutions are used to combat issues such as flooding. Develop an intelligence led approach to tree and hedge planting, and the implementation of Nature Based Solutions to support the delivery of the Green and Blue Infrastructure Strategy.'*; and
 - *'Ensure that everyone across the city understands the scale of the challenge, they are positively engaged, empowered and supported in taking action to reduce emissions and increase resilience across the city.'*

[Manchester Climate Change Framework 2020-2025](#)

- 8.46 Produced by the Manchester Climate Change Partnership, the Manchester Climate Change Framework 2020-2025 is the city's high-level strategy for climate change, outlining how Manchester will commit to limiting its impacts.

8.47 The objectives outlined include:

- *'Staying within our carbon budgets';*
- *'Climate adaptation and resilience'; and*
- *'Inclusive, zero carbon and climate resilient economy'*

8.48 The priority areas outlined include:

- *'Buildings (existing and new)';*
- *'Renewable energy'; and*
- *'Green infrastructure and nature-based solutions'*

8.49 In 2022, the Manchester Climate Change Framework was updated as 'Manchester has not been reducing its direct emissions by the targeted 13% per year and so we are not currently on track to stay within our carbon budget and are at risk of missing our first milestone: to reduce the city's direct emissions by 50% by 2025.'

8.50 The updated framework summarises the actions MCC is committing to in response to this, including:

- *'We need to construct new buildings to high and rising standards of low carbon performance, covering operational and embodied energy';*
- *'We need to see a rapid shift away from fossil fuels to electricity for heating, transport, and industry. To support this, we need to increase renewable energy generation, both locally and at national level.';*
- *'This needs to be coupled with a step change in energy efficiency across all sectors, and increase adoption of smart grid technologies and local storage to balance energy supply and demand for maximum efficiency';*
- *We need to reduce waste, including unnecessary food waste, and manage unavoidable waste as sustainably as possible, maximising reusing and recycling';*
- *'We need to understand our exposure to climate change risk and make detailed plans that support all our residents, and all parts of our city, its economy and natural environment to adapt'; and*
- *'We need to ensure all the investments we make are low carbon and resilient to climate change and we need to develop innovative models to unlock private investment into both climate mitigation and adaptation.'*

Other Relevant Standards and Guidance

HEMA EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance 2nd Edition (HEMA, 2022)

- 8.51 This guidance is a revision of the 2017 IEMA guidance on Assessing Greenhouse Gas Emissions and Evaluating their Significance. It complements IEMA's latest guidance on Climate Change Resilience and Adaptation (2020) and builds on the Climate Change Mitigation and EIA overarching principles. This guidance states that:
- *'GHG emissions should be assessed and reported as part of a good practice approach to EIA'*
- 8.52 The guidance provides the following justification for scoping in a GHG emissions assessment:
- *'All projects create GHG emissions that contribute to climate change';*
 - *'climate change has the potential to lead to significant environmental effects'; and*
 - *'there is a GHG emissions budget that defines a level of dangerous climate change whereby any GHG emissions within that budget can be considered as significant'*
- 8.53 One of the major updates in this guidance is that mitigation has taken a much more prominent role within the EIA. It is no longer an element to be considered towards the later stages of the EIA process but should be considered from the outset and throughout the project's lifetime.
- 8.54 The IEMA (2022) guidance document provides information on GHG emissions assessment methodology (e.g., sources of GHG emissions data, and spatial and temporal scope), as well as guidance on the determination of significance of effects.

BS EN 15978 Sustainability of Construction Works – Assessment of Environmental Performance and Buildings – Calculation Method (BSI, 2011)

- 8.55 The purpose of this Standard is to provide a consistent framework for the assessment of lifecycle GHG emissions associated with new and existing buildings. This follows a modular approach, breaking down the lifecycle of the development into the product stage, the construction stage, the in-use stage, the End-of-life stage and elements beyond the building lifecycle.

Royal Institution of Chartered Surveyors (RICS) Whole Life Carbon Assessment for the Built Environment (RICS, 2023)

- 8.56 This guidance document aims to harmonise whole life carbon assessment by applying consistency to the interpretation and implementation of the methodology BS EN 15978 to achieve coherent and comparable results that can be used to benchmark whole lifecycle carbon performance of built assets across the industry.

UK Green Building Council (UKGBC) Embodied Carbon: Developing a Carbon Brief (UKGBC, 2017)

- 8.57 This is a guide to writing effective briefs for commissioning embodied carbon measurements and holds extensive information on latest applications, standards and tools.

Waste and Resource Action Programme (WRAP) Cutting Embodied Carbon in Construction Projects (WRAP, 2011a)

- 8.58 This guidance helps designers identify basic cost-effective actions to reduce the carbon impact of the materials used in construction projects.

WRAP Procurement Requirements for Carbon Efficiency (WRAP, 2011b)

- 8.59 This guidance is for low-carbon building projects and estates management; to set requirements for "carbon efficiency" (or low-carbon buildings) when procuring design, construction, refurbishment and facilities management services for existing and new buildings.

Greater London Authority Construction Scope 3 (Embodied) Guidance on Greenhouse Gas Accounting and Reporting (GLA, 2013)

- 8.60 Although the proposed development is not in London, this guidance provides information on best practice. This accounting and reporting guidance written for the Greater London Authority contains a series of recommendations which aims to improve the understanding and consistency of the accounting and reporting of embodied emissions within the construction sector from cradle-to-grave. This document provides guidance on how to carry out calculations to measure the embodied carbon impact of buildings.

Mayor of London Whole Life-Cycle Carbon Assessments Guidance (GLA, 2022)

- 8.61 Although the proposed development is not in London, this guidance provides information on best practice. Draft London Plan Policy SI 2 sets out a requirement for developments to calculate and reduce whole lifecycle carbon emissions. Guidance has been published to explain how the assessment of these carbon emissions should be approached and presented.

LETI Embodied Carbon Primer (LETI, 2020)

- 8.62 Although the proposed development is not in London, this guidance provides information on best practice. The Embodied Carbon Primer offers supplementary guidance to the Climate Emergency Design Guide, for those interested in exploring embodied carbon in more detail. There is a current lack of knowledge in the built environment industry surrounding embodied carbon reduction strategies and calculations. Therefore, the London Energy Transformation Initiative has produced this document to support project teams to design buildings that deliver ambitious embodied carbon reductions.

ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

Identification of the Study Area

- 8.63 GHG emission impacts and resulting effects are global. As such, the spatial scope of the assessment is global.
- 8.64 In line with the advice provided in the IEMA GHG Guidance, the proposed development's GHG emissions have been considered in the context of both the UK national carbon budgets and recommended energy-only carbon budgets for Manchester. Further information is set out in the sections below.
- 8.65 No site survey has been undertaken as part of this assessment and is not considered necessary.

Assessment Methodology

- 8.66 The metric for assessing the climate change impacts of GHG emissions in this assessment is Global Warming Potential (GWP). This is expressed in units of CO₂ equivalent (CO₂e) over 100 years. This allows for the emissions of the seven key GHGs: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF₃) and sulphur hexafluoride (SF₆) expressed in terms of their equivalent global warming potential in mass of CO₂e.
- 8.67 There is currently no standard methodology for quantifying GHG emissions within the EIA process. The IEMA GHG Guidance instead advocates for flexibility and proportionality to suit the specific development being assessed.
- 8.68 A GHG emissions assessment typically covers the whole life of a development. This can be broken down into "lifecycle stages" or "modules" of the proposed development, as set out in BS EN 15978 Sustainability of Construction Works - Assessment of Environmental Performance of Buildings - Calculation Method, as shown in Figure 8.1.

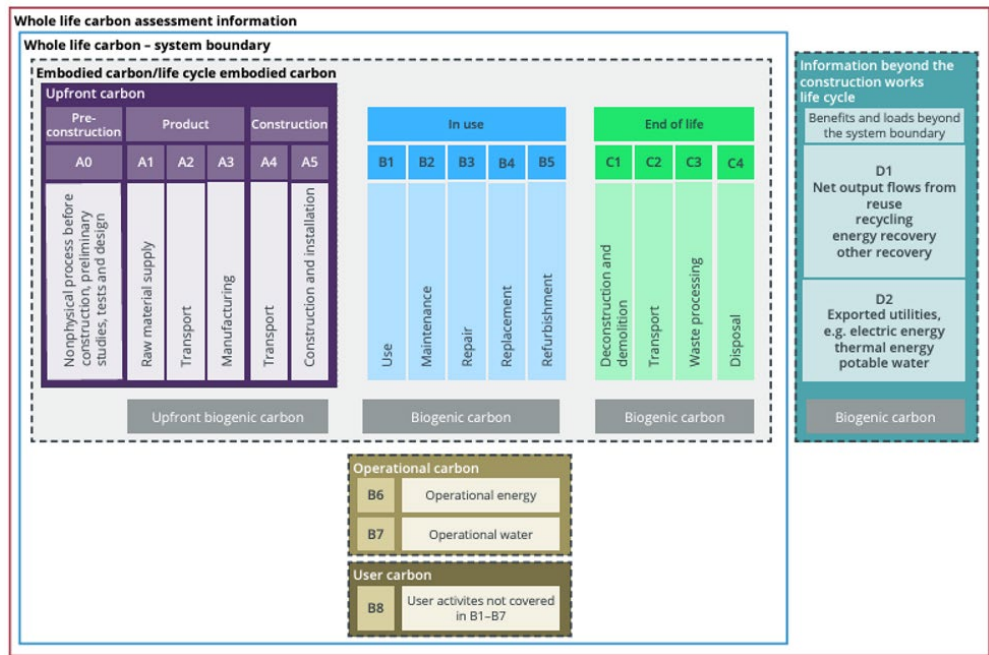


Figure 8.1 Diagram showing the stages of a lifecycle GHG emissions assessment, taken from Whole Life Carbon Assessment for the Built Environment (RICS, 2023), based on lifecycle stages set out in EN 15643:2021, EN 15978 and more.

- 8.69 With some exceptions, all activities within lifecycle stages A, B and C have been included in this assessment. Any activities that have been excluded are explained and justified in the "Sources of GHG emissions excluded from the assessment" section, included later in the methodology section of the chapter. The assessment has taken into account the design detail currently available.
- 8.70 GHG emissions caused by an activity are often categorised into "scope 1", "scope 2", or "scope 3", following the guidance of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol suite of guidance documents (WRI and WBCSD, 2014).
- 8.71 The ES chapter does not refer to scope 1, 2 and 3 emissions throughout, instead referring to emissions by lifecycle stage. However, the following paragraphs provide an overview of which scope the assessed emissions fall within.
- 8.72 Scope 1 emissions include direct emissions from owner or controlled sources. With respect to the proposed development, this may include:
- Emissions from fleet vehicles e.g. heavy goods vehicles (HGV's) during the construction phase.
- 8.73 Scope 2 emissions include indirect emissions from purchased energy. With respect to the proposed development this may include:
- 8.74 Electricity, steam, heat or cooling generated offsite, purchased and consumed by the proposed development.

- 8.75 Scope 3 emissions include indirect value chain emissions, resulting from the activities of assets not controlled or owned by the proposed development occurring before or after they have control of an asset. This may include:
- Upstream emissions related to the purchase of required goods and services.
- 8.76 For the purpose of this assessment, in line with the principles set out in BS EN 15978, a Reference Study Period (RSP) of 60 years after opening (the opening year) has been used. For the purpose of the assessment, decommissioning has been assumed to take place in the final year of the RSP. However, it should be noted that the Applicant does not necessarily propose to decommission the development at the end of this 60 year period.

Baseline GHG emissions

- 8.77 The baseline is a reference point against which the effects of the proposed development can be compared. The IEMA GHG Guidance states that 'the ultimate goal of establishing a baseline is being able to assess and report the net GHG impact of the proposed project.'
- 8.78 The Former Baptist Church building currently occupying the site is not currently operational. Given that no operations or activities are currently taking place at the site, the baseline GHG emissions are assumed to be zero.
- 8.79 Should the proposed development not come forward, for the purposes of this assessment, it is assumed that the current site activities and their associated annual GHG emissions would continue throughout the 60 year reference study period (RSP). As such, the future annual baseline GHG emissions are also considered to be zero.

Construction Stage GHG emissions

- 8.80 Based on the criteria set out in Figure 8.1, the assessment of the construction stage takes into account the following sources of GHG emissions:
- **A1-A3 Product stage:** GHG emissions associated with the material extraction, transportation and manufacturing of construction products; and
 - **A4-A5 Construction process stage:** GHG emissions associated with product delivery to site and the installation process.
- 8.81 Embodied carbon associated with the construction stage of the proposed development has been estimated by applying appropriate embodied carbon benchmarks from various industry sources, based on proposed floor areas and building typologies. The benchmarks have been taken from the Atkins Carbon Critical Tool. These are considered the best publicly available benchmarks at present. Further information on these benchmarks and how they have been applied in the assessment is provided in Appendix 8.2.

Operational Stage GHG emissions

- 8.82 Based on the criteria set out in Figure 8.1, the assessment of the operational stage takes into account the following sources of GHG emissions:
- **B1-B5 In-use stage:** This stage captures GHG emissions associated with the operation of the built assets over their period of use, from practical completion to the end of their service life, including use, maintenance, repair, refurbishment and replacement. Embodied carbon associated with these activities has been estimated by applying appropriate embodied carbon benchmarks from Atkins Carbon Critical Tool,, based on proposed floor areas and building typologies. Further information on these benchmarks and how they have been applied in the assessment is provided in Appendix 8.2.
 - **B6 Operational energy:** Estimated GHG emissions associated with the estimated total operational energy have been provided by the project Energy Consultants, Future Serv.
- 8.83 Further information on these figures and how they have been applied in the assessment is provided in Appendix 8.2.
- **B7 Operational water:** GHG emissions associated with operational water consumption and foul water. Estimated water consumption is based on 100 L per day per person, as provided by the project sustainability consultants, Future Serv. The number of occupants has been calculated based on the flat occupancy numbers in the proposed area schedule. Estimated foul water has been assumed to be equal to water consumption, in line with project experience. The BEIS Greenhouse Gas Reporting Conversion Factors 2023 have been used to calculate GHG emissions from operational water consumption. Additional information on the assumptions that have been made is provided in Appendix 8.2.
 - **Operational transport emissions,** which are not included in Figure 8.1, have also been included in the assessment, due to the substantial role they play in the UK's total GHG emissions. Surface transport is the largest source of GHG emissions in the UK, accounting for 24% of 2019 emissions, according to the Committee on Climate Change (2020). The GHG emissions associated with vehicles travelling to and from the proposed development during the operational stage have been estimated by applying a Department for Energy Security and Net Zero (DESNZ) emissions factor for average vehicle use, to trip numbers provided by the project transport consultant, SK Transport, and an indicative trip distance figure, estimated by the Department for Transport. These emissions factors include wheel to tank emissions, as well as tail pipe emissions. The number of car movements associated with the proposed development will be negligible, thus the assessment has only considered emissions expected to be generated by HGVs and LGVs. Additional information on the assumptions that have been made is provided in Appendix 8.2.

Decommissioning Phase GHG Emissions

- 8.84 Based on the criteria set out in Figure 8.1, the assessment of the decommissioning stage takes into account the following sources of GHG emissions:

- **C1-C4 End of Life Stage:** GHG emissions associated with the demolition and disassembly of the proposed development at the end of its life. GHG emissions associated with this stage have been estimated by applying appropriate benchmarks from various industry sources, based on the proposed floor areas and building typologies. Further information on the assumptions that have been made when calculating the estimated GHG emissions from the decommissioning stage is provided in Appendix 8.2.

Sources of GHG emissions excluded from the assessment

8.85 The IEMA guidance states that 'certain life cycle modules (or stages) can be excluded if these exclusions are clearly highlighted and justified by the practitioner using professional judgement and in accordance with the materiality and cut-off guidance.' The following sources of GHG emissions have been excluded from the scope of the assessment:

- **Operational waste:** The opportunities for design and construction decisions to significantly influence the reduction of GHG emissions associated with operational waste are low as it is highly dependent on occupant behaviour and waste processing at the city scale by the Local Authority. The emissions associated with operational waste are also not expected to be material in scale such that they could influence the overall significance of effects, and have therefore been scoped out;
- **Carbon sequestration from green infrastructure:** GHG emissions associated with carbon sequestration from proposed green infrastructure would be low relative to the total GHG emissions over the life of the proposed development. They would also ultimately reduce the emissions from the proposed development, rather than increase them. On the basis that the emissions would be small and would lead to an overall reduction in emissions, excluding them from the assessment is considered conservative and robust; and
- **Module D:** Beyond Asset Life Cycle' Stage: the Beyond Asset Life Cycle stage encompasses emissions associated with activities beyond the site boundary and life cycle of the proposed development. This module relates to the repurposing of discarded building elements or any energy recovered from beyond a project's lifecycle. Reliable information about how the components of the scheme could potentially be repurposed following its demolition at the end of its life is not currently available. Given that Module D lies outside the proposed development's lifecycle and only covers GHG emissions that could potentially be avoided as a result of repurposing of discarded materials, it is considered that the proposed assessment of Modules A to C (only) comprises a conservative assessment. On this basis, consideration of Module D has not been included in the scope of the assessment.
- **Inter-project cumulative effects:** The atmospheric concentration of GHGs and the resulting effects on climate change are affected by all sources (anything emitting GHG) and sinks (anything absorbing GHG) globally, anthropogenic or otherwise. As GHG emission effects are global rather than affecting one localised area, the approach to the assessment of cumulative effects for GHGs differs to the approach used for other EIA topics, where only projects within a specific radius of the application site

would be included. As stated in the IEMA Guidance, the effects of GHG emissions from specific "cumulative schemes" should not be individually assessed, as there is no basis for selecting any particular cumulative scheme for assessment over any other. The Guidance goes on to advise that the contextualisation of GHG emissions should incorporate by its nature the cumulative contributions of other GHG sources which make up that context. An inter-project cumulative effects assessment has therefore not been undertaken on a specific cumulative scheme basis; however, the proposed development's GHG emissions have been considered in the context of both the UK national carbon budgets and the Tyndall Centre recommended energy only carbon budgets for Manchester. As such, the cumulative contributions of other GHG sources that make up the national and Manchester contexts have been considered within the assessment.

Consideration of Scope 3 emissions

Background

- 8.86 As previously stated, this Climate Change ES Addendum chapter has been undertaken in line with the IEMA Guidance and other best practice industry guidance. With some minor exceptions set out in the section above, the assessment has included a consideration of all scope 1, 2 and 3 GHG emissions from all activities within lifecycle stages A, B, and C of relevance to the proposed development, as set out in the Whole Life Carbon Assessment for the Built Environment (RICS, 2023) (the "RICS 2023 Guidance") and BS EN 15978 Sustainability of Construction Works - Assessment of Environmental Performance of Buildings - Calculation Method ("BS EN 15978") guidance. This includes the following scope 3 emissions:
- Operational transport emissions associated with residents during the operational phase (e.g. deliveries organised by residents).
- 8.87 The IEMA Guidance advocates for flexibility and proportionality to suit the specific development being assessed. The guidance states that 'certain life cycle modules (or stages) can be excluded if these exclusions are clearly highlighted and justified by the practitioner using professional judgement and in accordance with the materiality and cut-off guidance.' The sources of GHG emissions excluded from the assessment have been excluded on this basis.
- 8.88 The recent Supreme Court judgement on the application of Finch (on behalf of the Weald Action Group) v Surrey County Council and others (judgement given on 20 June 2024) has raised implications for the assessment of scope 3 emissions from development projects in the EIA process, potentially requiring the consideration of additional indirect emissions that do not, to date, require consideration under the relevant industry good practice guidance, including the IEMA GHG Guidance, the RICS 2023 Guidance and BS EN 15978.
- Finch (on behalf of the Weald Action Group) v Surrey County Council Supreme Court judgement
- 8.89 In the case, the Supreme Court considered whether, under the EIA Directive and the EIA Regulations 2017, it was lawful for Surrey County Council to grant planning permission for the expansion of an oil drilling facility in the Surrey Hills where the EIA for the project had only considered emissions from sources within the control of the

- developer (scope 1 emissions). The EIA had not considered emissions arising as a consequence of the activities at the site – specifically from future combustion by downstream users of the fuel into which the extracted oil would be refined (scope 3 emissions).
- 8.90 In its decision, the Supreme Court unanimously rejected the approach taken by the Court of Appeal – that it was for a local authority to determine whether there was a ‘sufficient causal connection’ between the project and the scope 3 emissions. The majority of the Court considered that scope 3 emissions were effects of the project (because it was an agreed fact that the oil would be refined; burnt as fuel and release greenhouse gases). The Council’s failure to take this into account meant that the planning permission granted was unlawful. The appeal was therefore allowed.
- 8.91 Some of the core considerations that led to this judgement included:
- The EIA Directive and EIA Regulations 2017 require an assessment of “likely” effects. In this case, it was not only likely, but “inevitable”, that the extraction of oil would lead to combustion and the emission of greenhouse gases into the atmosphere;
 - Although the terms “direct” and “indirect” are not defined in the legislation itself, the European Commission’s Guidance for use by EIA practitioners states that an “indirect effect” was one which occurred ‘away from the immediate location or timing of the proposed action’. The judge therefore concluded that scope 3 emissions are indirect effects of the operation of the scheme; and
 - The Directive does not impose a geographical limit on the scope of the environmental effects of a project. The majority therefore considered that there was “no justification” for limiting the EIA in this case to emissions which only occurred at the site. Further, it would not have been in keeping with the challenge posed by climate change to have approached the matter in this way.
- 8.92 In the judgment, Lord Leggatt confirmed that these requirements should apply to projects such as this, where the fossil fuel commodity being extracted will not be used in the creation of a different type of object. There should be an ‘inevitable pathway from extraction to combustion’, with no ‘element of conjecture or speculation’ about what will ultimately happen to the commodity. ‘It is agreed that it will inevitably be burnt as fuel. And a reasonable estimate can readily be made of the quantity of GHGs which will be released when that happens.’ As advised by the judge, this would therefore apply to projects such as oil extraction and coal mining projects but would not apply to projects such as facilities to manufacture iron or steel or to manufacture motor vehicle or aircraft components.
- 8.93 In the case of steel, the judge advised that it has ‘many possible uses and can be incorporated into many different types of end product used for all sorts of different purposes. In the case of a facility to manufacture steel, it could reasonably be said that environmental effects of the use of products which the steel will be used to make are not effects of manufacturing the steel. That is because the manufacture of the steel is far from being sufficient to bring about those effects. Such effects will depend on innumerable decisions made “downstream” about how the steel is used

and how products made from the steel are used. This indeterminacy regarding future use would also make it impossible to identify any such effects as "likely" or to make any meaningful assessment of them at the time of the decision whether to grant development consent for the construction and operation of the steel factory.'

- 8.94 In the case of manufacturing components for use in the construction of motor vehicles or aircraft, the judge advised that 'where a component is manufactured which forms a small part of a much larger object, such as a motor vehicle or aircraft, the view might reasonably be taken that the contribution of the component is not material enough to justify attributing the impact on the environment of the end product to the activity of manufacturing the component part. In any event, the number of motor vehicles or aircraft in which such parts will be incorporated and the use which will subsequently be made of them may be so conjectural that no realistic estimate could be made of GHG emissions arising from such use on which a reasoned conclusion could be based. I have discussed above that the EIA process does not require that attempts be made to measure or assess putative effects which are incapable of such assessment.'

Implications for GHG Emissions Impact Assessments in EIA

- 8.95 Based on this judgement, we consider that any additional assessment of upstream and downstream scope 3 GHG emissions in EIA, beyond those already recommended in current industry guidance, should be limited to situations where:
- The likely use of any products from the proposed development or likely nature/type and scale of any other upstream or downstream activities related to the proposed development can reasonably be determined, such that realistic estimates can be made of the GHG emissions arising from them; and
 - In line with good EIA practice, where it is considered proportionate to scope them in (e.g. when they are expected to make a material contribution to a likely significant environmental effect).
- 8.96 Upstream scope 3 GHG emissions that did not require consideration in EIA, as set out in the industry guidance documents previously referenced, but which could now potentially require consideration, in line with the recent supreme court judgement, could include:
- GHG emissions associated with the manufacture of the plant and machinery used to construct the proposed development; and
 - GHG emissions associated with the proposed development's design and consenting process.
- 8.97 Any plant and machinery used in the demolition and construction of the proposed development would not be manufactured and used solely for the proposed development. Each item of construction plant or machinery would typically be used in the construction of numerous other development projects over a number of years. The proportion of any embedded GHG emissions associated with the manufacture of such plant and machinery that could be attributed to the proposed development is therefore likely to be small. Given the uncertainty regarding the type, quantity, and design life of the various items of plant and equipment that

would be used in the demolition and construction process, it would also be extremely difficult to realistically estimate their embedded GHG emissions and what proportion could be attributed to the proposed development. On this basis, and given that GHG emissions from this source are not expected to be material in scale such that they could influence the overall significance of effects of the proposed development, this source has been scoped out.

- 8.98 Similarly, given the complexities of the proposed development design and consenting process and the number of parties that contribute to it, it would be extremely difficult to realistically estimate the GHG emissions associated with this process. It is also considered unlikely that the GHG emissions from this process would be material in scale such that they could influence the overall significance of effects of the proposed development. On this basis, this source has also been scoped out.
- 8.99 As the proposed development, once complete and operational, is not expected to produce any "products", no additional downstream scope 3 GHG emissions that have not already been scoped into the assessment, in line with the industry good practice guidance documents previously referenced, have been identified. As such, no additional downstream scope 3 GHG emissions have been considered in the assessment.
- 8.100 On this basis, the assessment methodology employed in this ES Addendum chapter is considered to align with the recent Finch (on behalf of the Weald Action Group) v Surrey County Council Supreme Court judgement.

Programme

- 8.101 It is anticipated that construction works will commence in the second quarter of 2025, and final completion is expected in 2027, when the proposed development will become operational. Table 8.1 sets out the anticipated timing for the phases of development from the commencement of the construction phase to decommissioning of the proposed development, for the purposes of the assessment.

Table 8.1 Anticipated timing for the phases of development

Phase	Timing
Construction	2025-2027 (26 months)
Operation commences	2027-2087 (60 years)
Decommission	2087 (<1 year)

- 8.102 Both the baseline and proposed development GHG emissions have been assessed from the commencement of construction works in 2025 to the end of the 60 year RSP period, in 2087. (measured from completion of the construction works).
- 8.103 For this assessment, the operational stage GHG emissions have been distributed over the entire 60 year period, from 2027 to 2087. For the purposes of the assessment, it has also been assumed that the decommissioning will take place in 2087. With the

assumption that both operational and decommissioning emission will occur in 2087, our approach is considered conservative.

Emissions factors

- 8.104 Emissions factors have been applied for operational water use (lifecycle stage B6) and the end of life stage (C1-C4). DESNZ 2023 Emissions factors to 2100 have been used.
- 8.105 Emissions factors have been applied to assess operational transport GHG emissions. DESNZ 2023 Emissions factors for the average HGV and average LGV with average laden and unknown fuel have been used.

Determining effect significance

- 8.106 The assessment of the likely effects of the proposed development has taken into account both the enabling and construction stage, the operational stage, and the decommissioning stage.

Receptor Sensitivity and Impact Magnitude Criteria

- 8.107 The impacts and effects of GHG emissions are global, with the global atmosphere serving as the sensitive receptor. The IEMA GHG Guidance advises that 'the receptor has a high sensitivity, given the severe consequences of global climate change and the cumulative contributions of all GHG emission sources.' The quantity of GHG emissions produced would inform the impact magnitude. However, in line with the methodology set out in the IEMA GHG Guidance, it is not considered necessary to explicitly determine the sensitivity of the receptor or the magnitude of the impact in order to assess the significance of GHG emissions effects. As such, this ES Chapter makes no further reference to receptor sensitivity or impact magnitude.

Significance of Effect Criteria

- 8.108 Specific criteria for assessing the significance of GHG emissions effects are provided in the IEMA GHG Guidance. The guidance also recommends that the context of the project's carbon footprint is determined in order to establish whether the project supports or undermines a trajectory towards net zero. This can help decision makers in their evaluation of the effects of the proposals. The IEMA GHG Guidance has been adapted and applied to this assessment, as outlined below.

Assessment of Effect Significance

- 8.109 Three overarching principles are set out in the IEMA GHG Guidance, which IEMA advise should be considered when looking to establish the effect significance of GHG emissions. These comprise:
- The GHG emissions from all projects will contribute to climate change, the largest interrelated cumulative environmental effect;

- The consequences of a changing climate have the potential to lead to significant environmental effects on all topics in the EIA Directive (e.g. human health, biodiversity, water, land use, air quality); and
- GHG emissions have a combined environmental effect that is approaching a scientifically defined environmental limit; as such any GHG emissions or reductions from a project might be considered to be significant.

8.110 IEMA has further built on these principles in the guidance, as follows:

- *'When evaluating significance, all new GHG emissions contribute to a negative environmental impact; however, some projects will replace existing development or baseline activity that has a higher GHG profile. The significance of a project's emissions should therefore be based on its net impact over its lifetime, which may be positive, negative or negligible;*
- *Where GHG emissions cannot be avoided, the goal of the EIA process should be to reduce the project's residual emissions at all stages; and*
- *Where GHG emissions remain significant, but cannot be further reduced, approaches to compensate the project's remaining emissions should be considered.'*

8.111 The goal of the Paris Agreement is to limit global temperature rise to well below 2°C, aiming for 1.5°C, compared with pre-industrial levels, in order to stand a greater chance of avoiding severe adverse effects from climate change. The UK has set a legally binding GHG reduction target for 2050 through the Climate Change Act, including interim five-yearly carbon budgets, which define a trajectory towards net zero. The Climate Change Committee (CCC) has confirmed that the 2050 target and interim budgets are compatible with the required magnitude and rate of GHG emissions reductions required in the UK to meet the goals of the Paris Agreement, thereby limiting severe adverse effects.

8.112 To meet the 2050 target and interim budgets, action is required to reduce GHG emissions from all sectors, including urban development projects. As stated in the IEMA GHG Guidance, 'EIA for any proposed project must therefore give proportionate consideration to whether and how that project will contribute to or jeopardise the achievement of these targets...the crux of significance therefore is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050'.

8.113 Building on this, the IEMA GHG Guidance sets out an approach to the assessment of effect significance that comprises judgements on the proposed development's consistency with policy requirements (as these have been implemented to ensure the economy decarbonises in line with the UK's net zero target); and the extent to which the proposed development's GHG emissions have been mitigated.

8.114 Table 8.2 sets out the significance of effect criteria provided in the IEMA Guidance. The significance of effect scale is also shown in Figure 8.2 to illustrate how this relates to the 1.5oC compliance trajectory.

Table 8.2 Criteria for determining significance of effect

Significance	Description
Major adverse	The proposed development's GHG impacts are not mitigated or are only compliant with do-minimum standards set through regulation, and do not provide further reductions required by existing local and national policy for projects of this type. A project with major adverse effects is locking in emissions and does not make a meaningful contribution to the UK's trajectory towards net zero.
Moderate adverse	The proposed development's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with local and national policy goals for projects of this type. A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero.
Minor adverse	The proposed development's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. A project with minor adverse effects is fully in line with measures necessary to achieve the UK's trajectory towards net zero.
Negligible	The proposed development's GHG impacts would be reduced through measures that go well beyond existing and emerging policy and design standards for projects of this type, such that radical decarbonisation or net zero is achieved well before 2050. A project with negligible effects provides GHG performance that is well "ahead of the curve" for the trajectory towards net zero and has minimal residual emissions.
Beneficial	The proposed development's net GHG impacts are below zero and it causes a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the without-project baseline. A project with beneficial effects substantially exceeds net zero requirements with a positive climate impact.

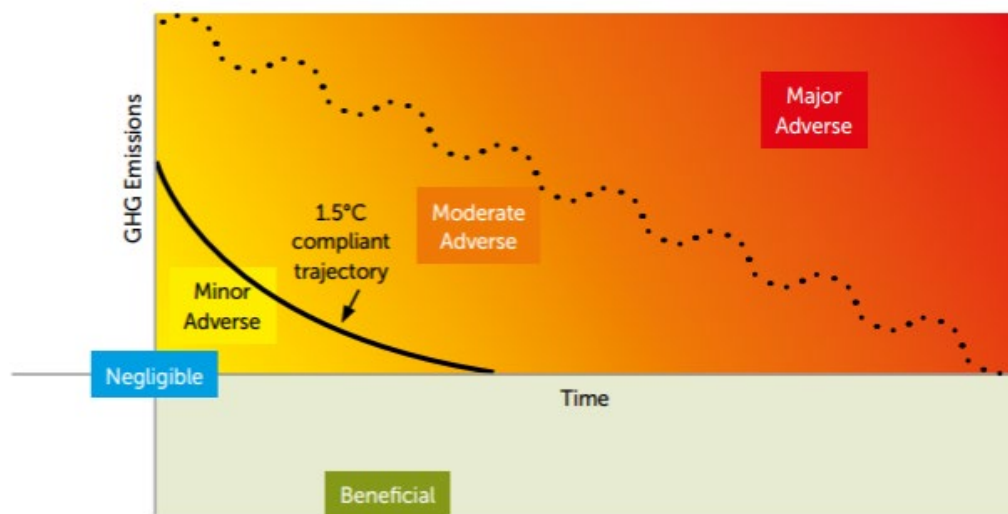


Figure 8.2 Different levels of significance plotted against the UK's net zero compatible trajectory. Source: IEMA guide to "Assessing Greenhouse Gas Emissions and Evaluating their Significance" Second edition.

8.115 In line with the IEMA GHG Guidance, major and moderate adverse and beneficial effects are considered significant. Effects can also be described as:

- Beneficial or adverse;
- Permanent or temporary;
- Reversible or irreversible; and
- Short, medium or long term

8.116 The IEMA GHG Guidance advises that the approach should be modified for the very largest-scale developments, which can in themselves have magnitudes of GHG emissions that materially affect the UK's or a devolved administration's total carbon budget. In the case of such developments, irrespective of the level of mitigation proposed, if net GHG emissions exceed 5% of the relevant UK or devolved administration carbon budget, the effects of the development are likely to be significant.

8.117 The guidance also advises that 'Practitioners should note that existing policy and regulation may in some cases lag behind the necessary levels of GHG emission reductions (or types of actions to achieve those) that are compatible with the UK's or devolved administrations targets and with a science based 1.5°C compatible trajectory towards net zero. Meeting the minimum standards set through existing policy or regulation cannot necessarily be taken as evidence of avoiding a significant adverse effect, and it is recommended that practitioners consider and have reference also to emerging policy/standards and the guidance of expert bodies such as the CCC on necessary policy developments, particularly for multi-phased projects with long timescales. This must be evaluated by the practitioner as part of the evidence base used in the assessment of effects. References to 'existing'

and 'emerging' policy in the principles of significance and example criteria above must be interpreted with this in mind.'

Contextualisation of GHG emissions

- 8.118 The IEMA Guidance also recommends that the context of the project's carbon footprint is determined in order to establish whether the project supports or undermines the trajectory towards net zero. This can help decision makers in their evaluation of the effects of the proposals.
- 8.119 As noted in the previous section, the UK has a defined national carbon budget and budgets have also been set by devolved administrations, which the CCC has confirmed are compatible with net zero and international climate commitments. The IEMA GHG Guidance advised that the starting point for contextualising the project's GHG emissions should be the percentage contribution of the project to the relevant national or devolved administration carbon budget. However, it goes on to advise that the contribution of most individual projects to national-level budgets will be small and so this context will have limited value. In response, the guidance presents a good practice approach for contextualising a project's GHG emissions against pre-determined carbon budgets or against emerging policy and performance standards, where a budget is not available. This is shown in Figure 8.3.

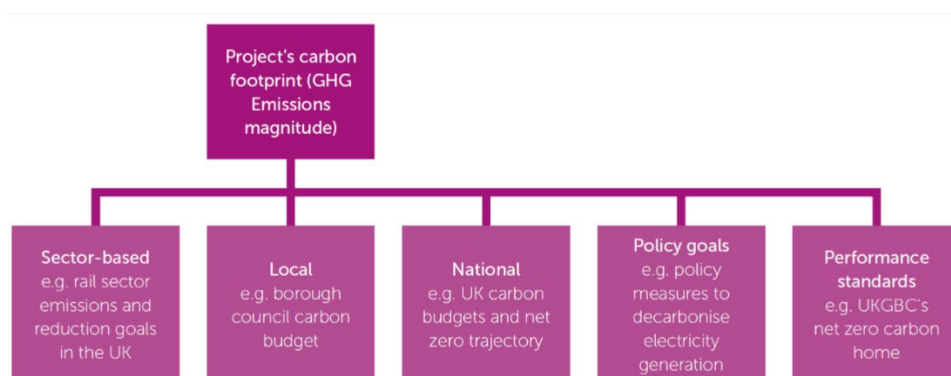


Figure 8.3 Good practice approaches for contextualising a project's GHG emissions. Source: IEMA guide to "Assessing Greenhouse Gas Emissions and Evaluating their Significance" Second edition.

- 8.120 Whilst Manchester City Council has not yet formally adopted carbon budgets, the Tyndall Centre for Climate Change Research has produced carbon budget reports (the "Tyndall Carbon Budget Reports") that provide recommended climate change commitments for UK Local Authority areas that are aligned with the commitments in the Paris Agreement, informed by the latest science on climate change and defined by science based carbon budget setting. The Tyndall Carbon Budget Report for Manchester provides MCC with recommended budgets for CO₂ emissions from the energy system for 2018-2100.
- 8.121 The net GHG emissions arising from the proposed development have been considered in the context of the UK national carbon budgets and the Tyndall Centre recommended energy-only carbon budgets.

- 8.122 The UK national carbon budgets for the period over which the proposed development will be under construction and operational are presented in Table 8.3.

Table 8.1 UK National Carbon Budgets

Carbon budget	Period	Million tonnes of CO ₂ e
Fourth	2023-2027	1,950
Fifth	2028-2032	1,725
Sixth	2033-2037	965

- 8.123 The construction period for the proposed development is expected to fall entirely within the fourth carbon budget period. The operational stage is expected to commence after the construction period in 2027 and continue during the fifth and sixth budget periods.

- 8.124 The Tyndall Centre energy-only carbon budgets for Manchester City Council for the same period (2023 to 2037) are presented in Table 8.4.

Table 8.4 Tyndall Centre Energy-Only Carbon Budgets for Manchester

Carbon budget period	Million tonnes of CO ₂ e
2023-2027	4.6
2028-2032	2.4
2033-2037	1.2

- 8.125 For the purpose of this assessment, the results of the emissions calculations have been presented in terms of their percentage contribution to the relevant carbon budget period, as set out above. Given that the Tyndall Centre carbon budgets are "energy-only", the comparison of the proposed development's GHG emissions with these local budgets has been limited to the scheme's GHG emissions arising from operational energy use to ensure consistency.

Assumptions and Limitations

- 8.126 In undertaking this assessment, there are a number of assumptions and limitations affecting the outputs. These include:

- The assessment reported in this chapter is based on scheme information provided in the following documents:
 - Design and Access Statement (Hodder+Partners, November, 2024);
 - Accommodation schedule (Hodder+Partners, November, 2024);

- Trip generation data from Lesli Speers (SK Transport, September, 2024);
 - Construction programme from Ian Wilton (on behalf of the applicant, October, 2024); and
 - Information provided by the project's Energy Consultants (Futureserv) on daily water usage and energy carbon emissions (October, 2024).
- The assessment reported in this chapter is also based on various assumptions, set out in the Methodology section of this part of the chapter;
 - The detailed scheme information required to undertake a full embodied carbon assessment of the proposed development, such as construction material quantities, is not yet available. As such, only estimates have been made to inform this ES chapter, based on benchmarks sourced from relevant industry publications. The assumptions that have been made are considered conservative;
 - When calculating GHG emissions associated with the proposed development, energy and carbon benchmarks have been used based on expected floor areas and building uses. Whilst these benchmarks have given an estimate of the scale of GHG emissions associated with the proposed development, they will not be completely accurate due to variations between buildings, including geography, construction processes and construction materials used. However, these are considered the best available methods for estimating GHG emissions at this stage. Additionally, where there is uncertainty, a worst-case scenario approach has been taken; and
 - There is some inherent uncertainty in the DESNZ emissions factors. The emissions factors are in line with the UKs decarbonisation trajectory towards net zero in 2050, however this is an assumption, and the actual emissions trajectory is unknown.

Consultations

- 8.127 No specific consultations have been undertaken in regard to this chapter.

Embedded Mitigation

- 8.128 This section describes the measures "embedded" into the proposed development and primary mitigation (i.e. where commitments are made) which are relevant to this Chapter.

Enabling and Construction Phase

- 8.129 A Construction Environmental Management Plan (CEMP) will be secured, which will set out mitigation measures to minimise and reduce GHG emissions during the construction stage, in line with policy and best practice requirements.
- 8.130 The projects Sustainability and Emission Reduction Statement states:

'In alignment with the UK's legally binding commitment to achieve net-zero greenhouse gas emissions by 2050, this project will adopt a comprehensive suite of sustainable construction practices to minimise its carbon footprint during the construction phase. These measures will ensure the project contributes positively to both local environmental goals and the UK's national climate objectives.'

8.131 The following mitigation measures are embedded within the construction stage:

Lifecycle stage A1-A3 Product stage

- Low carbon materials: Wherever possible, construction will prioritize the use of locally sourced, low-carbon. And recycled materials to reduce embodied carbon. Materials with Environmental Product Declarations (EPDs) will be prioritised to transparently track and minimise embodied carbon emissions; and
- Waste minimisation and recycling: A construction waste management plan will be implemented, emphasizing material reuse, recycling, and waste segregation to minimise landfill contributions. Prefabrication and modular construction will be considered to limit material waste;

Lifecycle stage A4-A5 Construction progress stage

- Energy-efficient - management will be employed to minimize fossil fuel use during construction. Battery storage solutions or grid-tied renewable options will provide clean power, reducing reliance on diesel generators;
- Transportation and logistics optimisation: Efforts will be made to reduce transport emissions through careful logistics planning, reduced on-site deliveries, and the use of low emission vehicles where feasible. Materials will be sourced locally when possible, limiting transportation distances and emissions; and
- Water and biodiversity conservation: Sustainable drainage systems, efficient water use, and on-site biodiversity considerations will be employed to maintain local ecosystems, reduce water use, and enhance local biodiversity during construction.

Lifecycle stages A1-A5

- Compliance with Green Building Standards: The project will aim to achieve BREEAM certification or similar recognised sustainability standards, ensuring all aspects of construction meet high environmental and efficiency criteria. These standards will guide sustainable building practices, from resource efficiency to waste reduction.

The Completed and Operational Development

8.132 Sustainability and Emission Reduction Statement sets out the following measures to be implemented during the operational phase of the proposed development:

Lifecycle stage B7 Operational Water

- Water and Biodiversity Conservation: Sustainable drainage systems, efficient water use, and on-site biodiversity considerations will be employed to maintain local ecosystems, reduce water waste, and enhance local biodiversity during and after construction.

Lifecycle stage B6 Operational Energy

- Ongoing Monitoring and Reporting: All measures will be subject to ongoing monitoring, with regular reporting to ensure compliance with sustainability targets. This includes tracking energy usage, emissions, and waste output to ensure targets are being met in line with net-zero goals.

- 8.133 The Design and Access Statement sets out the following mitigation measures embedded into the design to reduce GHG emissions throughout the operation of the proposed development:

Lifecycle stage B6 Operational Energy

- The building has been designed to meet the requirements of the existing Building Regulations with an emphasis on reducing heat loss through the fabric of the building; and
- All electric heating appliances will be fitted, ready for the decarbonisation of the grid.

- 8.134 The Energy Strategy sets out the following mitigation measures embedded in the design to reduce GHG emission throughout the operation of the proposed development:

Lifecycle stage B6 Operational Energy

- An all electric approach will be adopted

Lifecycle stage B7 Operational Water

- Water consumption to be kept to below 100L per day per person.
- The installation of photovoltaic (PV) panels is being considered, however, this is not implemented in the design at this stage, and is therefore not considered an embedded mitigation measure.

BASELINE CONDITIONS

Current baseline

- 8.135 The only building currently occupying the site is a church building, which is not currently operational. Given that no operations or activities are currently taking place at the site, the baseline GHG emissions are assumed to be zero.

Future baseline

- 8.136 Should the proposed development not come forward, for the purposes of this assessment, it is assumed that the current site activities and their associated annual GHG emissions would continue throughout the 60 year reference study period (RSP). As such, the future annual baseline GHG emissions are also considered to be zero.

ASSESSMENT OF EFFECTS

- 8.137 Table 8.5 sets out the total GHG emissions (tCO₂e) produced by the proposed development across the 60 year RSP.

Table 8.2 Estimated total GHG emissions (tCO₂e)

Lifecycle Stage/Module	Total GHG emissions (tCO ₂ e)
Construction stage (A1-A5)	14,694
In use stage embodied carbon (B1-B5)	14,472
In use stage operational energy use (B6)	2,900
Use stage operational water use (B7)	267
stage operational transport	31,257
End of life stage (C1-C4)	40
Total	63,630

ADDITIONAL MITIGATION & ENHANCEMENT

- 8.138 This section describes any additional measures proposed with regard to greenhouse gas emissions.

Enabling and Construction Phase

- 8.139 Table 8.6 provides a summary of the additional mitigation measures relating to enabling GHG emissions associated with the construction of the proposed development.

Table 8.3 Summary of construction supplementary mitigation measures

Adverse effect	Mitigation measure	Responsibility / mechanism for implementation	Timing
Construction stage GHG emissions	Materials used for hard landscaping and street furniture should explore opportunities for high recycled content and bio-based materials.	Developer/contractor	Prior to the commencement of site enabling works
Construction stage GHG emissions	Where practical, maximise recycled content in other key building and fit-out components (e.g., blockwork, internal plasterboard partitions, floor finishes etc.)	Developer/contractor	Prior to the commencement of site enabling works
Construction stage GHG emissions	Review opportunities to reduce energy association with construction installation processes.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
Construction stage GHG emissions	Review opportunities to reduce the number and distance of construction transport trips.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
Construction stage GHG emissions	Review opportunities to minimise internal finishes such as dry lining, ceilings and decorative floor screeds / covering where not technically required (e.g. for acoustics or fire protection), opting for fair faced finishes instead.	Developer/contractor	Prior to the commencement of site enabling works
Construction stage GHG emissions	Implement a travel plan for site staff	Developer/contractor To be included in the CEMP, which will	Prior to the commencement of site enabling works

Adverse effect	Mitigation measure	Responsibility / mechanism for implementation	Timing
		be secured by planning condition.	
Construction stage GHG emissions	Temporary electrical supply connection to minimise the use of on-site diesel generators.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
Construction stage GHG emissions	Site energy monitoring and improvement programme	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
Construction stage GHG emissions	Circular economy principles should be considered for the proposed development to identify opportunities to minimise resource demand during construction.	Developer/contractor	Prior to the commencement of site enabling works

Completed and operational development

8.140 Table 8.7 provides a summary of the additional mitigation measures relating to operational GHG emissions associated with the proposed development.

Table 8.4 Summary of operational supplementary mitigation measures

Adverse effect	Mitigation measure	Responsibility/mechanism for implementation	Timing
GHG emissions arising from the in use stage (B1-B5) and end of life stage (C1-C4)	Circular economy principles should be considered for the project to identify opportunities to minimise resource demand during the operational life arising from repair, refurbishment and replacement	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from the in use stage (B1-B5) and end of life stage (C1-C4)	A whole life carbon assessment should be undertaken for each building to identify opportunities to reduce embodied carbon through design, material specification and construction processes. Consideration should be given for embodied carbon associated with the maintenance and replacement cycle.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from the in use stage (B1-B5)	Extend the longevity of the materials (e.g., specifying appliances with extended warranty and lifespan).	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from the in use stage (B1-B5)	Minimise the use of materials that require more frequent replacement or refurbishment (such as carpets and floor coverings).	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from operational energy (lifecycle stage B6)	Explore the use of passive design measures in order to reduce the need for heating.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works

Adverse effect	Mitigation measure	Responsibility/mechanism for implementation	Timing
GHG emissions arising from operational energy (lifecycle stage B6)	Where any electrical equipment (e.g., oven, white goods etc.) is being installed by the house builder, identify unregulated energy loads and demonstrate reduction through specifying energy efficient equipment.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from operational water use (Lifecycle stage B7)	Specify water saving devices, such as low flush toilets and showers to reduce water consumption associated with the proposed development.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from operational water use (Lifecycle stage B7)	Specify the use of water meters to measure water consumption.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from operational water use (Lifecycle stage B7)	Explore the feasibility of specifying rainwater harvesting in order to reduce potable water consumption.	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from operational water use (Lifecycle stage B7)	Encouraging water efficient behaviour in future occupants	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works

Adverse effect	Mitigation measure	Responsibility/mechanism for implementation	Timing
GHG emissions arising from operational water use (Lifecycle stage B7)	Grey and/or rain water harvesting to supply non-potable demand within the buildings	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works
GHG emissions arising from operational water use (Lifecycle stage B7)	Ensure water efficiency is considered in the procurement of new equipment in future	Developer/contractor To be included in the CEMP, which will be secured by planning condition.	Prior to the commencement of site enabling works

CUMULATIVE EFFECTS

- 8.141 The atmospheric concentration of GHGs and the resulting effects on climate change are affected by all sources (anything emitting GHG) and sinks (anything absorbing GHG) globally, anthropogenic and otherwise. As GHG emission impacts and resulting effects are global rather than affecting one localised area, the approach to cumulative effects assessment for GHGs differs from that for many EIA topics where only projects within a geographically bounded study area would be included.
- 8.142 As such, as stated in the IEMA Guidance, effects of GHG emissions from specific cumulative schemes should not be individually assessed, as there is no basis for selecting any particular (or more than one) cumulative project that has GHG emissions for assessment over any other. The Guidance goes on to advise that the contextualisation of GHG emissions should incorporate by its nature the cumulative contributions of other GHG sources which make up that context. As part of this assessment, an inter-development cumulative effects assessment has not been undertaken on a specific cumulative scheme basis; however, the proposed development's GHG emissions have been considered in the context of both the UK national carbon budgets and recommended carbon budgets for Manchester. As such, the cumulative contributions of other GHG sources that make up the national and local contexts have been considered within the assessment.

SUMMARY & RESIDUAL EFFECTS

Residual Effects

Comparison with UK and Manchester Carbon Budgets

8.143 Table 8.8 and Table 8.9 consider the net GHG emissions arising from the proposed development in the context of the UK national carbon budgets and the Tyndall Centre Energy Only Carbon Budgets for Manchester, considering both the embedded and additional mitigation.

Table 8.5 Post-mitigation comparison of the GHG emissions arising from the proposed development with UK Carbon Budgets

UK Carbon Budgets		Baseline	Impact		
UK Carbon Budget Period	UK Carbon Budget (MtCO ₂ e)	Total Baseline emissions (tCO ₂ e)	GHG emissions from the Proposed Development	Baseline% of UK Carbon Budget	Proposed Development% of UK Carbon Budget
Fourth (2023-2027)	1,950	0	14,717	0	0.00075%
During the fourth budget period, the proposed development would generate GHG emissions from the construction process (lifecycle stage A1-A5) throughout the budget period, and operational energy (lifecycle stage B6), operational water consumption (lifecycle stage B7), and operational transport in the second half of 2027. This equates to 0.00075% of the total carbon budget. It is likely that the proposed embedded mitigation and additional mitigation measures would reduce these GHG emissions; however, it has not been possible to quantify these reductions at this stage. It is not considered that the proposed development would have a material impact on the UK's ability to meet this carbon budget.					
Fifth (2028-2032)	1,725	0	2,869	0	0.00016%
During the fifth budget period, the proposed development would generate GHG emissions from operational energy (lifecycle stage B6), operational water consumption (lifecycle stage B7), and operational transport. This equates to 0.00016% of the total carbon budget. It is likely that the proposed embedded mitigation and additional mitigation measures would reduce these GHG emissions; however, it has not been possible to quantify these reductions at this stage. It is not considered that the proposed development would have a material impact on the UK's ability to meet this carbon budget.					
Sixth (2033-2037)	965	0	2,689	0	0.0003%
During the sixth budget period, the proposed development would generate GHG emissions from operational energy (lifecycle stage B6), operational water consumption (lifecycle stage B7), and operational transport. This equates to 0.0003% of the total carbon budget. It is likely that the proposed embedded mitigation and additional mitigation measures would reduce these GHG					

UK Carbon Budgets		Baseline	Impact		
UK Carbon Budget Period	UK Carbon Budget (MtCO ₂ e)	Total Baseline emissions (tCO ₂ e)	GHG emissions from the Proposed Development	Baseline% of UK Carbon Budget	Proposed Development% of UK Carbon Budget
emissions; however, it has not been possible to quantify these reductions at this stage. It is not considered that the proposed development would have a material impact on the UK's ability to meet this carbon budget.					

Table 8.6 Post-mitigation comparison of the GHG emissions arising from the proposed development with the Tyndall Centre Energy-Only Carbon Budgets for Manchester City Council

Manchester Carbon Budget		Baseline	Impact		
Carbon Budget Period	Energy-Only Carbon Budget for Manchester (MtCO ₂ e)	Total Baseline emissions (tCO ₂ e)	Proposed Development GHG emissions	Baseline% of UK Carbon Budget	Proposed Development% of Tyndall Centre Carbon Budget
Fourth (2023-2027)	4.6	0	20	0	0.00044%
During this budget period, the proposed development would generate operational energy GHG emissions (lifecycle stage B6), equating to 0.00044% of the total energy only carbon budget. It is likely that the proposed embedded mitigation and additional mitigation measures would further reduce these GHG emissions; however, it has not been possible to quantify these reductions at this stage. It is not considered that the proposed development would have a material impact on Manchester's ability to meet this energy-only carbon budget.					
Fifth (2028-2032)	2.4	0	242	0	0.01%
During this budget period, the proposed development would generate operational energy GHG emissions (lifecycle stage B6), equating to 0.01% of the total energy only carbon budget. It is likely that the proposed embedded mitigation and additional mitigation measures would further reduce these GHG emissions; however, it has not been possible to quantify these reductions at this stage. It is not considered that the proposed development would have a material impact on Manchester's ability to meet this energy-only carbon budget.					
Sixth (2033-2037)	1.2	0	242	0	0.02%

Manchester Carbon Budget		Baseline	Impact		
Carbon Budget Period	Energy-Only Carbon Budget for Manchester (MtCO ₂ e)	Total Baseline emissions (tCO ₂ e)	Proposed Development GHG emissions	Baseline% of UK Carbon Budget	Proposed Development% of Tyndall Centre Carbon Budget
During this budget period, the proposed development would generate operational energy GHG emissions (lifecycle stage B6), equating to 0.02% of the total energy only carbon budget. It is likely that the proposed embedded mitigation and additional mitigation measures would further reduce these GHG emissions; however, it has not been possible to quantify these reductions at this stage. It is not considered that the proposed development would have a material impact on Manchester's ability to meet this energy-only carbon budget.					

Significance of effects assessment

8.144 Table 8.10 and Table 8.11 set out the assessment of residual effect significance for the construction and operational stages respectively in accordance with the IEMA Guidance.

Table 8.7 Assessment of residual effect significance during the construction stage

Receptor	Compliance with existing and emerging policy	Residual effect significance
Global atmosphere	The proposed development has been considered in relation to local and national policy. The key construction phase mitigation measures which are relevant to this GHG emissions assessment include: - A CEMP will be secured, which will set out mitigation measures to minimise and reduce GHG emissions during the construction stage, in line with policy and best practice requirements; - The inclusion of low carbon materials in the construction of the proposed development; - The implementation of a construction waste management plan, emphasizing material reuse,	Minor adverse, direct, long term and permanent

Receptor	Compliance with existing and emerging policy	Residual effect significance
	recycling and waste segregation to minimise landfill contributions; ▪ Energy-efficient management will be employed to minimise fossil fuel use during construction; ▪ Efforts will be made to reduce transport emissions through careful logistics planning, reduced on-site deliveries, and the use of low emission vehicles where feasible; ▪ Sustainable drainage systems, efficient water use, and on-site biodiversity considerations will be employed to maintain local ecosystems, reduce water use, and enhance local biodiversity during construction; ▪ The project will aim to achieve BREEAM certification or similar recognised sustainability standards, ensuring all aspects of construction meet high environmental and efficiency criteria; It is considered that the proposed development is consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. Therefore, in line with the IEMA GHG Guidance, this is considered to be a minor adverse effect. In line with the guidance, this effect is considered to not be significant.	

Table 8.8 Assessment of residual effect significance during the operational stage

Receptor	Compliance with existing and emerging policy	Residual effect significance
Global atmosphere	The proposed development has been considered in relation to local and national policy. The key operational mitigation measures which are relevant to this GHG emissions assessment, based on information provided by the applicant include: ▪ The building has been designed to meet the requirement of the existing Building Regulations with an emphasis on reducing heat loss through the fabric of the building; ▪ All electric heating appliances will be fitted, ready for the decarbonisation of the grid; ▪ An all electric approach will be adopted; and ▪ Water consumption will be kept to below 100L per day per person; ▪ Sustainable drainage systems, and efficient water use will be employed to reduce water waste; ▪ Circular economy principles will be considered to identify opportunities to minimise resource demand during operation, arising from repair, refurbishment and replacement; ▪ A whole life carbon assessment will be undertaken to identify opportunities to reduce embodied carbon through design, material	Minor adverse, direct, long term and permanent

Receptor	Compliance with existing and emerging policy	Residual effect significance
	specifications and construction processes; ▪ Materials will be chosen with an extended longevity; ▪ The use of materials that require more frequent replacement and refurbishment will be minimised; ▪ The use of passive design measures will be explored to reduce the need for heating; ▪ Energy efficient equipment will be selected; ▪ Water saving devices will be specified; ▪ The use of water meters will be specified; ▪ The feasibility of rainwater harvesting will be explored and ▪ All measures will be subject to ongoing monitoring, with regular reporting to ensure compliance with sustainability targets. It is considered that the proposed development is compliant with the applicable existing and emerging policy requirements and good practice design standards for projects of this type. Therefore, in line with the IEMA GHG Guidance, this is considered to be a minor adverse effect, which is considered to be not significant.	

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9. BUILT HERITAGE

INTRODUCTION

- 9.1 This chapter assesses the likely significant effects of the Proposed Development on the built historic environment, including both designated and non-designated heritage assets. As the site contains a non-designated heritage asset (the Particular Baptist Chapel), along with a number of surrounding heritage assets, this chapter addresses the potential direct and indirect effect of the Proposed Development on heritage assets within the site and in its setting.
- 9.2 The chapter describes the methods used to assess the likely significant effects of the Proposed Development, the baseline conditions which currently define the site and its surroundings, the potential direct and indirect effects of the Proposed Development arising from the construction and the operational phase. The chapter will also identify the mitigation measures required to reduce or offset any identified effects on heritage assets. It has been written by Stephen Levrant Heritage Architecture Ltd. (SLHA).
- 9.3 This chapter is supported by a detailed Heritage Statement (please refer to Appendix 9.1) which provides a baseline appraisal and Heritage Impact Assessment. This chapter summarises the findings of the Heritage Statement and is cross-referenced throughout.

RELEVANT LEGISLATION & GUIDANCE

- 9.4 The following planning policy and legislation has been considered within this scoping exercise and will be taken forward for the Townscape and Visual Impact Assessment within the EIA:
- Planning (Listed Buildings and Conservation Areas) Act 1990
 - National Planning Policy Framework ('NPPF') 2024
 - Planning Practice Guidance ('PPG'), live on-line resource
 - Manchester's Local Development Framework, Core Strategy, July 2012
 - Saved Policies of Manchester Extant Unitary Development Policies ('UDP'), July 1995
 - Places for Everyone (March 2024).
- 9.5 The following guidance from Historic England has informed both the baseline appraisal and impact assessment:
- Historic England, Conservation Principles. Policies and Guidance (2008).
 - Historic England, The Setting of Heritage Assets (2017).
 - Historic England, Historic Environment Good Practice Advice in Planning. Note 2: Decision-Taking in the Historic Environment, (2015).

- Historic England, Statements of Heritage Significance (2019).
- Historic England, Tall Building: Advice Note 4 (March 2022).

ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

Baseline Assessment

- 9.6 The baseline assessment was undertaken using a combination of desk-based study, research, fieldwork and by utilising the Zone of Theoretical Visibility (ZTV) (Appendix 11.1), prepared by rbmp, to identify and assess the heritage significance of the designated and non-designated heritage assets (referred to as 'receptors'). It also establishes the contribution made by the setting of heritage assets and the site to an appreciation of their significance.
- 9.7 The receptors (i.e. the heritage assets) are valued and the impact on them assessed, giving an overall significance of effect. Individual viewpoints from which to undertake the Visual Impact Assessment which has contributed to an understanding of potential impacts on heritage assets were determined following site inspection and in discussion with Manchester City Council.
- 9.8 In order to predict the magnitude of impact and the overarching effect, the following criteria is considered:
- The sensitivity and proximity of receptors;
 - The nature of existing views;
 - The degree of change to views and visibility of the Proposed Development; and
 - The availability and amenity of alternative views.

Assessment Methodology

- 9.9 The assessment methodology for the Baseline Appraisal and Heritage Impact Assessment is a synthesis of established guidance, best practice and professional judgement. In accordance with an adapted form of the methodology set out in the Department for Transport's Design Manual for Roads and Bridges (DMRB) Volume 11 Section 3 Part 2 Cultural Heritage HA 208/07, all receptors identified in the baseline which might be affected by the Proposed Development are valued and the impact on them is assessed in order to give a significance of effect. The following guidance has also been utilised for the assessment:
- DCMS's Principles of Selection for Listing Buildings (2010);
 - Historic England's Conservation Principles, Policies and Guidance (2008);
 - Historic England's Good Practice Advice Note 3: The Setting of Heritage Assets (2017); and
 - Historic England's Good Practice Advice Note 4: Tall Buildings (2022).

9.10 The aim of this assessment has been:

- To establish the baseline environment regarding designated and non-designated heritage assets i.e. Listed Buildings, Conservation Areas, and Non-Designated Heritage Assets.
- Appraisal of the significance of the asset.
- Evaluation of the magnitude of impacts on identified assets.
- Identification of mitigation in the form of further surveys, investigation and recording to be undertaken in light of the identified impacts.

9.11 Identification and description of the baseline environment has involved a combination of desk-based review of plans, maps, records and other documents, and visual survey (undertaken by SLHA, October 2024).

9.12 Consideration has also been given to the historical development, non-designated heritage assets, building types and materials, key views to the notable historic buildings, and understanding of the special interest of the area.

9.13 The selection of key views for the Heritage Impact Assessment took into account the following factors regarding character and distinctiveness of the area surrounding the site: open spaces, public realm, materials, views into and from the site, current and historic uses and the urban grain.

9.14 Information was collated from a number of online and primary sources including:

- The National Heritage List (Historic England).
- Manchester City Council Website.
- Manchester University Library website.
- The Greater Manchester Historic Environment Record (GMHER)

Identification of the Study Area

9.15 For the purposes of this assessment, consideration has been given within a 500m radius of the site. The study area provides a focus for assessment but is not intended to be prescriptive; buildings outside the boundary of the study area are considered where relevant.

9.16 A ZTV covers a wider area and has been utilised for the purposes of the Heritage Impact Assessment to identify key views.

Construction Phase

9.17 The construction phase assessment has considered the potential for change to the settings of heritage assets within the vicinity of the Proposed Development as well as the partial demolition of the non-designated heritage asset and changes to its

setting. The redevelopment of the site, including the partial demolition of the existing building and construction of new tower element, has the potential to change the existing townscape character of the area, views to and from the site, and the setting of surrounding heritage assets. The physical effects related to this phase of works would include dust, noise, vibrations, hoardings, and increased activity on the site related to the demolition of existing buildings and construction of new ones.

Operational Phase

- 9.18 The assessment methodology and approach to the relative impact on heritage assets during the operational phase is based on evidence-based assumptions in relation to material changes to the settings of heritage assets in the vicinity of the Proposed Development as well as the partial demolition of the non-designated heritage asset that forms the site and changes to its setting. The Proposed Development has the potential to permanently alter the setting of identified surrounding built heritage assets and views into the site and across the local area through the introduction of new buildings.

Significance Criteria

- 9.19 Criteria have been established to appraise a heritage asset's significance. Statutory criteria, as set out in the 'Principles of Selection for Listing Buildings', DCMS, 2010 (revised 2018), provides a list of principles of assessing significance based on architectural and historic interest, age and rarity, aesthetic merits, selectivity and national interest. Historic England's (formerly English Heritage) criteria outlined in 'Conservation Principles, Policies and Guidance,' (2008) are also considered in this assessment.
- 9.20 Evaluation of significance has been informed primarily by the designation of the assets at an international, national, regional or local level as well as their ability to contribute to an understanding of the past. This value rating had also been applied when considering sensitivity of views containing heritage assets. Indicative definitions for each of these ratings are outlined in Table 9.1:

Table 9.1 – Significance Criteria for Determining the Value of Heritage Assets

Significance	Definition
High	Grade I and Grade II* listed buildings. Other buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade. Conservation Areas containing very important buildings.

Medium	Grade II listed buildings. Historic buildings that can be shown to have exceptional qualities in their fabric or historical associations. Conservation areas containing buildings that contribute significantly to its historic character.
Low	Locally listed buildings/ non-designated heritage assets. Historic buildings of modest quality in their fabric or historical association.

Assessment of Effects and Evaluation of the Magnitude of Impact

- 9.21 Impacts may be beneficial, adverse or neutral. If the Proposed Development will enhance heritage values or the ability to appreciate them, then the impact on heritage significance will be deemed to be beneficial; however, if they fail to sustain heritage values or impair their appreciation then the impact will be deemed to be adverse. Where a development will not intrude on the significance of a heritage asset, the impact will be deemed neutral.
- 9.22 Table 9.2 summarises the factors to be taken into account when assessing the magnitude of impact of the Proposed Development. The criteria are not intended to be prescriptive and the weighting to be accorded to each requires professional judgement.

Table 9.2 – Criteria for Determining Magnitude of Impact

Magnitude of impact	Criteria for assessing impact
Major beneficial	The development considerably enhances the heritage values of the heritage assets, or the ability to appreciate those values.
Moderate beneficial	The development enhances to a clearly discernible extent the heritage values of the heritage assets, or the ability to appreciate those values.
Minor beneficial	The development enhances to a minor extent the heritage values of the heritage assets, or the ability to appreciate those values.
Negligible beneficial	The development would imperceptibly enhance the intrinsic values of the identified heritage assets, or the experience and appreciation of the buildings or the designated area.

Neutral	The development may result in some visual change but does not affect the heritage values of the heritage assets in the view, or the ability to appreciate those values.
Negligible adverse	The development would alter, but not diminish, the intrinsic values of the identified heritage assets, or the experience and appreciation of the buildings or the designated area to any appreciable degree.
Minor adverse	The development erodes to a minor extent the heritage values of the heritage assets, or the ability to appreciate those values.
Moderate adverse	The development erodes to a clearly discernible extent the heritage values of the heritage assets, or the ability to appreciate those values.
Major adverse	The development severely erodes the heritage values of the heritage assets, or the ability to appreciate those values.

Significance of Effect

- 9.23 Derived by combining the significance rating of the resource with the magnitude of impact for each asset, Table 9.3 illustrates how information on the significance of the asset and the magnitude of the impact has been combined to arrive at an assessment of the significance of effect. The matrix is not intended to 'mechanise' judgment of the significance of effect but act as a check to ensure that judgments regarding value, magnitude of impact and significance of effect are reasonable and balanced.
- 9.24 The tabulated matrix below (Table 9.3) is generally consistent with recognised criteria as defined within ICOMOS Guidance (2011). This is not, however, intended to be prescriptive, and does not take into account the existing character of the areas around the site. Scale or severity of impacts or changes can be judged taking into account their direct and indirect effects and whether they are temporary or permanent, reversible or irreversible. The cumulative effect of separate impacts should also be considered. The scale or severity of impact can be ranked without regard to the value of the asset.

Table 9.3 – Significance of Effect Matrix

Magnitude	Sensitivity		
	High	Medium	Low
Major	Major Adverse/Beneficial	Major-Moderate Adverse-Beneficial	Moderate –Minor Adverse-Beneficial
Moderate	Major –Moderate Adverse/Beneficial	Moderate –Minor Adverse-Beneficial	Minor Adverse/Beneficial
Minor	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor- Negligible
Negligible	Negligible	Negligible	Negligible
Neutral	Neutral	Neutral	Neutral

Assumptions / Limitations

- 9.25 Survey of the Site was undertaken in October 2024 by visual inspection.
- 9.26 Survey of the identified heritage assets within the study area was from publicly accessible areas. As such the study is limited to assessment from ground level.
- 9.27 Assessment of below ground archaeology does not form part of this assessment.

BASELINE CONDITIONS

- 9.28 The Site is bounded by Dyche Street to the north-west, by Sharp Street to the north-east, by Rochdale Road to the south-east, and by a large surface car park to the south-west. The Site is currently occupied by an early-20th century former Baptist Chapel, called the Particular Baptist Chapel, which has been identified by Manchester City Council as being a non-designated heritage asset.
- 9.29 The site is not located within a conservation area and does not contain any statutorily listed buildings. However, there are a number of heritage assets within the setting of the site, which will form part of the consideration of this chapter.
- 9.30 A 500m study area has been established to identify all heritage assets within the local setting of the site. The study area is considered to be an area of analysis proportionate to the nature of the Site, taking into account the character and form of the local townscape, and the scale of the Proposed Development. A site survey was undertaken in October 2024 to gain a full understanding of the site and its surroundings and to confirm the appropriateness of the study area. The following 49 designated heritage assets fall within 500m of the site boundary:

- Workshops, Shop and Warehouse, Grade: II
- Derros Building, Grade II
- 8 Cable Street, Grade II
- Hare And Hounds, Grade II
- Charter Street Mission (Formerly Charter Street Ragged School and Working Girls' Home), Grade II
- Parkers Hotel, Grade II
- Ashton House, Grade II
- Former Police and Ambulance Station, Grade II
- Marble Arch Inn, Grade II
- Crown And Kettle Public House, Grade II
- Holyoake House, Grade II
- Victoria Buildings, Grade II
- Cooperative Wholesale Society Building to North of Junction with Hanover Street, Grade II
- Victoria Square, Grade
- Cooperative Society Building, Grade II
- Co-Operative Insurance Society (CIS) Building, Grade II
- 29, Shude Hill, Grade II
- Sharp Street Ragged School, Grade II
- Warehouse On West Corner of Junction with Simpson Street, Grade II
- New Century House, Including its Attached Conference Hall and Abstract Concrete Relief Wall in The Entrance Piazza, Grade II
- 29, Swan Street, Grade II
- Former Midland Bank, Grade II
- Cooperative Press, Grade II
- Cooperative Society Building, Grade II
- Smithfield Market Hall, Grade II
- The City Public House, Grade II
- Former Wholesale Fish Market, Grade II
- 31-35, Thomas Street, Grade II
- Union Bridge, Grade II
- Former Doctor's Surgery, Grade II
- Nos. 69-77, Lever Street and No. 10, Bradley Street, Grade II
- 7, Kelvin Street, Grade II
- 38 Back Turner Street, Grade II
- Warehouse, Workshop and Shops, Grade II
- 49-53, Tib Street, Grade II
- 10-20, Thomas Street, Grade II
- 42, 44 And 46 Thomas Street (Including 41, 43 And 45 Back Turner Street), Grade II
- Daily Express Building, Grade II*
- Nos. 104 and 106, High Street, Grade II
- Castle Hotel, Grade II
- Cooperative Wholesale Society, Grade II
- 105, Oldham Street, Grade II
- Former Church of St Peter, Grade II
- 1, Kelvin Street, Grade II
- Numbers 4, 6 And 8 and Attached Screen Walls, Grade II
- 75 and 77, High Street, Grade II
- Smithfield Conservation Area
- Ancoats Conservation Area
- Shudehill Conservation Area.

9.31 Given the dense nature of the townscape surrounding the site, it is considered that the Proposed Development will not materially (or significantly) affect an appreciation of the significance of a number of the heritage assets identified above. Owing to separating distance, or the obscuring effect of interposing development, a number of designated heritage assets have been scoped out of the assessment and are not considered further in this report. Therefore, the following list represents the 11 designated heritage assets that have been scoped into this assessment:

- a) Marble Arch Inn (Grade II)
- b) Warehouse On West Corner of Junction with Simpson Street (Grade II)
- c) Cooperative Press (Grade II)
- d) Sharp Street Ragged School (Grade II)
- e) Charter Street Mission (Formerly Charter Street Ragged School and Working Girls' Home) (Grade II)
- f) Former Police and Ambulance Station (Grade II)
- g) 8 Cable Street (Grade II)
- h) New Century House, Including its Attached Conference Hall and Abstract Concrete Relief Wall in The Entrance Piazza, (Grade II)
- i) Parkers Hotel (Grade II)
- j) Co-operative Insurance Society (CIS) Building (Grade II)
- Shudehill Conservation Area.

SENSITIVE RECEPTORS

Heritage Baseline

9.32 The heritage baseline is summarised in Table 9.4 below. The Heritage Asset Plan at Figure 9.1 shows the location of those assets scoped into this chapter.

Table 9.4: Heritage Assets with potential to affected by the Proposed Development

Map Reference	Name	Designation
Listed Buildings		
A	Marble Arch Inn	Grade: II
B	Warehouse On West Corner of Junction with Simpson Street	Grade: II
C	Cooperative Press	Grade: II
D	Sharp Street Ragged School	Grade: II
E	Charter Street Mission (Formerly Charter Street)	Grade: II

	Ragged School and Working Girls' Home),	
F	Former Police and Ambulance Station	Grade: II
G	8 Cable Street	Grade: II
H	New Century House, Including its Attached Conference Hall and Abstract Concrete Relief Wall in The Entrance Piazza, Grade II	Grade: II
I	Parkers Hotel	Grade: II
J	Co-operative Insurance Society (CIS) Building	Grade: II
Conservation Areas		
	Shudehill Conservation Area	Conservation Area
Non-Designated Heritage Assets		
Within red line indicating boundary	Particular Baptist Chapel (The Site)	NDHA

- 9.33 The baseline appraisal of these heritage assets is provided in Table 3 within the appended Heritage Statement.

ASSESSMENT OF EFFECTS

- 9.34 Tables 9.5 and 9.6 below set out the likely effects of the proposals in the 'Construction' and 'Completed and Operational' phases of the scheme. The likely effects across these phases have been presented in two separate tables because additional mitigation measures are needed in the first of these phases to limit the extent and nature of the effect on heritage assets whilst in the operational phase, mitigation is embedded within the scheme through design quality and the delivery of public benefits.
- 9.35 Public benefits which are embedded into the scheme include wider planning benefits, such as general improvements to the amenity of the local area. These

planning benefits are expounded in further detail in the Planning Statement prepared by Zerum.

Table 9.5 Likely Significant Effects: Construction

Receptor	Additional Mitigation Measure	Likely Significant Overall Effect
Listed Buildings		
Marble Arch Inn	N/A	Neutral
Warehouse On West Corner of Junction With Simpson Street	Construction methodology and programme	Minor Adverse
Cooperative Press	N/A	Neutral
Sharp Street Ragged School	Construction methodology and programme	Minor Adverse
Charter Street Mission (Formerly Charter Street Ragged School And Working Girls' Home),	N/A	Neutral
Former Police and Ambulance Station	N/A	Neutral
8 Cable Street	N/A	Neutral
New Century House, Including its Attached Conference Hall and Abstract Concrete Relief Wall In The Entrance Piazza, Grade II	N/A	Neutral
Parkers Hotel	N/A	Neutral
Co-operative Insurance Society (CIS) Building	Construction methodology and programme	Minor Adverse
Conservation Areas		
Shudehill Conservation Area	N/A	Neutral
Non-Designated Heritage Assets		
Particular Baptist Chapel (the site)	Construction methodology and programme	Moderate Adverse

Table 9.6 Likely Significant Effects: Completed and Operational Development

Receptor	Embedded Mitigation Measure	Likely Significant Effect
Listed Buildings		
Marble Arch Inn	N/A	Neutral
Warehouse on West Corner of Junction with Simpson Street	Public benefits including activation of local streetscape and pedestrian environment in setting of heritage asset.	Minor Adverse
Cooperative Press	N/A	Neutral
Sharp Street Ragged School	Public benefits including activation of local streetscape and pedestrian environment in setting of heritage asset.	Minor Adverse
Charter Street Mission (Formerly Charter Street Ragged School and Working Girls' Home),	N/A	Neutral
Former Police and Ambulance Station	N/A	Neutral
8 Cable Street	N/A	Neutral
New Century House, Including its Attached Conference Hall and Abstract Concrete Relief Wall in the Entrance Piazza	N/A	Neutral
Parkers Hotel	N/A	Neutral
Co-operative Insurance Society (CIS) Building	N/A	Minor Adverse
Conservation Areas		
Shudehill Conservation Area	N/A	Neutral

Non-Designated Heritage Assets		
Particular Baptist Chapel (The site)	The restoration of a number of significant elements of the building, and public benefits such as the activation of local streetscape and pedestrian environment in setting of heritage asset.	Minor-Moderate Adverse

ADDITIONAL MITIGATION & ENHANCEMENT

- 9.36 Embedded mitigation is embodied by the design quality of the scheme and the retention and restoration of the most significant elements of the former Chapel building, along with public benefits that will deliver the activation of the local streetscape and pedestrian environment in the setting of the site and surrounding heritage assets. This embodied mitigation will serve to balance against the identified adverse impacts on heritage assets identified in Table 9.6 above.
- 9.37 Additional mitigation is required to off-set potential adverse effects identified in Table 9.5 arising from the construction phase. This additional mitigation will take the form of a Construction Methodology and Programme which limits the impact the demolition and construction activities will have on heritage assets in the setting of the site (including dust, noise, vibrations, increased traffic). The effects from the demolition and construction works on heritage assets will be temporary.
- 9.38 Additional mitigation to off-set adverse impacts in the operational phase of the Proposed Development is provided in the form of public benefits, which are expounded in the Planning Statement prepared by Zerum.

CUMULATIVE EFFECTS

- 9.39 The Proposed Development has been considered in the context of the following cumulative developments:
- Land Bounded by Angel Street, Miller Street And Angel Square Known As Plots M And N Manchester, NOMA, (134307/FO/2022)
 - 25 Rochdale Road, Manchester M4 4HT, (127537/FO/2020)
 - 87 Rochdale Road, Manchester M4 4HY, (136574/NMC/2023)
 - One Park Place, Cheetham Hill Road, (138302/FO/2023)
 - Land Bounded by Dantzic Street, Dalton Street And The Railway Line Known As Plots NT02, NT03 And NT04 Manchester, Victoria North, Redbank, (136814/FO/2023)
- 9.40 The effects identified in Tables 9.6 and 9.7 are not considered to reduce or increase in the context of these cumulative schemes and as such remain the same.

SUMMARY & RESIDUAL EFFECTS

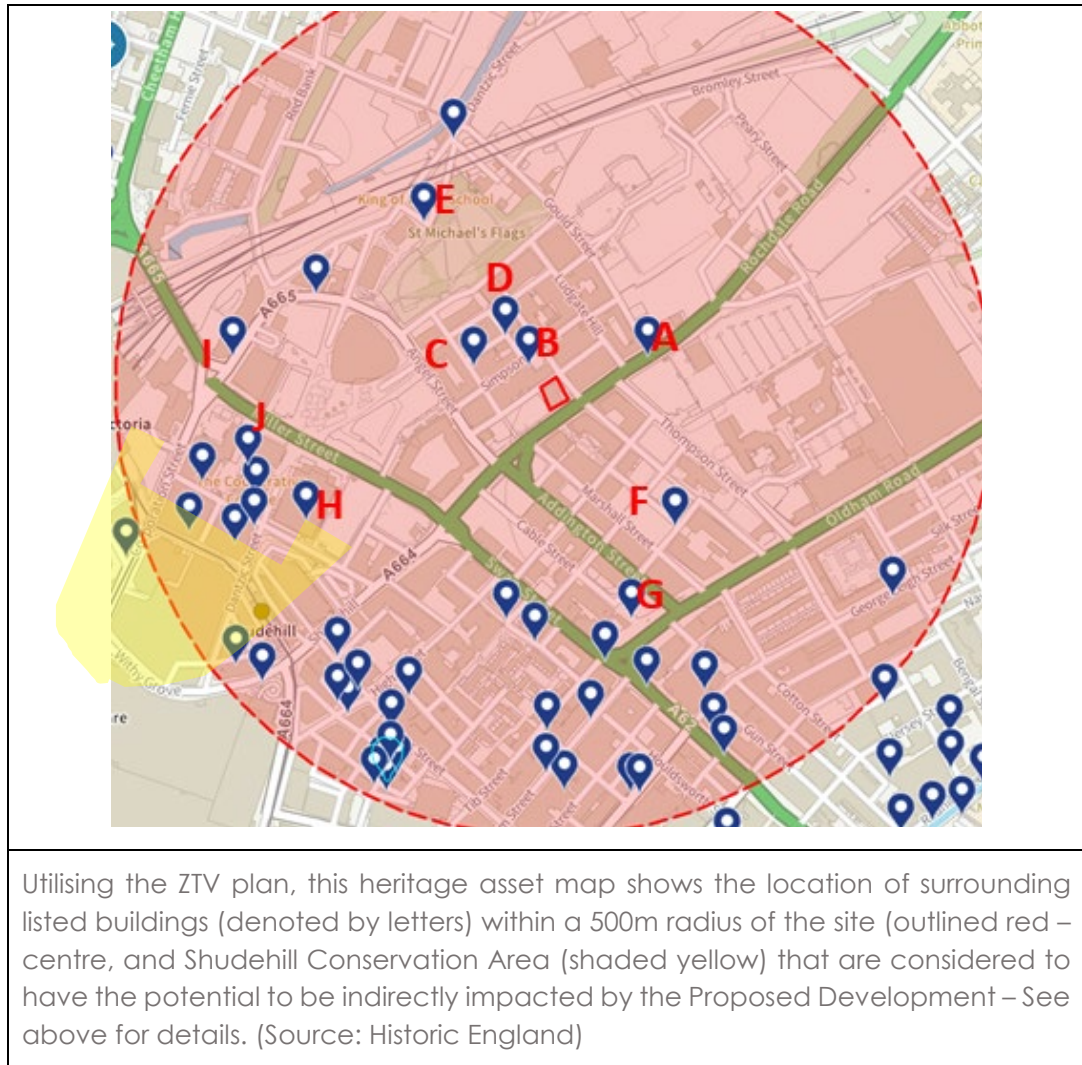
- 9.41 In both construction and during the operational phase, the Proposed Development will result in a large number of **neutral** impacts on identified, surrounding heritage assets, in addition to three examples of **minor adverse** effects on the settings of surrounding listed buildings. Regarding the Grade II listed Warehouse on west corner of Junction with Simpson Street and Sharp Street Ragged School, minor adverse impacts are identified in both the construction and operational phases due to intervisibility with the Site and the introduction of a new, tall element within the established and consistent, low-rise settings of these listed buildings. A **minor adverse** impact on the setting of the CIS Tower is identified as a result of the visual impact that is illustrated in View 1.
- 9.42 The local enhancement to the streetscape and pedestrian environment delivered through the Proposed Development is recognised and identified as being something which has the potential to improve and enliven the setting of localised heritage assets. The Proposed Development will herald further investment in this part of Manchester and make a positive contribution to its sense of vitality and regeneration.
- 9.43 As a NDHA, the sensitivity of the Particular Baptist Chapel within the site is considered to be low, however the magnitude of impact in both the construction and operational phases of the Proposed Development is judged to be high given the nature of the scheme and level of demolition proposed. A **single significant effect** – a **moderate adverse impact** – is identified as arising from the construction phase of the Proposed Development on the Chapel. The works are temporary and mitigated by a Construction Methodology and Programme and are identified as being necessary for facilitating the Proposed Development which will provide the building with a viable new use.
- 9.44 In the operational phase, a minor-moderate adverse direct impact is identified on the Chapel. The scheme necessitates the loss of the rear, northern part of the Chapel, along with the eastern wing. The retained southern part of the building will be integrated with the proposed tall tower element. The loss of historic fabric is balanced against the restoration and refurbishment of some of the historic fixtures and fittings of the Chapel, including the retention of the majority of the original nave along with the restoration of the front elevation of the building, including stained glass windows, doors and the reuse of the historic 18th and 19th century headstones within the front yard area. The setting impact of the tower on an appreciation of the Chapel from the public realm is judged to result in a moderate adverse indirect impact. The direct and indirect impact of the Proposed Development in the operational phase of the Proposed Development are balanced to result in a **minor-moderate adverse** impact on the Chapel overall.

REFERENCES

- Planning (Listed Buildings & Conservation Areas) Act 1990.
- National Planning Policy Framework (2024).
- Planning Practice Guide, Historic Environment (published 2014, updated 2019).
- Historic England, Conservation Principles. Policies and Guidance (2008).
- Historic England, The Setting of Heritage Assets (2017).

- Historic England, Historic Environment Good Practice Advice in Planning. Note 2: Decision-Taking in the Historic Environment (2015).
- Historic England, Statements of Heritage Significance (2019).
- Historic England, Tall Buildings: Advice Note 4 (March 2022).
- Places for Everyone (March 2024).

Figure 9.1: Heritage Asset Plan



10. SOCIO-ECONOMICS

INTRODUCTION

- 10.1 This chapter of the ES assesses the likely environmental effects of the Proposed Development with respect to socioeconomics. This chapter 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 adverse effects; and the likely residual effects after these measures have been adopted.

RELEVANT LEGISLATION & GUIDANCE

National Planning Policy Framework (NPPF); (MHCLG, 2024)

- 10.2 The NPPF guides local authorities, planning inspectors, and decision-makers on how to make planning decisions and shape development sustainably and efficiently. It suggests that planning policies should promote the vitality and viability of town centres, allowing them to adapt, diversify, and include a mix of uses.
- 10.3 Local authorities are required to take the NPPF into account when preparing their local development plans and making planning decisions. The NPPF provides a set of principles and objectives for balancing competing interests, such as the need for housing and economic growth with environmental protection and community well-being.
- 10.4 The NPPF suggests local councils assess the housing needs (size, type, and tenure) of different groups in the community while preparing local development plans.

Planning Policy Guidance (PPG); (MHCLG, 2019)

- 10.5 PPG refers to a series of documents issued by the government in the United Kingdom that guide local planning authorities, developers, and other stakeholders on various aspects of the planning system. The PPG offers detailed advice and interpretation of national planning policies, helping to ensure consistency and effective implementation across different planning authorities. This guidance is designed to assist local planning authorities in preparing their local development plans, as well as guiding developers and other stakeholders in understanding the expectations and requirements of the planning system.
- 10.6 The PPG highlights the importance of delivering housing, including affordable housing, to meet the needs of the local population. It provides guidance on housing density, mix, and design quality.

Homes England Strategic Plan 2023-28: (Homes England, 2023)

- 10.7 The Strategic Plan published by Homes England focuses on the delivery of high-quality homes and thriving places, aimed at supporting the levelling up of communities across England. The strategic objectives outlined in the Plan include delivering homes that people need; creating vibrant and successful places;

building a housing and regeneration sector that works for everyone; enabling sustainable homes and places; and promoting high-quality homes in well-designed places.

- 10.8 As outlined in the Plan, local governments are best placed to understand the housing needs and challenges in their local area and Homes England will work with local authorities to deliver the right housing for each area. There will also be collaboration with private housebuilders, master developers, lenders, and commercial real estate. Homes England also recognises the importance of working with affordable housing providers to deliver much-needed new affordable housing.

REGIONAL POLICY AND GUIDANCE

Greater Manchester Strategy 2021-2031 (GMCA, 2021)

- 10.9 This strategy sets out the long-term vision and priorities for the Greater Manchester area. It outlines the region's ambitions and objectives across various domains, including the economy, environment, transport, housing, health, and social issues.
- 10.10 The Proposed Development will help achieve some of the priorities and socio-economic objectives set, for the prosperity and holistic growth of the region, within the strategy document. The following are the key objectives of the strategy:
- a. Ensure local communities, cities and districts are protected and strengthened with new homes and decent affordable housing delivered.
 - b. Reduce inequalities to drive economic growth, ensuring that a variety of demographics are contributing to and benefiting from the region's success.
 - c. Foster and maintain social infrastructure and increase engagement with the local community.
 - d. Make Greater Manchester accessible for people of all ages and backgrounds.
 - e. Increase access to sustainable transport through improved public transport, cycling and pedestrian infrastructure.
 - f. Redevelop buildings to achieve equality and environmental goals.

Places for Everyone (PfE) Joint Development Plan 2022 – 2039 (GMCA, 2024)

- 10.11 Places for Everyone is a long-term plan of nine Greater Manchester districts which will determine the kind of development that takes place in their boroughs, maximising the use of brownfield land and urban spaces while protecting Green Belt land from the risk of unplanned development. The plan is the result of a process that began as the Greater Manchester Spatial Framework (GMSF) in 2014 and has been informed by the feedback received from residents, businesses, and the development industry to previous consultations on that Plan. It has now become

the statutory development plan for each of the nine PfE authorities in March 2024. The nine districts covered by the Plan are: Bolton; Bury; Manchester; Oldham; Rochdale; Salford; Tamesides; Trafford; and Wigan. Key policies include:

- Policy JP-H1: Scale, distribution and phasing of new housing development - this sets out the minimum number of additional dwellings of 175,185 that will be delivered over the period 2022-2039 with an annual average of around 10,305 across nine PfE authorities, of which 60,061 new dwellings are set for Manchester with an annual average of 3,533 new dwellings.
- Policy JP-H2: Affordability of new housing – this policy sets out how improvements will be sought in the ability of people to access housing at a price they can afford, which includes maximising the delivery of affordable homes, and supporting the provision of affordable housing as part of new developments. Increasing the supply of affordable homes is listed as an essential component of the overall strategy.
- Policy JP-Strategy 2: City Centre – The role of Manchester City Centre as the most significant economic location in the country outside London will be strengthened. This will be done by focusing on business, retail, leisure, culture and tourism, and increasing the role of residential in growing the City Centre.
- Policy JP-J1: Supporting Long-Term Economic Growth – there is an emphasis on maintaining a high level of economic diversity across the region, and facilitating the development of high value clusters in key economic sectors. This policy also aims to support local job growth, by seeking agreements with employers and developers, including housebuilders, to enter into local labour and training agreements through planning obligations.
- Policy JP-P5: Education, Skills and Knowledge – the policy aims to make enhancements to education, skills and knowledge to benefit existing and new residents. This will be done by enabling the delivery of new and improved facilities and supporting the continued growth and success of the university sector. This will also be done through ensuring the delivery of sufficient school places to respond to the demands from new housing, such as through working with education providers to forecast changes in demand for school places, and where appropriate requiring housing developments to make a financial contribution to the provision of additional school places.

LOCAL POLICY AND GUIDANCE

Manchester Core Strategy (MCC, 2012)

- 10.12 The Manchester Core Strategy document, also known as the Core Strategy Development Plan Document (DPD), is a key planning document that sets out the long-term spatial vision and strategic policies for the city of Manchester. It was updated following the adoption of PfE Joint Development Plan in March 2024. It provides a framework for guiding development and shaping the city's growth and regeneration. The document is prepared by Manchester City Council and is based on extensive research, consultation, and analysis of the city's needs and aspirations. It covers a wide range of planning-related topics, including land use, housing, employment, transportation, community facilities, and the environment.

- 10.13 The strategy document outlines Policy H1: prioritises residential developments on brownfield sites and emphasises the reuse of existing buildings in new developments. The housing trajectory and provision are now Replaced by PfE Policy JP-H1.
- 10.14 Policy H2, Strategic Housing Location, identifies the key locations for new residential developments throughout the planned period will be within the areas east and north of Manchester City Centre. Land development will be supported in this area to encourage the creation of large development sites or clusters of sites to provide regeneration benefits.
- 10.15 In accordance with Policy H3, North Manchester has been designated to accommodate around 20% of the total 60,000 new residential units to be developed by 2027. This strategic plan places a strong emphasis on the prioritisation of family housing and other high-value developments. Furthermore, the policy allows for the construction of high-density mixed-use housing, particularly along major public transportation routes. Notably, this applies significantly to areas such as the Regional Centre (Strangeways and Collyhurst area), where the Proposed Development is planned to be situated. Within these locations, there is a specific focus on enhancing accessibility and connectivity, aligning with the broader goals outlined in Policy H3.
- 10.16 Policy H8 outlines the affordable housing requirements for the residential development in North Manchester. These requirements entail contributing to a city-wide target of 20% affordable housing provision. The proportion of affordable housing should be in line with the development's size and type, with potential adjustments based on financial viability assessments. There is an emphasis on inclusive design for these housing units. Exemptions or reductions in affordable housing provision may be granted under specific conditions, such as the presence of a high level of existing affordable housing or viability concerns. Furthermore, alternative equity-based options for delivering affordable housing will be considered, all with the overarching goal of enhancing housing affordability while considering economic factors during the development process.
- 10.17 Policy C1 states that the development of district centres that is aligned with the distinct local character, provides housing, a good range of services including retail, health, and leisure facilities.
- 10.18 Policy C3 for North Manchester supports developments that promote vitality during the daytime and offer a broader range of commercial and public uses.

Manchester Housing Strategy (2022-2031): (MCC, 2022)

- 10.19 The Manchester Housing Strategy sets out the long-term vision to deliver the homes that people in the Council area want and need. The core principles of the strategy are:
- Increase affordable housing supply and build more new homes for all residents;
 - Work to end homelessness and ensure housing is affordable and accessible to all;

- Address inequalities and create neighbourhoods where people want to live; and
- Address the sustainability and zero-carbon challenges in new and existing housing.

10.20 Specifically, to increase affordable housing supply, the strategy sets a target of delivering 10,000 affordable homes between 2022 and 2032, or an average of 1,000 homes each year. Of the 10,000 new affordable homes, 3,000 will be delivered in the city centre, and over a third will be shared ownership or rent-to-buy to help first-time buyers. This will contribute towards the goal of increasing the number of owner-occupiers in Manchester by 15,000 by 2032.

ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

10.21 This section of the assessment outlines the methodology used to establish the potential economic and social effects of the Proposed Development assessed against the baseline conditions. The effects of the Proposed Development are considered at varying spatial levels according to the nature of the effect considered. This proposed approach follows Homes & Communities Agency (HCA) Additionality Guide 4th Edition, which is the widely accepted guidance for socio-economic assessment.

Baseline Study Methodology

10.22 The relevant baseline data has been accessed and analysed for the site and/or local electoral ward level, and at the Borough and/or regional level where relevant. The baseline section of this assessment has been compiled using the following data sources:

- Additionality Guide (HCA, 2014);
- Annual Population Survey (ONS, 2024a);
- Business Register and Employment Survey (ONS, 2023c);
- Census data (Office for National Statistics (ONS, 2021);
- Construction statistics annual tables (ONS, 2022);
- Department for Education (DfE) data;
- Ministry of Housing, Communities and Local Government (MHCLG) data;
- National Health Service (NHS) data; and
- 2015 and 2019 Index of Multiple Deprivation (MHCLG)

Scope of the Assessment

10.23 The socio-economic assessment has been considered against existing socio-economic conditions. There are no obligatory standards or guidelines for defining

- socio-economic impacts and the significance of effects. In order to assess the significance of effects, professional judgement as to the proportionate impact of the Proposed Development in its local, regional and/or national context has been used.
- 10.24 The principal economic effect of the Proposed Development is considered relative to Manchester City / Greater Manchester (local), North West (regional) and England (national), as these represent the principal labour market catchment areas.
- 10.25 The measurement of additionality requires an intervention option, a reference (baseline) case, estimation of gross direct effects, leakage, displacement, and multiplier effects. This applies to this assessment's estimation of the employment generated by the Proposed Development.
- 10.26 Where possible, quantitative assessment has been undertaken. This relates particularly to the assessment of employment and economic effects. Gross employment is calculated in relation to the demolition and construction phases of the Proposed Development. The methodology applied for the calculation of gross employment generation in the demolition and construction phase is based on a turnover per construction employee estimate. For this assessment, the average output per construction employee is approximately £160,780 (ONS, 2024b; ONS, 2022). The number of Full Time Equivalent (FTE) jobs created have been calculated based on the convention that each permanent FTE job is equivalent to ten person-years of temporary employment.
- 10.27 At the operational stage, employment density figures for the non-residential uses within the Proposed Development are, where possible, derived from the HCA Employment Densities Guide.
- 10.28 In calculating the estimated number of jobs generated by the Proposed Development, both at the demolition and construction and operational stages, the methodology follows that set out in the HCA Additionality Guide 4th Edition. The guidance recommends that the gross number of jobs should be adjusted to arrive at a net figure which takes account of deadweight, leakage, and displacement. The same guidance has been used when calculating the indirect and induced multiplier effects. For clarity, the definitions of these terms are summarised below:
- Deadweight is defined as the 'output that would have occurred without the intervention'. In this case, the 'intervention' is the Proposed Development.
 - Leakage effects are outputs that benefit those outside of the intervention's target area and are deducted from the gross direct effects. With regard to employment generation, this can be interpreted as those employed at the Proposed Development who reside outside of Manchester. According to 2021 Census data from the Office for National Statistics (ONS), 37.1% of those working in Manchester city live outside this area, which corresponds to a medium to high leakage rate as per HCA additionality guidance (ONS, 2021; HCA, 2014).
 - Displacement is the number of intervention outputs (e.g., jobs) that are accounted for by reduced outputs elsewhere in the target area. The

additional employment generated at the Proposed Development would be net of employment lost from the existing uses on the site.

- Indirect and induced multiplier effects in commercial development pertain to employment, investment and income associated with both the demolition and construction phase and occupation of the premises. The presence of multiplier effects implies that the Proposed Development will have proportionately greater effects than the direct effect of investment alone. For example, employment generated further along the supply chain represents an indirect multiplier effect, while those jobs created through extra spending from workers in the area represent an induced multiplier. For the purposes of this assessment, a multiplier of 1.5 has been applied based on medium supply chain linkages at the regional level.

10.29 Additional expenditure associated with the Proposed Development is calculated with reference to Family Spending statistics (ONS, 2023a). Family Spending provides figures for average weekly expenditure on goods and services for UK households.

10.30 The expected population for the Proposed Development has been calculated with the use of the Greater London Authority (GLA) Population Yield Calculator (GLA, 2019). The GLA Population Yield Calculator is a tool to estimate population yield from new housing development. It is commonly used across Great Britain due to its robustness and flexibility.

Extent of the Study Area

10.31 Effects on social and community infrastructure are assessed by various geographical effect areas, according to the most up-to-date socio-economic data or policy documents. This depends in part on the availability of relevant data, but in all probability the impacts will be more local. The table below illustrates the geographical area of effects and summarises the rationale for the effect area.

Table 10.1 Geographic Area of Effect

Effect	Geographical Area of Effect	Rationale/Evidence Base For Effect Area
Employment Generation	Greater Manchester and North West region	Since demolition and construction employment is relatively mobile, it is not generally considered appropriate to assess the potential employment effects of the demolition and construction stage at the local level. It is likely that operational employment could impact at all scales.
Additional local spending	City, Greater Manchester and North West region	The impact of additional local spending could impact at all scales
Housing	City and Greater Manchester	The impact of changes in housing quantity and availability could predominately impact the local level.
Primary Education Provision	Within 2 km of the site	Based on 2023 National Travel Survey distance thresholds for students in the North West

Effect	Geographical Area of Effect	Rationale/Evidence Base For Effect Area
Secondary Education Provision	Within 4.5 km of the site	Based on 2023 National Travel Survey distance thresholds for students in the North West
Health Provision	Within 1.5 km of the site	Considered a reasonable walking distance within 1.5 km
Open Space	On-site, 720m radius or 15 minute walk time	Recommended standard for natural and semi-natural open space as per the City Wide Open Spaces Sport & Recreation Study (2009)
Child Play Space	On-site, 480m radius or 10 minute walk time	Recommended standard for children's play space as per the City Wide Open Spaces, Sport & Recreation Study (2009)

10.32 The assessment of likely socio-economic effects is considered based on:

- *Magnitude of change* – this entails consideration of the absolute numbers of residents or employees affected and the size of the geographic area within which effects will be experienced.
- *Scale of the impact* – this requires consideration of the relative magnitude of each impact in its relevant market context; and
- *Duration of the impact* – more weight is given to long-term permanent changes than to short-term, temporary ones.

10.33 Conformity with standards for provision or accessibility as set out in relevant guidance and scope for mitigation is considered.

Assessment of Effects

10.34 The following criteria have been used to describe the sensitivity of the receptors, the magnitude of the impacts and the significance of the effects. There is no statutory definition of what constitutes a significant socio-economic effect and guidance is of a generic nature. The assessment of effects in this chapter has been based on the general methodology presented in ES Chapter 6 Methodology and expert judgement. The assessment has sought to be objective and to quantify effects where possible. Where quantification has not been possible, a qualitative assessment has been made and justified.

10.35 Receptors sensitive to socioeconomic factors vary in their nature and scale, and as such their values cannot be directly compared. Evaluation of socioeconomic receptors therefore requires a qualitative, rather than quantitative, assessment of the sensitivity of each receptor, regarding their ability to respond to change based on recent rates of change and turnover.

Table 10.2 Criteria for determining receptor sensitivity

Receptor	Sensitivity
High	Receptors that will be most directly affected by any effects of the Proposed Development and receptors with significant economic or social stake in the area (e.g. residents of the Proposed Development, local residents)
Moderate	Receptors that are sensitive to effects by virtue of proximity, accessibility or the specific facilities or uses provided by the Proposed Development (e.g. local community facilities, employees, businesses)
Low	This category represents receptors that are likely to experience some effect from the Proposed Development but at a low level (e.g. existing local businesses)
Negligible	Receptors with minimal connection to the site and little likelihood of being affected by any development effects (e.g. regional population)

Significance Criteria

- 10.36 The criteria used to assess how far an effect deviates from the baseline condition, i.e. the magnitude of change, are described in Table 1-3.

Table 10.3 Criteria for determining magnitude of change / impact

Magnitude	Criteria
Large	Effects that would have a significant economic or social effect locally or would be felt more widely than the city scale. Likely to directly affect many receptors or those with high sensitivity.
Medium	Effects that have a material economic or social effect locally or would be felt at a city scale.
Small	Effects that have some economic or social effect at a much-localised level.
Negligible	Effects that have minimal economic or social effects.

Significance of Effects

- 10.37 This assessment uses the scale of significance described in ES Chapter 6 Methodology to assess the potential and residual effects of the Proposed Development against the baseline conditions. As mentioned, the assessment process aims to be objective and quantifies the effects as far as possible. However, some socio-economic effects can only be evaluated on a qualitative basis.
- 10.38 The significance of a potential effect is derived by considering both the sensitivity of the feature and the magnitude of change, as demonstrated in Table 1-4.

Table 10.4 Matrix for determining effect significance

		Magnitude of Change / Impact			
		Large	Medium	Small	Negligible
Receptor Sensitivity	High	Major	Major	Moderate/Minor	Negligible
	Moderate	Major	Moderate	Minor	Negligible
	Low	Moderate/Minor	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Consultation

- 10.39 The scoping opinion did not raise any comments with respect to the proposed Socio-Economic ES chapter, that have not been covered within this assessment.
- 10.40 No statutory consultee responses to the scoping process were received in relation to the socioeconomic assessment.

BASELINE CONDITIONS

- 10.41 In this section, an overview of the current socio-economic conditions in the site's local and regional surroundings is presented. The baseline assessment analyses data at the local (City of Manchester), regional (North West), and National (England) levels. A range of sources have been utilised, as well as relevant local studies and assessments conducted in both Manchester City and Greater Manchester have been referenced to enhance the understanding of the site's existing socio-economic dynamics.

Existing Site

- 10.42 The existing site was once a Baptist Church but is currently unoccupied. The site is located to the East of Manchester Victoria Station, which serves as a key transport hub. The site is also surrounded by other residential units, shops, bars, and restaurants.

Demographics

- 10.43 The site is located within the local authority area of Manchester City, which is part of the wider Greater Manchester region. In 2022, the population of Manchester City was 568,996 in total, which is a 12.3% increase from the total population in 2012, compared to a 6.2% increase in the North West and a 6.7% increase in England (ONS, 2023b).

- 10.44 In 2022, there were 400,859 residents in Manchester of working age (16-64), making up 70.5% of the total population. This is higher than the North West (62.5%) and England (62.9%) (ONS, 2023b). The economic activity rate of the working age population in Manchester was 72.1%, which is lower than the North West and England, which were 76.7% and 78.7% respectively in 2022 (ONS, 2024a).
- 10.45 The population is projected to increase by 1.7% in Manchester by 2032, increasing to a total of 578,740 total residents. The proportion of working age population is projected to grow proportionately less than the total, with a projected growth of 1.3% (ONS, 2020).
- 10.46 In 2023, the population in Manchester of those aged 16-64 had a degree level or higher qualification (Regulated Qualifications Framework (RQF) Level 4+) was 60.3%. This is a significant increase from 2022, where the proportion was 52.5%, and is also significantly higher than the North West (44.4%) and England (46.7%) in 2023. 4.6% of the population aged 16-64 in Manchester in 2023 had no formal qualifications, which is lower than the North West (6.7%) and England (6.2%) (ONS, 2024a).
- 10.47 Data from the 2021 Census shows that the ethnic minority population forms 43.2% of the population in Manchester. This is an increase from the 2011 Census, where 33.4% of the population in Manchester were from minority ethnic groups. The proportion of the population from ethnic minority groups was also significantly higher than regional and national rates in 2021, where in the North West the proportion was 14.4%, and in England was 19.0%. Asian, Asian British or Asian Welsh formed the second largest ethnic group in Manchester (behind white), forming 20.9% of the population (ONS, 2021).

Economic Profile

- 10.48 The employment rate of 16-64 year olds in Manchester was reported as 71.4% in 2023, which is lower than averages across the North West and England, which were reported as 73.8% and 76.0% respectively. The employment rate of 16-64 year olds has however seen an increase since 2022, where it was reported as 67.8% (ONS, 2023c).
- 10.49 The industry sectors with the largest share of the workforce in Manchester City, as presented in Table 1.5, include professional, scientific & technical (14.1%), health (12.3%), and business administration and support services (11.6%). The industry sectors with the smallest share of the workforce in Manchester City are agriculture, forestry & fishing (0.02%), mining, quarrying & utilities (0.4%), and motor trades (0.5%).

Table 10.5: Proportion of Employment by Broad Industrial Group (ONS, 2023c)

Broad Industrial Group	Manchester City (%)	North West Region (%)	England (%)
Agriculture, Forestry, and Fishing	0.0%	1.1%	1.3%
Mining and quarrying and Utilities (electricity, water, gas)	0.4%	1.0%	1.1%
Manufacturing	3.0%	8.8%	7.4%

Broad Industrial Group	Manchester City (%)	North West Region (%)	England (%)
Construction	2.1%	5.2%	4.9%
Motor Trades	0.5%	1.6%	1.8%
Wholesale	3.0%	4.3%	3.8%
Retail	6.9%	8.7%	8.4%
Transport and storage	6.0%	4.7%	5.1%
Accommodation and food services	8.6%	7.9%	7.9%
Information and communication	5.8%	3.3%	4.7%
Financial and insurance activities	4.4%	2.4%	3.3%
Property	3.0%	1.8%	2.0%
Professional, scientific, and technical	14.1%	9.4%	9.5%
Business administration & support services	11.6%	8.2%	9.0%
Public administration and defence	5.3%	4.8%	4.2%
Education	9.3%	7.8%	8.3%
Health	12.3%	14.8%	12.9%
Arts, entertainment, and recreation	3.7%	4.0%	4.4%

Health

- 10.50 The initial assessment indicates that there are six GP practices situated within a 1.5km walking radius of the Proposed Development (NHS, 2024a). All of these GP surgeries have a patient-to-GP ratio of higher than 1,800, the Department for Health (DfH) target of registered patients per FTE GP. The nearest GP practice to the development is the City Health Centre, which is situated approximately 0.8km from the Proposed Development, and has a high patient-to-FTE GP ratio of 3,187. A summary of the six practices is provided in Table 10.6 below.

Table 10.6 General Practitioners within walking distance (NHS, 2024b)

GP Practice	Distance (km)	Registered Patients	FTE GPs	Patients per FTE GP
City Health Centre	0.8	14,859	5	3,230
Rochdale Road Surgery	0.8	5,687	2	2,585
Whitley Road Medical Centre	1.1	6,668	3	2,667
New Islington Medical Centre	1.1	11,423	3	3,360
MP Victoria Mill	1.3	4,155	1	6,925
Blackfriars	1.4	15,591	1	15,591

GP Practice	Distance (km)	Registered Patients	FTE GPs	Patients per FTE GP
Cheetham Hill Medical Centre	1.4	20,079	6	3,347
Total		78,462	20	3,865

*Numbers may not add up due to rounding

Index of Deprivation (IMD)

- 10.51 According to the IMD 2019, Manchester City is the second most deprived local authority out of a total of 317 local authorities in the country. In 2015, Manchester City was the most deprived local authority. This classification places Manchester in the top 10% most deprived local authorities nationwide. Despite this, an improvement is seen with regard to its position in 2015. Manchester is in the top 10% most deprived for crime deprivation, and the top 20% most deprived for health deprivation.
- 10.52 Manchester City comprises 282 Lower Super Output Areas (LSOAs), with 122 (43%) of them falling within the top 10% most deprived neighbourhoods in the country, with an additional 45 LSOAs falling within the top 20% most deprived. This means 59% of LSOAs in Manchester City fall within the 10% or 20% most deprived neighbourhoods. Only one LSOA falls within the 20% least deprived neighbourhoods.
- 10.53 The site is situated within Manchester 054B, a neighbourhood that falls within the 50% most deprived neighbourhoods nationally. This LSOA is in the top 10% most deprived neighbourhoods for living environment and barriers to housing and services, but is in the 10% least deprived for income, employment, and education, skills and training.

Housing Profile

- 10.54 In Manchester, the average property price in July 2024 was £245,832. Average prices ranged from £208,015 for a flat or maisonette, to £436,445 for a detached house. The average property price is significantly lower than the average across England, which was £305,879, but was more expensive than the average across the North West which was £219,887 (Land Registry, 2024).
- 10.55 According to the 2021 census data, the City of Manchester boasts a total of 214,730 dwellings. Of these, 37.2% are privately owned, which is significantly lower than averages across the North West and England, which are 62.3% and 61.3% respectively. Manchester has a much higher proportion of households who rent, compared to regional and national levels. In Manchester, 29.5% of households are rented socially and 32.3% are rented privately. In the North West, the figures are 17.6% and 19.2% for social and private rented respectively, and in England the figures are 17.1% and 20.5%. According to Census 2021 data, Manchester was in the highest 4% of English local authority areas for the share of households in the social rented sector in 2021.
- 10.56 The site falls within the Piccadilly Ward in Manchester. In the Piccadilly Ward, the most common type of housing is a purpose-built block of flats, which comprises

76.5% of all housing types. The second most common housing type is 'part of another converted building, including a former school, church or warehouse', which makes up 18.1% of housing types in the Piccadilly Ward. Houses, which cover detached, semi-detached, and terraced, only make up 1.9% of all housing types across the Ward (ONS, 2021).

Housing Need

- 10.57 The Greater Manchester Economic Forecast Modelling for 2010 (GMFM, 2010) paints a vivid picture of Manchester's economic and demographic evolution over the next two decades. This includes positive forecasts such as a 70% boost in GVA, a substantial 20% surge in job opportunities, an expected 17% rise in population, and a noteworthy 22% increase in households. This rate of growth was evidenced in the Census 2021 results, which show a 9.7% population increase in Manchester, compared to 5.2% in the North West. This in turn has resulted in unprecedented demand for housing and new homes. A pivotal challenge within this vision is to accommodate an additional 50,000 households over the next 20 years.
- 10.58 The need for affordable housing is highlighted in the Manchester Housing Strategy (MCC, 2022) and the PfE Joint Plan (GMCA, 2024). The latest housing target from the PfE Joint Plan is for 60,061 new dwellings from 2022-2039. Applying the Core Strategy (MCC, 2012) target of 20% affordable housing to this total new dwelling target, there is an aim for 12,012 new affordable housing units from 2022-2039, or 707 per year over the period of the strategy.

Education

- 10.59 In 2023, the average trip distance to school for 5 to 10-year-olds in North West England was 1.3 miles (2.0 km), and the average distance travelled for 11- to 16-year-olds was 2.8 miles (4.5 km) and these distance thresholds have been applied (DfT, 2023).
- 10.60 The existing baseline education provision relevant to the site has been assessed considering the National Audit Office (NAO) guidance. In terms of the availability of education places, the NAO states that "it considered that on average 5 per cent was the base minimum needed for authorities to meet their statutory duty with operational flexibility, while enabling parents to have some choice of schools."

Primary Education

- 10.61 Table 1.7 presents information about the 14 primary schools located within a 2 km radius of the site, which corresponds to the average distance travelled by primary-age pupils in North West England (DfT, 2023). Notably, the Olive Primary School has recently opened (September 2024), and caters to children aged 4 to 11 years old.
- 10.62 The data suggests that there is a total surplus of 303 places in primary schools located within 2 km of the site. If it is assumed that 95% occupancy should be planned for, the total surplus would decrease to 120 primary school places.

Table 10.7 Primary Education Schools within 2km of the site (DfE, 2024)

School Name	Number of Roll	Capacity	Surplus/Deficit	Surplus/Deficit at 95% Capacity
Abbott Community Primary School	229	240	11	-1
Cheetwood Primary School	211	210	-1	-12
St Malachy's RC Primary School	233	242	9	-3
St Patrick's RC Primary School	200	250	50	38
Saviour CofE Primary School	160	210	50	40
St Anne's RC Primary School	226	218	(-8)	-19
Co-Op Academy New Islington	385	420	35	14
Unity Community Primary	351	420	69	48
Oasis Academy Temple	694	709	15	-20
St Chad's Roman Catholic Primary School	227	240	13	1
Park View Community Primary Academy	-	-	-	-
Co-Op Academy Medlock	440	500	60	35
The Olive School, Manchester	-	-	-	-
Crown Street Primary School	-	-	-	-
Total	3,356	3,659	303	120

Secondary Education

10.63 Table 10.8 provides information for 11 secondary schools located within a 4.5 km radius of the site. This distance aligns with the average distance travelled by secondary-age pupils in North West England (DfT, 2023).

10.64 The difference between the number of students enrolled in a school and the number of school places is presented in Table 1.8. The difference indicates whether the provision of school places is over or under capacity. The data suggests there is a surplus of 1,033 places in secondary schools located within 4.5km of the site from schools with available data. If it is assumed that 95.0% occupancy should be planned for, as per Audit Commission Guidance, the total surplus would decrease to 495 secondary school places within 4.5km of the site.

Table 10.8 Secondary Schools within 4.5km of the site (DfE, 2024)

School Name	Number of Roll	Capacity	Surplus/ Deficit	Surplus/Deficit at 95% Capacity
St Peter's RC High School	1,040	1,000	-40	-90
Manchester Academy	1,086	1,170	84	26
Manchester Communication Academy	1,261	1,200	-61	-121
The King David High School	773	800	27	-13
Trinity CofE High School	1,510	1,500	-10	-85
Dean Trust Ardwick	1,315	1,200	-115	-175
The East Manchester Academy	999	1,100	101	46
Eden Boys' Leadership Academy, Manchester	643	800	157	117
Eden Girls' Leadership Academy, Manchester	637	800	163	123
Co-op Academy Belle Vue	473	1,200	727	667
Total	9,737	10,770	1,033	495

Open Space and Child Play Area

- 10.65 Manchester City Council last conducted an open space audit in 2009/10, and an updated audit was commissioned in 2022, as part of the new Local Plan. The audit identifies that Manchester is home to more than 150 parks and significant areas of semi-natural and amenity open space.
- 10.66 The current provision of open space in North Manchester is 3.85 hectares (ha) per 1,000 population, which is above the recommended standard of 1.9 ha per 1,000 population. However, the provision of play space for children across North Manchester is below the recommended level, with evident pockets of deficiency, including across Cheetham (MCC, 2009).
- 10.67 The 2009 Open Space Audit identifies the local standards for different categories of outdoor space, presented in Table 1.9.

Table 10.9: Parks and open space typology for Manchester City (MCC, 2009)

Typology	Quantity Standard (ha per 1,000 population)	Accessibility standard (m)	Example and distance from Proposed Development (m)
City Parks	0.2	15 minute drive	Mayfield Park (1,600)
Local Parks	0.49	10 minute walk (480)	St Michael's Flags and Angel Meadow (210)
Natural and Semi Natural Open Space	1.9	15 minute walk (720) 15 minute drive time (City Centre)	-
Amenity Green Space	0.4	10 minute walk (480)	Parsonage Gardens (480) St Catherine's (green space and landscaped area) (500)
Provision for Children	0.027	10 minute walk (480)	-
Provision for young people	0.034	15 minute walk (720)	-
Outdoor Sports Facilities	0.98	15 minute walk time (720)	-

10.68 According to Manchester City Council accessibility standards, the site is within reasonable distance of three open spaces and there are two more that fall just outside of the accessibility standards. Amenity green spaces are most commonly found in residential areas, and informal recreation spaces in and around housing and can provide overlapping functions with parks, recreation grounds, natural areas, and children's play spaces.

10.69 The baseline indicates that there is a shortage of natural and semi natural open space and play space for children and young people within the vicinity of the site. Cathedral Gardens and Playground is located 600m from the site despite not meeting the accessibility standard presented in Table 1.9.

SENSITIVE RECEPTORS

- 10.70 The socioeconomic context is ever-evolving and responsive, with ongoing shifts that impact various elements. In this section of the ES chapter, the adaptability of receptors is evaluated, assigning a 'low' sensitivity designation to those capable of adjusting to changes. For instance, displaced workers who can secure alternative employment within the surrounding area or within Greater Manchester are considered less sensitive than receptors that exhibit less flexibility, like social infrastructure resources. A summary of the identified receptors and their sensitivity can be found in Table 1-10.

Table 10.10 Sensitive Receptors

Receptor	Sensitivity	Justification
Local residents in surrounding areas	Moderate	The site is presently vacant; consequently, no current residents will be affected. However, nearby residents may be sensitive to alterations in traffic patterns and property values. Furthermore, the introduction of 133 new dwellings will lead to an increase in the local population.
Children & young people in the local areas	Moderate	There are currently no residents and no children on the site. Residents in the neighbouring areas will be affected by an increase in services and service demand.
Local Businesses	Low	Sensitivity varies depending on the nature of the business and its dependence on pedestrian traffic. Businesses located near the Proposed Development are likely to exhibit greater sensitivity to shifts in accessibility and competitive factors. While certain businesses might experience temporary disruptions during the demolition and construction phases, it is important to note that the long-term impacts will endure owing to the rise in local expenditure.
Employment Opportunities	Low	The impact of the Proposed Development is expected to be minimal due to the site's current vacancy. However, the addition of more commercial space is anticipated to have a positive effect.
New residents within the Proposed Development	Low	The Proposed Development will have moderate to high levels of impact on new

Receptor	Sensitivity	Justification
		residents. New residents are likely to be readily adaptive to change.
New employees within the Proposed Development	Low	The Proposed Development will have moderate to high levels of impact on new residents. New employees and businesses are likely to be readily adaptive to change.

ASSESSMENT OF EFFECTS

Demolition and Construction Employment

- 10.71 The Proposed Development is expected to generate new employment opportunities within the construction sector. To estimate the scale of this employment, standard ratios for gross output per construction employee have been used. This chapter first projects the total gross construction employment resulting from the Proposed Development and subsequently considers factors such as leakage, displacement, and multiplier effects. These analyses have enabled an evaluation of the net impacts on both local and regional economies.
- 10.72 The estimated construction period for the Proposed Development spans approximately 90 weeks, accounting for the overlap between enabling works and the construction programme (i.e., non-permanent works). Consequently, the impact is transient in nature. Although these employment opportunities are short-term, they represent a favourable economic impact that can be quantified based on the construction's scale and type.
- 10.73 The direct expenses associated with constructing the Proposed Development will boost economic activity in Manchester and the broader regional economies. To estimate the employment created during the temporary construction phase, the average output per construction industry employee in the North West, which in 2022 was £160,780 (ONS 2022; ONS 2024b), is applied to the estimated total construction cost. As a result, the Proposed Development is projected to generate a total of up to 197 person-years of construction employment on-site.
- 10.74 Using the convention of equating ten person-years of employment to one full-time equivalent (FTE) job in the construction sector, it is estimated that approximately 20 FTE construction jobs will be generated during the temporary demolition and construction phase.

Leakage Effects

- 10.75 Leakage effects refer to impacts that occur outside the project's immediate area. In the case of the Proposed Development, leakage pertains to the loss of employment opportunities beyond the boundaries of Manchester City. Analysis using Census 2021 origin-destination data reveals that 62.9% of individuals

employed in Manchester travel less than 10 km to their work destination, or work from home. This corresponds to a moderately low leakage rate as defined by HCA Additionality Guidance (HCA, 2014), suggesting that a substantial portion of the benefits will accrue to individuals residing outside the project's benefit area.

- 10.76 Applying a leakage rate of 37.1% to the estimated up to 20 gross direct construction jobs created by the Proposed Development indicates that an estimated up to 12 individuals from within Manchester and up to 7 individuals from elsewhere will be employed on-site throughout the demolition and construction period.

Displacement Effects

- 10.77 Displacement measures the extent to which a project's benefits are offset by reductions in output or employment elsewhere. Increased demand for labour has the potential to draw workers away from other positions, thereby reducing the net benefit.
- 10.78 Construction workers often shift between projects, especially when delays occur or to meet project deadlines. It is assumed that due to the labour market's flexibility and the fact that construction workers at the Proposed Development represent a small proportion of the Manchester labour force, displacement effects on direct construction employment will be minimal. In the context of a Manchester construction project, a low displacement rate of 25% is considered appropriate, as per the HCA guide (HCA, 2015). Applying this displacement rate to the total gross direct employment figure of up to 20 construction employees yields a net direct employment figure of up to 15 workers.

Multiplier Effect

- 10.79 In addition to the direct employment generated by the Proposed Development itself, there will be an increase in local employment arising from indirect and induced effects of the construction activity. Employment growth will arise locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers). Additionally, part of the income of the construction workers and suppliers will be spent within the Greater Manchester Area, generating further employment (in terms of induced or income multipliers).
- 10.80 Applying a multiplier of 1.5 to the total net direct employment figure of construction workers results in net indirect employment of 7 jobs during the demolition and construction period.

Net Construction Employment Effects

- 10.81 Table 1.11 presents the temporary employment generated by the construction of the Proposed Development, taking leakage, displacements, and multiplier effects into account. The total net additional employment created by the Proposed Development within Manchester is estimated to be up to 14 FTE jobs, whilst up to 8 FTE jobs will be created outside of Manchester, supporting a total of 22 FTE net jobs during the temporary demolition and construction phase.

Table 10.11: Construction Employment Effects (ONS, 2022; Buro Happold Calculations, 2024)

	Manchester	Elsewhere	Total
Gross Direct Employment	12	7	20
Displacement	3	2	5
Net Direct Employment	9	5	15
Indirect & Induced Employment	5	3	7
Total Net Employment	14	8	22

- 10.82 In the context of a large labour pool of construction workers in Manchester, the direct, indirect, and induced employment and expenditure created by the temporary construction phase of the Proposed Development is assessed to result in a negligible effect on the Manchester economy.

OPERATIONAL EFFECTS

- 10.83 This section analyses the scale, duration, and significance of socio-economic effects relative to the baseline socio-economic conditions recognised in the previous sections of this chapter. Effects are assessed for the Proposed Development once completed and occupied.

Existing Employment Deadweight

- 10.84 The existing employment that the site supports can be referred to as the 'deadweight' level of employment. 'Deadweight' refers to the outcome which would have occurred without intervention. As the derelict site currently does not accommodate any employment, the existing employment deadweight is considered zero.

Operational employment and economic effects

- 10.85 Upon completion and operational, the Proposed Development is expected to create long-term job opportunities. When estimating the project's operational job impact, it is essential to consider both its gross and net effects. This evaluation should account for factors such as leakage, displacement, and multiplier effects.
- 10.86 The number of jobs generated by the Proposed Development will be contingent on the final mix of development and the allocation of floor space by usage category. The preliminary Proposed Development plan includes approximately 89 sq. m. (Gross Internal Area) of commercial space, 189.9 sq. m. of co-working space, 239.36 sq. m. of gym and amenity spa space, and 91.4 sq. m. of space for a foyer and entrance lobby.
- 10.87 Based on appropriate employment density calculations, it is anticipated that the Proposed Development, once completed and operational, could yield a total of 29 gross direct jobs within the proposed Commercial and Co-working space. It is worth noting that the estimated gross direct employment might not accurately represent the actual employment resulting from the commercial floor space. This discrepancy arises from the employment density assumptions made during this

stage. The precise employment density of the flexible commercial space will depend on the specific arrangement of each usage class during operation.

Table 10.12: Gross Direct Operational Employment (BH calculations, 2024)

Employment Space	Floorspace (sqm) (NIA)	Employment Density (sqm) (NIA/GIA)	Gross Direct Employment
Commercial	89	15 NIA	6
Co-working	189.8	15 NIA	13
Gym	111.4	100 GIA	1
Amenity spa/wellness	127.96	65 GIA	2
Foyer	75.3	13 NIA	6
Entrance Lobby	16.1	13 NIA	1
Total	608.1		29

- 10.88 Assuming a leakage rate of 37.1%, a low level of displacement (25.0%) and a 1.5 multiplier, it is estimated that the Proposed Development will result in a total net gain of an estimated 33 jobs, of which approximately 21 will be created within Manchester. Table 10.14 presents further details.

Table 10.13: Net Operational Employment (BH Calculations, 2024)

Employment Space	Manchester	Elsewhere	Total
Gross Direct Employment	18	11	29
Displacement	5	3	7
Net Direct Employment	14	8	22
Indirect & Induced Employment	7	4	11
Total Net Employment	21	12	33

- 10.89 Considering the additional net direct, indirect, and induced employment created by the permanent employment from the Proposed Development, it is assessed that there will be negligible effect on the city of Manchester's economy.

Indicative tenure size and unit mix

- 10.90 The Proposed Development comprises a total area of 8,837.2 square meters (NIA). Within this, 7,682 square meters will be designated for residential units and will introduce 133 units to the neighbourhood.

Table 10.14: Indicative unit size mix

Dwelling	Private Units	Affordable Units	Total Units
1 bedroom	40	-	40
2 bedroom	93	-	93
Total	133	-	133

- 10.91 The likely number of future residents at the Proposed Development has been calculated based on the occupancy rates of the different sized homes, as per the approach in the GLA Population Yield Calculation (2019), which, in the absence of local guidance, provides a realistic estimate of the number of future residents of the Proposed Development.

Table 10.15: Total Number of Residents in the Proposed Development (GLA, 2019)

Dwelling	Total Residents
1 bedroom	66
2 bedroom	217
Total	283

Additional Local Spending

- 10.92 To estimate the benefit of the Proposed Development in terms of additional local expenditure, average weekly spending figures for residents in North West England have been applied to the estimated number of residents. The likely number of residents has been calculated based on the occupancy rates outlined within the GLA Population Yield Calculator.
- 10.93 An estimated 283 people will reside at the Proposed Development.
- 10.94 The ONS provides estimates on weekly and annual household spending by region, per person, which can be used to provide an estimate of annual spending per resident. In 2023, the annual expenditure per person was estimated to be £11,237 (ONS 2023a). To ensure a conservative estimate of new local spending, it is further assumed that some of those moving to the new market tenure homes would already reside in the local area, Manchester, and would thus not generate net new expenditure. To account for this, a displacement rate of 25% has been applied based on HCA ready reckoners. This discount also accounts for the potential to 'double count' the employment benefits.
- 10.95 To account for additional regional expenditure rather than at city of Manchester level, a leakage rate is accounted for. It is assumed that 37.1% of the household expenditure will be leaked outside of Manchester.
- 10.96 By applying these assumptions, a total net expenditure of £5,299 per person per annum is generated into the Manchester economy, as shown in Table 1.17.

Table 10.16: Direct, Indirect and Induced Spending per Person per Annum in Manchester (HCA, 2014; ONS, 2023; Buro Happold calculations, 2024)

	Gross Direct Expenditure (£)	Net Direct Expenditure (£)	Total Net Expenditure (£)
Total expenditure per person	11,237	8,428	5,299

- 10.97 Applying the average expenditure figures to the estimated 283 residents occupying market homes within the Proposed Development, an estimated total net benefit of up to £1.5 million per annum of additional local spending is generated. It is assumed that residents occupying the new affordable housing already live in the area therefore spending by these residents is not included in a calculation of the net additional local spending. The table below shows the direct, indirect, and induced residential spending in Manchester.

Table 10.17 Direct, Indirect and Induced Residential Spending in Manchester (HCA, 2014; ONS, 2023; Buro Happold calculations, 2024)

	Gross Direct Expenditure (£)	Net Direct Expenditure (£)	Total Net Expenditure (£)
Total expenditure for the Proposed Development	3,185,562	2,389,172	1,502,191

- 10.98 Considering the additional annual spending by residents within the Proposed Development, it is assessed that there will likely be a minor beneficial, long-term permanent effect at the local level and a negligible effect at all other spatial scales.

Housing

- 10.99 The Manchester Local Plan Strategy (2012) set out a target for an additional 50,000 dwellings in 20 years, resulting in an average of 2,500 dwellings provided per year. Policy H2 of the Core Strategy identifies a delivery requirement of 1,070 per annum on average within the Strategic Housing Location, where the Proposed Development is located. This target was supplemented by the Manchester Housing Strategy (2022), which identified a delivery target of 36,000 dwellings between 2022-3032, and also the PfE Joint Development Plan (GMCA, 2024) for 60,061 new dwellings across Manchester City from 2022 – 2039, or 3,533 per year.
- 10.100 The Proposed Development will contribute to meeting these targets by providing an additional 133 units, which represents approximately 3.8% of the average annual housing target outlined in the PfE Joint Development Plan for Manchester City.
- 10.101 Once the Proposed Development is completed, the additional 133 homes are considered to have a minor beneficial, long-term permanent effect on meeting the target for new housing provision in Manchester.

Affordable Housing

- 10.102 Affordable housing is defined as homes subsidised below market value ('intermediate homes') and social rented homes.
- 10.103 The Manchester City Council Core Strategy (2012) set the expectation that new developments will provide a minimum of 20% affordable housing. The Plan stipulates that 5% should be for social or affordable rented housing and 15% for intermediate housing. However, this target was replaced in the 2024 Core Strategy Addendum, by policy JP-H2 in the 2024 PfE Joint Development Plan, which stipulates that it is

important to provide a diverse mix of values and tenures, as well as an increase in affordable housing. No specific targets have been set for affordable and intermediate housing.

- 10.104 In addition, the Manchester Housing Strategy (2022) identifies a delivery target of 10,000 new affordable homes in the decade between 2022 and 2032.
- 10.105 Of the 133 homes included in the Proposed Development, all will be market homes. It is assessed that the Proposed Development will not make a contribution to new affordable homes targeted across Manchester, which will result in a negligible effect on affordable housing provision in Manchester.

Education

- 10.106 This section assesses the effects of increasing demand for education. The Proposed Development will result in an increased demand for educational places in any households with children occupying the new units.

Education Demand

- 10.107 The education assessment below describes the pupil yields, which have been calculated using the GLA Calculator, to obtain the number of children resident within the Proposed Development. Standard assumptions of the proportion of children assumed to generate new demand for school places have been applied to the population yields, to calculate the number of children likely to require access to schools within the local area.
- 10.108 Applications of these yields and assumptions to the accommodation schedule provide the following total number of school places at different stages of education provision as shown in Table 10.19.

Table 10.18: Estimated School Places Yield from the Proposed Development

	Primary School	Secondary	Total
Number of Pupils	14	2	16

Primary Education

- 10.109 The baseline analysis indicates that there is currently a surplus of 120 primary school places within 2.0 km of the site at a 95% occupancy rate.
- 10.110 Considering the assessment above, the expected demand arising for primary school places of up to 14 students could be fully met within local schools. As a result, it is anticipated that the Proposed Development will have a negligible effect on the provision of primary school places at the local level.

Secondary Education

- 10.111 The baseline analysis indicates that there is currently a surplus of 495 secondary school places within 4.5 km of the site at a 95% occupancy rate.
- 10.112 It is estimated that the Proposed Development will result in demand for up to 2 additional secondary school places, which could be met locally. As such, the Proposed Development is likely to have a negligible effect on secondary education provision within the area.

Primary Healthcare

- 10.113 The baseline analysis identifies six GP practices located within a 1.5 km walking distance of the site. The current patient-to-FTE GP ratio stands at 3,865, which is notably higher than the national average of 1,800 patients per GP.
- 10.114 The projected addition of 283 residents from the Proposed Development will likely increase the demand for local healthcare facilities. Furthermore, since 2015, employees have had the option to register with a GP near their workplace rather than their home. The inclusion of 21 new employees within the local area is expected to have a minimal impact on local GP practices.
- 10.115 In the scenario where all new residents and employees choose to register with local GPs, the patient-to-GP ratio would rise to 1 GP per 3,880 patients, significantly higher than the national standard of 1,800 patients per GP. As a result, it is assessed that the Proposed Development is likely to have a minor adverse (not significant), long-term, permanent impact on primary healthcare provision at the local level.

Open Space

- 10.116 The baseline analysis shows that the site is within a reasonable walking distance of two parks and gardens, according to Manchester City Council accessibility guidance, and there are three more which fall slightly outside this threshold.
- 10.117 Manchester City Council sets out standards of green space provision for local parks at 0.49 ha/1,000 persons, natural and semi-natural greenspace at 1.9 ha/1,000 persons, and amenity greenspace at 0.4 ha/1,000 persons.
- 10.118 It is estimated that the Proposed Development will accommodate 283 residents, who will place additional demands on open space. The baseline analysis has shown that there is a shortage of large open spaces in immediate proximity to the site, but the site has access to local-level open spaces and a small playground.
- 10.119 The Proposed Development will include approximately 358 square metres of open space, in the form of amenity terraces for the residential blocks. The provision of amenity space may help mitigate the impact the increased resident population may have on public spaces in the local area and provide new privately accessible open space for residents.

- 10.120 Overall, it is estimated that the Proposed Development will have a minor adverse (not significant) long-term, permanent effect on open space provision in the local area.

Play Space

- 10.121 The accessibility requirement for play space is 480m distance for children aged under 12, and 720m distance for young people aged 12-18. There is one playground located approximately 600m from the site. There is a shortage of play space for children and young people in the proximity of the site.
- 10.122 Manchester City Council sets out the provision of areas (0.027 ha per 1,000 population for children and 0.034 ha per 1,000 population for young people) designed for play and social interaction involving children and young people.
- 10.123 The child yields, or the estimated number of children to reside within the Proposed Development once completed and occupied, as contained within the GLA Population Yield Calculator, have been applied to the accommodation schedule.

Table 10.19 shows the results of the estimated play space requirements for the Proposed Development.

Age group	Number of children or young people	Total Play Space Recommended (sqm)
Children aged 0-11	52	13.8
Young people aged 12-18	5	1.8

- 10.124 Applying local policy targets, there is a requirement for 13.8 sqm of play space to serve 52 children aged 0 to 11 years old, and 1.8 sqm of play space to serve 5 children aged 12-18, estimated to reside within the Proposed Development once completed and fully occupied.
- 10.125 Considering the provision of green infrastructure and play areas within the Proposed Development and the proximity to other areas designated for children and young people, it is assessed that the Proposed Development is likely to have a minor adverse (not significant) long-term, permanent effect on play space provision within the local area.

ADDITIONAL MITIGATION & ENHANCEMENT

- 10.126 There are no significant socio-economic effects identified for the Proposed Development that require mitigation during the operational phase. However, the Proposed Development will deliver 133 residential units, which will likely place additional pressure on primary healthcare facilities, open space, and play space.

CUMULATIVE EFFECTS

- 10.127 Cumulative effects occur when a single receptor is affected by more than one effect at any point in time. Prospective developments within the surrounding area could have cumulative socio-economic effects with respect to population, housing provision, employment, spending, and demand for social infrastructure such as schools, healthcare and open space.
- 10.128 This section of the chapter assesses the socio-economic effects of the Proposed Development in combination with the potential socio-economic effects of the committed developments.
- 10.129 The Proposed Development is expected to start in Q3 (July) 2025 and is expected to be an 18-month programme, so will be completed by January 2027. Three cumulative schemes have been considered for the assessment of the combined effects they will have on identified sensitive receptors within Manchester:
- **Land Bound By Gould Street, Williamson Street, Bromley Street And Bilbrook Street (139811/NMC/2024):** Erection of 9 buildings ranging from 8 to 34 storeys in height to form 1,202 residential apartments (Use Class 3a) and ground floor commercial uses (Use Class E) (192 sqm) together with associated car parking, new vehicular and pedestrian access, public realm, landscaping and other associated works following demolition of existing structures and buildings.
 - **87 Rochdale Road Manchester M4 4HY (136574/NMC/2023):** Original application consented for February 2022 for the erection of a part 11, part 13 storey building to form residential apartments (Use Class 3a) together with the erection of two blocks of 3 storey duplexes (Use Class C3a) to form 237 residential homes in total with associated commercial floor (Use Class E) (132 sqm), basement car parking, landscaping and public realm, and associated engineering and infrastructure works following demolition of existing buildings and structures.
 - **25 Rochdale Road Manchester M4 4HT (127537/FO/2020):** Erection of an 11 storey 229 bedroom hotel (Use Class C1) with ancillary ground floor bar/restaurant together associated public realm and other associated works.

During Demolition and Construction

- 10.130 The construction phase of the Proposed Development along with the committed developments identified will generate additional construction related employment within Manchester and the North West. The scale of the construction employment generated cannot be readily quantified on the basis that the information available for each scheme is commercially sensitive. In addition, the timing and phase of the construction of these schemes along with the Proposed Development may not occur over the same periods, therefore the temporary construction related effects may not coincide.
- 10.131 The combined effects of the developments are likely to have a moderate beneficial (significant), long-term cumulative effect on construction employment due to the

potential for the committed developments to generate a considerable amount of construction employment (in addition to the Proposed Development).

During Operation

- 10.132 All of the cumulative schemes have been assessed during the operational phases due to the effects on the same target economic areas. While detailed information regarding the amount of employment floorspace to be generated by these cumulative schemes is not available, a high-level assessment suggests that gross direct employment resulting from the cumulative schemes may be upwards of 130 jobs. Thus, there will be an overall negligible cumulative effect on employment within the North West.
- 10.133 The cumulative schemes together with the Proposed Development, assuming they are built and complete, will provide approximately a combined 1,572 new homes in Manchester. This accounts for approximately 2.6% of the housing target identified in the 2024 PfE Joint Development Plan (GMCA, 2024). Thus, there will be an overall permanent minor beneficial, long-term cumulative effect on housing within the North West.
- 10.134 Residents within the Proposed Development and the cumulative developments will put additional demand on social infrastructure. Current provision is likely to be inadequate to meet the demand arising from the high number of residential units coming forward, especially for healthcare provision. However, given the identified housing need in policy documents and the absence of identified capacity issues, it is expected that planning policy will continue to ensure that there is sufficient investment into the necessary services and infrastructure to accommodate the demand of additional users. Therefore, the cumulative schemes are likely to have a negligible effect on social infrastructure provision.
- 10.135 The increase in residential units arising from the cumulative developments will increase demand for open and play space and put pressure on existing provisions. The cumulative schemes have proposed public realm and landscaping works, which could take the form of open and play space provision. In this case, the cumulative developments will likely have a minor beneficial effect on open and play space provision.

SUMMARY & RESIDUAL EFFECTS

- 10.136 The Proposed Development is assessed to have an overall beneficial effect on the local population, increasing economic activity through additional local spending and provision of new homes.
- 10.137 Table 10.21 summarises the residual effects of the Proposed Development during demolition and construction, and Table 1.22 summarises the residual effects of the Proposed Development during operation.

Table 10.20: Summary of residual effects during demolition and construction

Receptor	Effect	Significance before mitigation	Supplementary Mitigation	Residual Effect Significance
Regional Workforce	Creation of 22 new additional demolition and construction jobs	Negligible	None required	Negligible

Table 10.21: Summary of residual effects during operation

Receptor	Effect	Significance before mitigation	Supplementary Mitigation	Residual Effect Significance
Local businesses	An increase in the residential population could lead to additional local spending.	Minor beneficial, long-term permanent effect at the local level. Negligible at all other spatial levels.	None required	Minor beneficial, long-term permanent effect at the local level. Negligible at all other spatial levels.
Local employment	Generation of 33 new additional jobs once complete and operational.	Negligible	None required	Negligible
Local and borough residents	Provision of up to 133 new units of different sizes.	Minor beneficial, long-term permanent effect	None required	Minor beneficial, long-term permanent effect
Local and borough residents	No affordable units are included in the Proposed Development.	Negligible	Provision of affordable housing units to be agreed through the S106 process	Negligible
Local children & young people	The Proposed Development could lead to demand for an additional 14 primary school places. The baseline indicates there is sufficient capacity to accommodate this increase in demand	Negligible	None required	Negligible
Local children & young people	The Proposed Development could lead to demand for an	Negligible	None required	Negligible

Receptor	Effect	Significance before mitigation	Supplementary Mitigation	Residual Effect Significance
	additional 2 secondary school places. The baseline indicates there is sufficient capacity to accommodate this increase in demand.			
Local residents	The Proposed Development could lead to an additional 283 people requiring healthcare through GP services. The baseline assessment indicates that existing patient to GP ratio is higher than average, and additional residents will place additional pressure on the healthcare services.	Minor adverse, long-term permanent effect	Provision of additional GP services to be agreed through the S106 process	Negligible
Local residents	Up to an additional 283 people could reside in the local area as a result of the Proposed Development, increasing the pressure on green space. The Proposed Development increases amenity space for residents, which may help to mitigate against the increased	Minor adverse, long-term permanent effect	Provision of open space to be agreed through the S106 process	Negligible

Receptor	Effect	Significance before mitigation	Supplementary Mitigation	Residual Effect Significance
	demand for open space.			
Local children & young people	The Proposed Development could lead to an additional 57 children and young people in the area, requiring an additional 13.7 sqm of play space for children and 1.8 sqm of play space for young people. The site is within close proximity to one park (Cathedral Gardens and Playground) designated for children and young people. The Proposed Development does not seek planning approval for play areas.	Minor adverse, long-term permanent effect	Provision of play space to be agreed through the S106 process	Negligible

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11. TOWNSCAPE AND VISUAL IMPACT

INTRODUCTION

- 11.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Development in relation to landscape and visual. It is prepared by RBMP Ltd., a chartered Landscape Architecture practice.
- 11.2 RBMP Ltd. has been appointed by City Point Developments Limited to carry out this TVIA for the part demolition of the existing Baptist Church building and erection of a 23 storey residential development, comprising 133 units on Rochdale Road, Manchester.
- 11.3 This assessment has been undertaken based upon information provided within the accompanying planning drawings prepared by Hodder + Partners Architects.
- 11.4 This TVIA has been undertaken based upon the guidance contained within the Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA) (Landscape Institute and Institute of Environmental Management and Assessment, 2013). It provides a narrative appraisal of the Proposed Development within the identified application site and surrounding study area.
- 11.5 The format of this TVIA is based on the principles set out in the Guidelines for Landscape and Visual Impact Assessment Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013); the Landscape Character Assessment Guidance for England and Scotland (Former Countryside Agency and Scottish Natural Heritage, 2002); and National Character Area Profile (Natural England, 2013). A detailed methodology is provided within Appendix One and guides the assessment of potential effects of The Proposed Development within the Site on surrounding landscape and visual receptors.
- 11.6 Viewpoint photographs have been presented in accordance with the Landscape Institute's Advice Note TGN Visual Representation 06/19 (Landscape Institute, 2019).

RELEVANT LEGISLATION & GUIDANCE

- 11.7 Aspects of planning guidance and policy, which are of particular relevance landscape and visual, are examined below.

International legislation

- 11.8 The European Landscape Convention (ELC) (Council of Europe, 2004), which was signed by the UK in February 2006 and became binding in 2007, is the first international convention to focus specifically on landscape issues and aims to protect, manage and plan landscapes in Europe.
- 11.9 The ELC highlights the importance of developing landscape policies dedicated to the protection, management and creation of landscapes, and establishing

procedures for the general public and other stakeholders to participate in policy creation and implementation.

- 11.10 The ELC defines landscape as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and / or human factors' (Council of Europe, 2004).

National Legislation

- 11.11 The National Planning Policy Framework (NPPF) is a material consideration and provides guidance for national and local planning. At the heart of the NPPF is a presumption in favour of sustainable development, which forms the basis of plan-making and decision-taking.

- 11.12 The NPPF sets out three objectives in order to achieve sustainable development – economic, social and environmental. The environmental objective is relevant to this report. Particularly relevant is the requirement to "to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

- 11.13 The NPPF provides the national policy approach to delivering sustainable development. The material planning considerations of relevance to this TVIA are summarised as:

- Section 12 Achieving well-designed places highlights the importance of creating high quality and beautiful buildings and places which are a key aspect of ensuring development is sustainable. Developments should add to the overall quality of an area, should be visually attractive with regards to architecture, layout and landscaping, should be sympathetic to local character and establish or maintain a sense of place.
- Section 16 Conserving and Enhancing the historic environment sets out the approach to heritage assets identifying that they are an irreplaceable resource and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations. This section goes on to state that local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance.

- 11.14 Further important sections relevant to the application include:

- Paragraph 118 of the NPPF states that planning decisions should give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land.

- Paragraph 121 emphasises the need for Local Planning Authorities to take a positive approach to applications for alternative uses of land which is currently developed but not allocated for a specific purpose in plans, where this would help meet identified development needs.
- Given that the proposal is being developed on underutilised brownfield land it is clearly in accordance with the NPPF in the context of reusing brownfield land.

National Design Guide

- 11.15 The National Design Guide (NDG) (Ministry of Housing, Communities and Local Government, National Design Guide, January 2021) has been published to expand on the design policies set out in the NPPF providing a framework to assess proposals against in terms of achieving well designed places.
- 11.16 One of the key components identified in the NDG that needs to be considered to ensure good design is landscape. When addressing the identity of a place, characteristic I1 identifies the importance of landscape setting and backdrop in order to respond effectively to local identity.
- 11.17 A key part of the NDG assessment relates to context and how well-designed places need to be integrated into their surroundings so they relate well to them along with being influenced by and influencing their context positively (Ministry of Housing, Communities and Local Government, National Design Guide, January 2021, p10). Characteristic C1 emphasises the need to respond appropriately to landscape character in order to provide positive new developments.

Local Planning Policy

- 11.18 The application site is located within the administrative jurisdiction of Manchester City Council who are also the Local Planning Authority (LPA.) Places for Everyone (PfE) was adopted in March 2024 and provides long term strategies for 'The growth potential of the Core Growth Area [City Centre] through higher density development, building in opportunity areas, and improving the connections to other areas of Greater Manchester' (Places for Everyone, Joint Development Plan Document, August 2021, p26). The Manchester Core Strategy, adopted in 2012, was subsequently updated to work with Places for Everyone. In addition, a number of policies within the previous Unitary Development Plan have been saved and are still relevant material planning considerations.
- 11.19 Although the Proposed Development does not fall within any specific regeneration zones, it is close to and surrounded by the southern section of the 'Northern Gateway Strategic Regeneration Framework' (SRF) close to the New Cross, New Town and Angel Meadows zones. Due to the proximity of the SRF it is relevant to consider the shared objectives with the area and proposals.
- 11.20 These documents therefore form the development plan for the area.
- 11.21 A summary of the key aspects of the local planning policies that are considered relevant to the townscape and visual assessment are presented below.

Places for Everyone

- 11.22 Places for Everyone (PfE) is a long-term plan for jobs, new homes, and sustainable growth across Greater Manchester's nine districts. It was adopted in March 2024 and is now a statutory development plan for each of the nine districts, setting out how the nine boroughs should develop up until 2039.
- 11.23 The Places for Everyone Plan also notes the importance that the "growth potential of the Core Growth Area will continue through higher density development". The Proposed Development supports the construction and purposing of higher density accommodation development and will contribute to the development of office space within the Core Growth Area. A 'brownfield preference' policy has been developed to ensure brownfield sites come forward for development in the initial phases.
- 11.24 The Plan establishes specific residential targets for the Greater Manchester area. Specifically, Policy JP-H1 sets out a need for 164,880 net additional dwelling over the period 2021-2037, with 56,528 of these being required within the Manchester city area.
- 11.25 Policy JP-Strat1: Core Growth Area: The City Centre offers significant opportunity to maximise the use of previously developed land. It will enable the delivery of a range of types of homes so that people can live close to a major source of jobs, education and amenities, reducing the need to travel.
- 11.26 With regards to density, the Plan specifies in Policy JP-H4 for that any new housing development "should be delivered at a density appropriate to the location" and with regards to the city centre, the appropriate level established is a minimum of 200 dwelling per hectare.
- 11.27 The Plan outlines the role of the City Centre as the most significant economic location in the country outside of London and the need for it to be strengthened significantly. There is a need for improvements in the public realm, walking and cycling facilities, and green infrastructure to help enhance the local character and environmental quality of the City Centre so that it can rival city centres across the globe. As part of this, and supported by the proposed development, is the need for "a broad range of commercial accommodation [which] will be delivered, helping the City Centre to capture growth across key economic sectors". The proposed development will include additional commercial space which will contribute towards the goals of the Places for Everyone Plan, and the wider aims of the city region.

Manchester's Core Strategy Development Plan Document (2012)

- 11.28 The Core Strategy sets out a vision for Manchester up until 2027. Part of the vision includes 'a City defined by excellence in urban design and environmental quality, where its distinctive historic environment is understood, valued, cared for and its potential fully realised'.
- 11.29 In March 2024 a number of core strategies were replaced with Places for Everyone Policies. The below still remain part of the Core Strategy.

- 11.30 The Core Strategy sets out a range of objectives that it seeks to achieve through sustainable development. Of note is Objective S06 which is:
- 11.31 'Protect and enhance both the natural and built environment of the City and ensure the sustainable use of natural resources, in order to mitigate and adapt to climate change, support biodiversity and wildlife, improve air, water and land quality, recreational opportunities and provide networks of high quality green infrastructure, ensuring that the City is inclusive and attractive to residents, workers, investors and visitors.'
- 11.32 Key policies within the Core Strategy that are relevant to this assessment are identified below.
- 11.33 **Policy EC3 – The Regional Centre.** This policy sets out the uses appropriate in areas identified as Regional Centres and states:
- 11.34 'Within the Regional Centre development for employment generating uses including offices and other commercial development will be encouraged. Office developments will be appropriate providing that They are in locations which are well connected by sustainable transport to both the City Centre and residential areas.'
- 11.35 The site is identified on the Interactive Policy Map as being within the City Centre Development Strategy area, the following are relevant policies from this section of the Core Strategy.
- 11.36 **Policy CC1 – Primary Economic Development Focus: City Centre & Fringe.** This Policy sets out the approach to development in the City Centre area. It states that, 'the City Centre and fringe will be considered a suitable location for the consideration of high density buildings and commercially led mixed use schemes'. The Site is located in the City Centre North area on Figure 8.2 which sets out the City Centre and Fringe areas.
- 11.37 **Policy CC6 – City Centre High Density Development.** This policy provides support for high density office provision in the City Centre Area and states:
- 11.38 'City centre development will generally be high-density. It is a location where land should be used to maximise its efficiency. The appropriate scale, massing and height of development in the City Centre will significantly exceed what is appropriate elsewhere in the City. Development will need to have regard to the Council's approach to tall buildings (Policy EN2), but any proposals which do not reflect the importance of maximising the development opportunities in the City Centre will only be supported where this accords with wider Core Strategy objectives.'
- 11.39 **Policy CC8 – Change and Renewal.** This policy supports the provision of large scale schemes in the City Centre, subject to the proposal's impact on key aspects of the City's heritage and character. It goes on to state that 'new development should fully exploit opportunities to contribute to the improvement of the City Centre in terms of character and function, taking account of other policies in the Core Strategy'.

- 11.40 **Policy CC9 – Design and Heritage.** This policy sets out the approach to considering the design and heritage implications of a scheme. It states:
- 11.41 'Design of new buildings will need to be of the highest standard in terms of appearance and function. The standards and guidance explained in other LDF policies should be the basis for the approach to design, with particular attention to be given to the City Centre context and character.
- 11.42 'Development in Manchester City Centre should preserve or enhance the heritage assets that have been identified, including listed buildings, Conservation Areas and scheduled ancient monuments.
- 11.43 'The Council will support high density and mixed-use development in the City Centre, but developers must recognise the specific design challenges that must be overcome to ensure complementarity of function and form. New development must support the range of uses the Council expects in the City Centre and contribute to a coherent and integrated physical environment.'
- 11.44 Section 12 of the Core Strategy confirms that Manchester has significant opportunities for growth over the next 15 years, but that 'the future success of the City depends not on the level of development it fosters but on the quality of place that emerges as a result'.
- 11.45 Place Making and Design are identified in the justification text to the environmental policies that follow and provide the following principles that are expected in the submission of schemes:
- Character: a place with its own identity;
 - Continuity and enclosure: a place where public and private places are clearly distinguished;
 - Quality of the public realm: a place with attractive, and successful outdoor areas;
 - Ease of movement: a place that is easy to get to and move through;
 - Legibility: a place that has a clear image and is easy to understand;
 - Adaptability: a place that can change easily;
 - Diversity: a place with variety and choice.
- 11.46 **Policy EN1 – Design Principles and Strategic Character Areas.** Through a Character Study the Manchester City area has been divided into eleven different areas to inform the local character and distinctiveness of place and landscape. The justification text states that '*new development in Manchester will be expected to take into consideration its location within the specific character areas and reinforce the sense of place and local distinctiveness of the City*'.

- 11.47 The site is located within the City Centre Character Area and the policy reflects on heritage and established patterns of density. It also provides three key considerations:
- Developers will be expected to consider the City's heritage and continue the rich pattern of activity in the core area;
 - While there will be opportunities to create landmark buildings, developments should also contribute positively to the experience of all at street level;
 - Wherever possible the opportunity should be realised to enhance existing and provide new areas of meaningful open space, and the maintenance and improvement of the City's permeability should be considered in all proposals.
- 11.48 **Policy EN2 – Tall Buildings.** This policy defines tall buildings as 'buildings which are substantially taller than their neighbourhoods and/or which significantly change the skyline'. The policy sets out that in order to support proposals for tall buildings a scheme must be of excellent design quality, appropriately located, contribute positively to sustainability, contribute positively to placemaking principles and bring with it regeneration benefits.
- 11.49 **Policy EN3 – Heritage.** This policy sets out the approach to the preservation and enhancement of the historic environment and states that:
- 11.50 'New developments must be designed so as to support the Council in preserving or, where possible, enhancing the historic environment, the character, setting and accessibility of areas and buildings of acknowledged importance, including scheduled ancient monuments, listed buildings, registered parks and gardens, conservation areas and archaeological remains.'
- 11.51 **Policy EN9 – Green Infrastructure.** This policy sets out that new development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function and requires mitigation strategies if existing green infrastructure is to be lost. Key points set out in the policy are that the protection of existing street trees, the promotion of new planting and the provision of green roofs and walls will be supported.
- 11.52 **Policy DM1 Development Management.** This policy provides a range of key issues for consideration in the assessment including the impact on the surrounding areas in terms of the design, scale and appearance of The Proposed Development. In addition, effects relating to biodiversity, landscape, archaeological and built heritage are also highlighted.

Saved Unitary Development Plan Policies

- 11.53 The relevant saved policies from the Unitary Development Plan are set out below.
- 11.54 **Policy DC18.1 – Conservation Areas.** This policy supports the preservation and enhancement of conservation areas. The views into and out of conservation areas are also identified as a key issue to be considered.

- 11.55 **Policy DC19.1 – Listed Buildings.** This policy sets out the approach to the preservation of listed buildings and confirms that the setting of such heritage assets is also a key consideration in the assessment of proposals.
- 11.56 **Policy E3.3 – Environmental Improvement and Protection.** This policy states that 'the Council will upgrade the appearance of the City's major radial and orbital roads and rail routes. This will include improvements to the appearance of adjacent premises; encouraging new development of the highest quality; and ensuring that landscape schemes are designed to minimise litter problems'.

Guide to Development in Manchester Supplementary Planning Document and Planning Guidance (2007)

- 11.57 The Guide to Development in Manchester does not create new planning policy but rather expands on and provides further detail on existing planning policies. It was initially published in support of the Unitary Development Plan.
- 11.58 The aim of the document is to 'provide guidance which will help to develop and enhance an environment within Manchester which is visually attractive, has a unique and positive sense of place and which properly caters for the functions which it accommodates both now and in the future'.
- 11.59 With regard to context the Guide states that 'a high quality environment is created by buildings which reflect their purpose and respect the place in which they are located' and that 'each new development should be designed having full regard to its context and the character of the area'. Heritage is identified as a particular consideration that needs to be responded to through the design process.
- 11.60 The need to create a sense of place is highlighted as an important part of quality design, and the Guide states that 'it will be important to ensure that the development of new buildings and surrounding landscape relates well to, and helps to enhance, areas that are likely to be retained and contributes to the creation of a positive identity'.
- 11.61 With regard to continuity and enclosure, the Guide states that buildings should front onto the street and relate well to each other. With regard to the height of proposed buildings it states that '*it is important that new developments are of an appropriate height having regard to location, character of the area and specific site circumstances and local effects, such as microclimatic ones*' and in particular '*where higher structures are more appropriate, notably in and around the City Centre, they must be informed by all of the principles described in the Guide*'.
- 11.62 With regard to legibility, the Guide states that:
- 11.63 'Vistas enable people to locate key buildings and to move confidently between different parts of the neighbourhood or from one area to another. The primary face of buildings should lead the eye along important vistas. Views to important buildings, spaces and landmarks, should be promoted in new developments and enhanced by alterations to existing buildings where the opportunity arises. Gaps between buildings should not distract from the major view along a street. Signage can be used positively to enhance legibility in new developments and if appropriately

- located and designed can be particularly helpful for visitors and users of large complex schemes.'
- 11.64 The Guide goes on to state that good design is an essential requirement of new schemes and that the Council 'encourage developments which are "designed for place" not simply for purpose, and overly corporate designs will be discouraged'.
- 11.65 With particular reference to tall buildings the Guide states:
- 11.66 'It will always be important for the City to be able to accommodate new interest and activity in its different forms, including tall buildings. There is now much more interest in these types of developments than there has been for many years, and this is a great indication of the strength of the City Centre economy. Schemes will be considered on an individual basis, by reference to their appearance, their impact on the immediate area and the effect on the City's skyline. Key questions will be the quality and interest of the roofline, the design of the lower floors; the relationship to the surrounding streets; the impact of servicing and parking requirements; the microclimate, including overshadowing and air turbulence, created by the relationship of the building to those adjacent; and the quality and usability of the spaces surrounding the building.'
- 11.67 Key issues identified for design in the City Centre include:
- Street layout - the most dominant design characteristic of the City Centre is the grid pattern of streets. This grid is not a regular rectangle, but has a fanlike shape which is open to the north and converges to the South around G-MEX. This results in variety in the size and shape of the blocks, and it is important that this variety and permeability is not compromised by new developments that propose the closure of roads.
 - Angle - the changes in angle within the City's streets and the consequential alignment of building blocks gives an added importance to those buildings located at road junctions. Although there are no deliberately designed grand axial views, the grid system of streets allows for long vistas in different parts of the City Centre. Some of these views have been terminated with buildings that are designed to be different from those that simply form the "street wall"; new developments should continue to exploit this characteristic.
 - Building lines - subtle variations in building lines create variety and interest in the City's street frontages which should be respected. Buildings were erected to the back of pavement and corners were emphasised as they could be viewed from more than one street. New developments should recognise these characteristics, but in a contemporary manner.
 - Watercourses - Manchester's City Centre is located on three rivers: the Irwell, Medlock and Irk, and three canals: Rochdale, Bridgewater and Ashton. These waterways possess particularly attractive visual and commercial qualities. The buildings and structure associated with these areas were of a contrasting character compared with those in the commercial heart of the City Centre, often displaying heavier, rounded and robust detailing. New development in these areas should recognise these contrasting urban forms.

- Views - the City Centre possesses many interesting buildings and structures, which help to orientate visitors; this is as true of the rail viaducts across Castlefield as it is of buildings such as the Cathedral and the Town Hall. Views of landmark buildings need to be protected. Such buildings include those which are tall, substantial or obviously different from their neighbours (eg CIS, Midland Bank, G-MEX), those which have a unique setting (eg St Ann's Church, Friends Meeting House) and those which mark or terminate an attractive view (eg Minshull Street Law Courts, Central Reference Library).
- Tall Buildings: the location and design of tall buildings need careful consideration as they can be viewed from longer distances and have an impact on a much wider area, both within and outside of the City Centre. The effect of tall buildings is significant in a City Centre where its conservation area status means that the relationship of buildings and spaces is as important as the quality of individual buildings. Tall buildings provide positive messages about Manchester and can significantly improve its image and peoples' perceptions of it. Conversely, poorly located tall buildings could have an adverse effect and as such any proposals will always have to be fully justified and carefully considered.
- Topography - in common with other British cities, 20th century developments in Manchester have tended to ignore natural variations in ground level. The interest created by changes in ground level has been removed by the imposition of artificial decks and by developments containing long horizontal lines. Regaining these changes in level and reinforcing Manchester's natural topography should be a consideration in the design of proposed developments.
- Architectural Styles – Chetham's Library is the only medieval building of this period, but both domestic and civic buildings exist from the Georgian era. The most dominant architectural styles in the City Centre are Victorian and Edwardian. Although different in form, most buildings of these periods exhibit similar characteristics: subdivision of elevations; emphasis on the corners of buildings; vertically proportioned windows with deeply recessed glazing. Building materials include sandstone, terracotta and glazed brick, but the most common was a red-orange brick. Vertical rhythms were created along the City's street by chimneys or other architectural features that projected above the main elevation. These characteristics have been re-used in a contemporary manner in recent years, allowing new buildings to sit comfortably with their Victorian and Edwardian neighbours.
- Street Level Activity - increasing interest in the City's history and in its commercial and retail attractions has brought about an increase in the number of visitors. This in turn demands that greater attention must be paid to the ground floor of buildings, where active uses should be seen by passers-by, and to the design of street surfaces and the public domain in general.

Northern Gateway Strategic Regeneration Framework (2018)

- 11.68 The Northern Gateway Strategic Regeneration Framework (SRF) was approved by Manchester City Council's Executive on February 13th, 2019. The proposed development is situated near the New Town and New Cross neighbourhoods outlined in the SRF. This document provides insights into the area's current character and establishes a framework for the scale, type, and quality of suitable development, particularly in the immediate vicinity of the site including. Although

not within the SRF boundary a number of design principles are relevant and should be considered as part of this assessment:

- Mix of commercial and residential land uses.
- Active frontages onto Rochdale Road.
- Enhanced cycling provision along Rochdale Road.
- Local walking and cycling route along Gould Street.
- Neighbourhood walking and cycling route and off road cycle route along Bilbrook Street.
- 'Gateway square' focused around the listed Marble Arch Inn.
- Green linkages along Gould Street and Bilbrook Street, and
- Public Realm enhancements along Rochdale Road.

ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

- 11.69 The Townscape and Visual Impact Assessment (TVIA) and supporting studies and surveys were conducted in accordance with the principles set out by Landscape Character Assessment Guidance for England and Scotland (CA and SNH, 2002) and Guidelines for Landscape and Visual Impact Assessment 3rd Edition (LI and IEMA, 2013).
- 11.70 GLVIA 3 defines townscape as "areas where the built environment is dominant... including the buildings, the relationships between them, the different types of urban open spaces, including green spaces, and the relationship between buildings and open spaces". Townscape, like landscape, is a combination of both cultural and physical characteristics or components that give rise to patterns that are distinctive to particular localities and help to define a 'sense of place'. The townscape character is an interaction of influences including topography, land use and management, historic and cultural associations together with built form and its relationship with the surroundings.
- 11.71 Townscape and visual assessments are two separate but interlinked processes that are undertaken in parallel. The assessments are informed by a combination of desk and site based appraisal techniques and professional judgements.
- 11.72 The townscape assessment considers the effects of the Proposed Development on the physical townscape and landscape, which may give rise to changes in its character, and how this is experienced; separately considering the effects of development on:
- Defined Townscape Character Zones (in order to consider variations and contrasts in surrounding land use pattern and built form);
 - Designated townscape resources (sites designated and protected under legislation and local policy).

Stages in Townscape and Visual Impact Assessment

- 11.73 The TVIA process comprises the following stages:
- Baseline assessment: record and analyse the existing nature and value of the townscape character and features, and visual amenity of the study area through desk and field based appraisal;
 - Description of the nature, forms and features of The Proposed Development including and constraints and opportunities;
 - Assessment of sensitivity of the existing townscape and identified visual receptors to change;
 - Identification of potential townscape and visual impacts due to The Proposed Development;
 - Identification of proposed mitigation measures appropriate to the development and its townscape context;
 - Assessment of the magnitude of effect upon the identified receptors, likely to result from implementation of The Proposed Development;
 - Assessment of the significance of the residual effects on townscape and visual resource, taking into account appropriate mitigation.
- 11.74 The assessment process is iterative; the analysis of the baseline conditions and evaluation of the potential effects resulting from a development informs the evolution of the Proposed Development. It is, therefore, important to take into consideration the mitigation that is inherent or proposed as part of the development in order to assess the residual effects and their significance.
- 11.75 The assessment process is recorded in two principal stages: a baseline study of the existing landscape and surrounding visual receptor groups, followed by the impact assessment.
- 11.76 The visual assessment considers the potential changes that would occur to available views in the townscape as a result of the development proposals, the resultant effect on visual amenity and people's responses to the changes.
- 11.77 The TVIA comprises, firstly the identification, understanding and description of the existing townscape and visual baseline conditions (townscape receptors and groups of views likely to be impacted by the Proposed Development within a defined study area) and secondly the identification and description of the impacts arising from the development on the townscape and the visual receptors.
- 11.78 The assessment examines both construction phase impacts and impacts on completion of the proposed scheme including mitigation strategy. The impacts are assessed based on professional judgements and an understanding of the construction phases and phasing of completion, which are summarised in the TVIA and include any proposed townscape and visual mitigation works.

Study Area

- 11.79 Consultation with the LPA alongside published guidance provides recommendations on the extent of the Zone of Theoretical Visibility that should be produced to assess the area that would potentially experience significant visual effects.
- 11.80 The purpose of the TVIA is to identify significant landscape/ townscape and visual effects. It is, therefore, reasonable to limit the study area in various respects to meet the requirements of the specific project and its landscape context and to reflect the likelihood of significant effects arising over very long distances. It is also important that the more significant effects occurring over shorter distances are given appropriate emphasis. This report has adopted the following approach:
- The focus of the visual assessment, identification of receptors and the selection of representative viewpoints is generally limited to 2km from the application site. The study area is defined as extending approximately 4.5km northeast to include an area of elevated and open landscape, otherwise 2km. Approximately 2km south, east and west of the application site, in order to ensure an adequate focus on potentially significant effects;
 - Effects on townscape character areas and designations are considered within the study area; limited by the 2km study area. This is based on professional experience of residential and mixed-use development assessment, that visibility over greater distance does not have the potential to result in significant changes to the townscape character or value in the local landscape context. The key characteristics of the immediate landscape to the application site will be assessed up to 2km in order to understand how this corresponds with those characteristics identified within existing character assessments. Views were identified beyond this, especially due to the height of the proposal, however effects were judged to be less significant from beyond this area.
- 11.81 The TVIA focusses on potentially significant townscape and visual effects likely to occur within the localised study area and those features within it. This is considered appropriate in the surrounding landscape context, where the combination of the topography with the vegetative land cover and most significantly, built form, would restrict significant townscape and visual effects.

Field observations

- 11.82 For the purpose of informing the assessment, desk top study on the site and its surrounding areas have been undertaken to survey any potential receptors and key views.
- 11.83 Photographs illustrating views from a selected series of viewpoints have been taken using a Canon EOS digital camera set to a 50mm focal length. Viewpoint photographs have been presented in accordance with the Landscape Institute's Advice Note 01/11 Photography and Photomontage in Landscape and Visual Impact Assessment.

- 11.84 Field survey visits were undertaken during May 2022 for the initial development of the photo viewpoint locations. The baseline views were recorded on 17 May 2022 for the production of the baseline information and completing the verifiable views.
- 11.85 Specific methodologies relating to verified photography and the production of computer modelled photo montages is detailed within Appendix C.

Landscape Sensitivity

- 11.86 Landscape is a combination of both cultural and physical components that give rise to patterns that are distinctive to particular localities and help to define a 'sense of place'. Landscape character is defined by the interaction of influences and components such as landform, hydrology, vegetation, landcover, land use pattern and cultural features and associations, and their relationship with the surroundings.
- 11.87 Although landscape has some intrinsic sensitivity, different landscape receptors have different elements and features that can accommodate a variety of development types. To reliably inform detailed assessment of impacts, landscape sensitivity needs to be determined with reference to the changes arising from a specific type of development. Therefore landscape sensitivity is assessed combining judgments on the value attached to a landscape and the susceptibility to the type of change or development proposed.
- 11.88 Landscape value is the relative value attached to a potentially affected landscape. Landscape value is relative in relation to the different stakeholders and different parts of society that use or experience a landscape. Factors that have been considered in making judgments on landscape value include designations (both national and local), local planning documents, status of features (eg. TPO's or Conservation Areas) and local community and interests (for example local green spaces, village greens or allotments). Landscape value will vary in response to the specific landscape that is being considered.
- 11.89 The value is assessed as **high**, **medium** or **low** and the assessment is made based on the following factors:
- The quality placed on the landscape, including the scenic quality;
 - The presence of rare elements or features, or rare landscape character types;
 - Whether the landscape contains a particular character and/or features or elements considered to be particularly important examples;
 - The presence of nature, historical or cultural features of interest;
 - Evidence that the landscape is important for recreational users;
 - Perceptual aspects, such as tranquillity or wildness;
 - Associations of the landscape with particular people in history (such as artists or writers), or historical events, that contribute to the perception of natural beauty.

- 11.90 The second component of landscape sensitivity relates to susceptibility. Landscape susceptibility to change is the ability to accommodate change without undue consequences for the maintenance of the baseline situation. In this context, the term landscape receptors can be expanded to cover overall character areas, condition or a particular landscape character type or an individual landscape element or feature. Landscape susceptibility will vary in response to the specific landscape that is being considered and to the nature of the type of change that may occur.
- 11.91 To assess landscape susceptibility it is important to appreciate the key characteristics and attributes of the landscape of the application site and surrounding study area, in order to understand local landscape variations and if the landscape of the application site fits with the description of the LCT/LCA that it is within.
- 11.92 The characteristics of the landscape that should be considered with regard to their susceptibility to change include a variety of attributes, such as scale and enclosure, landform, nature of land use, nature of existing elements or nature of existing features. Landscape susceptibility is described on the verbal scale as **high, medium or low**.
- 11.93 Sensitivity is a term applied to specific receptors, combining judgments of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor. Receptors can include specific elements of features or may be judged at a wider scale and include landscape character parcels, types or areas.
- 11.94 The consideration of value of the landscape receptor combined with susceptibility to the type of change arising from the proposal, allows for assessment of sensitivity of the landscape receptor. The sensitivity of landscape receptors is categorised as **high, medium or low**; the criteria for each category is outlined in Table 11.1.

Table 11.1: Sensitivity of Landscape Receptors

Receptor sensitivity	Guide on typical criteria
High	A landscape of particularly distinctive character and high or exceptional scenic quality. Strong representation of the typical landscape character type. Intact landscape with excellent condition of elements and features. Presence of rare features in the landscape. National and/or regionally designated landscape for its scenic quality and character, such as an Area of Outstanding Natural Beauty (AONB) or National Park. High recreational value with strong cultural and historical associations. High susceptibility to changes arising from the proposal.

Medium	A landscape of moderately distinctive character and scenic quality. Typical landscape character type is apparent. Relatively intact landscape with occasional features of interest. Locally designated for its quality and character. Receptor of higher value but lower susceptibility to the type of change or development, or vice versa.
Low	A landscape of no distinctive character or scenic quality or is damaged, neglected or of poor character and lacking scenic quality. Landscape has become eroded with no more than occasional elements and features of interest. Not subject to any form of landscape designation. Receptor of low value and low susceptibility to the type of change arising from the proposal.

Magnitude of Landscape Change

- 11.95 Once the sensitivity of the landscape receptors has been determined, the effect that the Proposed Development will have on the landscape resource can be assessed.
- 11.96 The effect on landscape receptors is assessed in relation to the size or scale of impact, the geographical extent or the change and the duration and the reversibility of the impact.
- 11.97 The magnitude of landscape change effect from the Proposed Development on landscape character or designations is appraised, taking into account each phase (construction and completion) of the Proposed Development and any inherent / proposed mitigation. The assessment of the magnitude of effect takes into account the following factors:
- The degree to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones, for example removal of hedges may change the small scale, intimate landscape into a large-scale, open one, or introduction of new buildings or tall structures that may alter open skylines;
 - The extent of existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape;
 - The scale of overall predicted change to character;
 - The timescale or phasing of the construction stages;
 - Whether the landscape change would be reversible or not.

- 11.98 The magnitude of effect is categorised as **high**, **medium**, **low** or **negligible**; the criteria for each magnitude is outlined in Table 11.2 below.

Table 11.2: Magnitude of Landscape Effects

Magnitude of Effect	Guide on typical criteria
High	The Proposed Development would cause a large, irreversible change to the existing landscape for a long time or permanently. Impact upon landscape features of international and national importance that would change the key characteristics of that landscape. Long-term or permanent change to existing landscape conditions.
Medium	The Proposed Development would cause a noticeable change to the existing landscape, however, only few elements and features that contribute to the overall character would be affected. Medium or short term change of landscape conditions. Moderate alteration of the individual components of the landscape leading to small change in aesthetic and perceptual aspects of the landscape.
Low	The Proposed Development would cause a small impact / change and would affect relatively few receptors. Temporary and reversible change in landscape conditions. The key characteristics of the landscape contributing to its character would not be significantly affected.
Magnitude of Effect	Guide on typical criteria
Negligible	The Proposed Development is appropriate in its context or barely perceptible. It may be difficult to differentiate from its surroundings and has very little or no impact on receptors compared to the baseline situation. No key characteristics of the landscape contributing to its character would be affected.

Visual Assessment

Tall Buildings – Historic England Guidance Note 4 (2015)

- 11.99 'Towns and cities evolve, as do their skylines. Individually, or in groups, tall buildings can significantly affect the image, character and identity of towns and cities as a whole, and over a long period. In the right place, well designed tall buildings can make a positive contribution to urban life. The purpose of this advice note is to support all those involved in dealing with proposals for tall buildings in implementing historic environment legislation, the relevant policies in the National Planning Policy Framework (NPPF), and the related guidance given in the Planning Practice Guidance (PPG)'. The process of consultation, where the involvement of local planning authorities and stakeholders is encouraged when making a planning application for a tall building. This guidance suggests:
- a. A. identify the zones of visual influence of a proposal, which then help to understand the character of the areas that may be affected and determine which individual heritage assets are likely to be affected (this includes considering recognised views and the settings of heritage assets);
 - b. Guide and improve design. Design Review is an established tool for the assessment of impact at the pre-planning and planning application stages, and can inform the Design and Access Statement. the greater the impact, the more detailed and comprehensive the Design and Access Statement needed. The same is true in relation to the heritage assessment;
 - c. Understand what illustrative material is likely to be needed in terms of the quality, accuracy, clarity and detail, so that the impact of a tall building can be properly and objectively assessed'.
- 11.100 4.6 'Careful assessment of any cumulative impacts in relation to other existing tall buildings and concurrent proposals will also be needed to fully understand the merits of the proposal. The existence of a built or permitted tall building does not of itself justify a cluster or additions to a cluster. Where a proposal is promoted as part of a cluster, a successful design will have a positive relationship within the cluster; the altered impact of a cluster itself needs to be considered. The use of modelling and visual aids is recommended to fully assess a proposal's impact on the surrounding area'.
- 11.101 4.10 'Given their likely impact on a wide area, it is important that social and environmental effects are also assessed. Consideration needs to be given to a tall building's contribution to public space and facilities. This applies both internally and externally, including the provision of a mix of uses (especially on the ground floor of towers), as part of a well-designed public realm. Consideration of the impact on the local environment is also important, including microclimate, overshadowing, nighttime appearance, light pollution, vehicle movements, the environment and amenity of those in the vicinity of the building, and the impact on the pedestrian experience'.
- 11.102 Following desk studies and site visits a range of visual receptors (people) that have a potential to be affected by The Proposed Development are identified. They may include local residents, users of footpaths and roads (motorists, cyclists), and users

- of recreational facilities, visitors to popular tourist attractions or people at their place of work.
- 11.103 Potential viewpoints and areas for investigation are then identified following an initial study of Ordnance Survey (OS) maps, analysis of Zone of Theoretical Visibility and, most importantly, site visits. Viewpoints and areas of further investigation are identified based on the following criteria:
- Distance from the application site to the receptor;
 - The proportion of the application site / proposed development visible, as well as the absolute visibility of The Proposed Development;
 - The height of The Proposed Development relative to the receptor with reference also to the scale of other features in the view;
 - The number and character of elements which would be lost from or added to the view;
 - High concentrations of viewers, such as settlements, local recreational facilities, public footpaths and attractions etc;
 - Views illustrating the visual character of the surrounding area; and
 - Areas identified as having a high potential for visual impact.
- 11.104 A site visit was carried out on 10th August 2023 to assess general landscape character and views experienced by different types of visual receptors during the day. Photographs were taken to represent the surrounding visual receptors. Following desktop research to understand the surrounding potentially sensitive receptors, a selection of viewpoints was made to represent key relevant visual receptor types likely to be affected by The Proposed Development, such as residents of nearby properties, users of Public Rights of Way (PRoW), pedestrians or road users, to enable the assessment of the proposed change in views and the significance of effect on these receptors.
- 11.105 Photographs illustrating views from a series of representative viewpoints were taken using Nikon D600 FX Digital SLR camera. The photographs have been reproduced in a series of viewpoint sheets with annotation and details of the image recorded.

Visual receptors

- 11.106 Visual receptors are groups of people, which include the public or community at large, residents, visitors and other groups of views. Study of OS data, production of a ZTV and consultation with the LPA are used to identify viewpoints for assessment that best represent the visual receptors likely to experience an impact from the Proposed Development.
- 11.107 Representative viewpoints are validated through site visits, resulting in the repositioning or exclusion of some of the preliminary viewpoints, due to lack of visibility towards the application site.

Visual sensitivity criteria

- 11.108 Sensitivity of visual receptors (people), whose groups are represented by a selection of viewpoints, depends on the susceptibility of these receptors to change in views and the value attached to views experienced by these receptors.
- 11.109 The susceptibility of different visual receptors to changes in views and visual amenity is judged based on:
- The occupation or activity of people experiencing the view at particular locations; and
 - The extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations.
- 11.110 Judgements about the value of views take account of:
- Recognition of the value attached to particular views, for example in relation to heritage/cultural assets, or through planning designations; and
 - Indicators of the value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment.
- 11.111 The sensitivity of visual receptors is categorised as **high, medium** or **low**, as defined in Table 11.3.

Table 11.3 Criteria for assessing sensitivity of visual receptors

Visual receptor sensitivity	Guide on typical criteria
High	People with a particular interest in their surroundings or with prolonged viewing opportunities, examples include: - Users of promoted viewpoints (often with interpretation boards); - Users of tourist and visitor destinations including recreational or heritage sites (ornamental parks and open spaces); - Users of recreational hilltops and peaks; - Residential locations and occupiers of residential properties;
Visual receptor sensitivity	Guide on typical criteria

	- People using important recreational facilities such as National Trails/Long Distance promoted routes and National Cycle Routes; - Users of Paths and Rights of Way (PRoW) in nationally or locally designated landscapes.
Medium	People with a general interest in their surroundings or with some viewing opportunities, examples include: Users of public open spaces and outdoor recreational spaces; Other public routes, and users of PRoW; - Local viewpoints.
Low	People with a limited or passing interest in the surroundings, examples include: - Users of more transitory routes, such as other public routes; - Users of the local road network and major highways; - People at their place of work; - Users of indoor facilities.

Magnitude of Visual Effect

11.112 For each of the identified group of receptors, the potential magnitude of the visual effect (in comparison to the existing 'baseline' situation) was assessed, taking into account each phase of the Proposed Development and any inherent / proposed mitigation. The magnitude of visual effect takes into account the following factors:

- The scale of change to the view with respect to loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the Proposed Development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics;
- The nature of the view of the Proposed Development, considering the relative amount of time over which it will be experienced and whether views will be full, partial or glimpsed;
- The degree of visual intrusion or obstruction that would occur;
- The distance of the viewpoint from the Proposed Development;
- The angle of the view in relation to the main activity of the receptor; and
- Duration and reversibility of the effect.

11.113 The magnitude of visual effects is categorised as **high, medium, low** or **negligible**.

Table 11.4 Magnitude of Visual Effects

Magnitude of Effect	Guide on typical criteria
High	Severe change to views. Removal of valuable landscape features / elements that highly contribute to the overall quality and nature of views; Total change to the visual character of the surrounding landscape. Large number of viewers affected over a prolonged period of time. Development is highly prominent in the view.
Medium	Moderate alteration to views. Development affects few visual features/elements on or adjacent to the application site. Reversible effect affecting only a part of the wider view. Development 'stands out' in the view.
Low	The Proposed Development would cause a small impact / change and would affect relatively few visual receptors. Change to views on transitory routes such as infrequently used paths and roads. Small change to more complex views for a small number of viewers with no particular focus on the Proposed Development.
Negligible	The Proposed Development is appropriate in its context or barely perceptible. It may be difficult to differentiate from its surroundings and has very little or no impact on receptors compared to the baseline situation. It would have no or minimal effect on visual features / elements on or adjacent to the application site.

Nature of Effects

11.114 The nature of effects contributes to the assessment of magnitude of landscape and visual effects.

- 11.115 The LVIA considers whether the landscape and visual changes that would arise as a result of The Proposed Development would be beneficial or adverse. An adverse effect is one that introduces a new, discordant or intrusive element to the landscape or a view. A beneficial effect would be from an overall improvement to the landscape or a view through the removal of existing discordant features and replacement with features of similar scale to those in the surrounding landscape or view, or introduction of high quality features within landscape or a view that would contribute to its overall character.
- 11.116 With regard to the duration of landscape and visual effects, short to medium-term effects are normally considered to be temporary and associated with the construction of The Proposed Development, and long-term effects are normally associated with a fully occupied and operational scheme. Permanent effects are those which result in an irreversible change to baseline conditions or will last for the foreseeable future.
- 11.117 The duration of landscape and visual effects is typically categorised as follows:
- Long term – 15 years and beyond;
 - Medium term – 5-15 years;
 - Short term – 0-5 years.
- 11.118 Landscape and visual effects can be direct (effects that are caused by activities which are an integral part of the scheme) or indirect (effects that are due to activities that are not part of the scheme, e.g. regeneration benefits attributable to the scheme).

Significance of Landscape and Visual Effects

- 11.119 Assessment of landscape and visual effects refers to the change that is predicted to take place to the existing (baseline) condition of the landscape and views as a result of the Proposed Development.
- 11.120 The significance of an effect is broadly determined by assessing the sensitivity to change of the landscape resource and visual receptors against the magnitude of change predicted upon them. The assessment of the effects takes into account mitigation measures implemented as part of the Proposed Development. **Table 11.5 is used as a guide only and the assessment of the significance of landscape and visual effects takes into account other modifying factors based on professional judgement.** Ultimately a combination of sensitivity and magnitude will give effects which may be major, moderate, minor or negligible.
- 11.121 **Table 11.5 – Significance of the effect on the landscape resource and visual receptors**

Magnitude of effect	Impact significance		
High	Moderate	Major or Moderate	Major

Medium	Minor or Moderate	Moderate	Major or Moderate
Low	Minor	Minor or Moderate	Moderate
Negligible	Negligible	Negligible	Negligible
	Low	Medium	High
	Receptor Sensitivity		

- 11.122 The following table provides a brief definition of the key landscape and visual significance criteria.

Table 11.6 - Significance Criteria

Significance	Description
Major	Important or substantial change in landscapes of national, district or local importance, or substantial changes in views experienced by most sensitive visual receptors.
Moderate	Noteworthy or medium change in landscape and visual conditions.
Minor	Inconsiderable or small change in landscape and visual conditions.
Negligible	No discernible change in landscape and visual conditions. No effect or an effect which is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error.

- 11.123 Major effects are usually deemed significant. Similarly, effect of medium magnitude on a highly sensitive receptor or effect of high magnitude on receptors of medium sensitivity may also be judged 'significant'. The assessment also considers the nature of the landscape and visual effects as described above.

BASELINE CONDITIONS

Introduction

- 11.124 The assessment of effects on townscape, landscape and visual amenity is aided through consideration of a series of viewpoints. The viewpoints have been selected to be representative of the visual sensitivities of the study area and publicly accessible locations in the general vicinity of the site from which clear views of the development may be obtained.

- 11.125 A Zone of Theoretical Visibility (ZTV) was run to determine areas of key visibility. Listed buildings and Conservation Areas were also mapped to determine the sensitivity of any proposed receptors where visibility was likely. See Figure rbmp.2419/01/ZTV for information.
- 11.126 The chosen viewpoint locations are shown in Figure rbmp.2419/02/Viewpoints. These are supported by rbmp AVR Verified. These views have been agreed with Council planning officers.
- 11.127 The townscape character within the study area is described and assessed below and relevant information concerning heritage assets is shown in Figure rbmp.2419/01/ZTV which illustrates the existing relevant policies and key landscape features within the study area.

Visual Appraisal

- 11.128 The baseline views were recorded on Thursday 18th July 2024 by Richard Bennett of RBMP Ltd, a chartered landscape architect.
- 11.129 This section looks at the baseline experience for the potentially sensitive receptors and the potential effects on their visual amenity. Visual effects relate to changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes and to the overall effects with respect to visual amenity. Effects upon these receptors are derived through the changes to the views experienced and through this the change to the overall visual amenity of the study area, as brought about by the Proposed Development.
- 11.130 The construction of the Proposed Development on a site on the centre of Manchester will clearly involve procedures and processes that are unsightly and intrusive consistent with operations on most large-scale construction sites. However, this process is comparatively short lived in nature when considered in the context of the lifespan of the Proposed Development concerned and will also be screened to some extent by existing buildings which surround it. The demolition and construction programme will commence in a number of phases, but the key physical activities will include:
- Site clearance and demolition
 - Construction plant such as cranes etc.
 - Mobile construction plant.
 - Delivery and stockpiling of materials.
 - Protective fencing and hoardings.
 - Unfinished appearance of the Proposed Development and its core for the majority of the construction period.
 - Traffic movements associated with the above.

DESCRIPTION OF THE SITE AND SURROUNDING TOWNSCAPE

- 11.131 The site is located east of Manchester Victoria Station, a key public transport hub, north-west of Ancoats, a city centre residential area with an influx of independent shops, restaurants and bars.
- 11.132 The site is bounded by Northern Angel to the north-east, Rochdale Road (A664) to the south-east, Hampton by Hilton to the north-east, and will soon be adjacent to the proposed Premier Inn which will occupy the carpark to the south-west.
- 11.133 The site is currently occupied by a 730sq.m detached Baptist Church, built in 1907 of brick and stone construction. The latter part of the church has a pitched roof above a vaulted ceiling which spans the entire length of the building. The site was previously occupied by another church, St. George's Road Chapel (1823-24), which was attached to neighbouring dwellings. Rochdale Road, formerly St George's Road, was and remains one of the main arterial routes out of the city centre.
- 11.134 To the north-west of the site is St. Michael's Flags & Angel Meadow Park and Manchester's Green Quarter, an inner-city residential area located near Victoria train station. Continuing further north along Cheetham Hill Road is the area of Cheetham Hill.
- 11.135 Directly east of the site is Rochdale Road (A664) which stretches out of Manchester City Centre through Collyhurst and Harpurhey towards Middleton. Further east, over Oldham Road, is Ancoats, which is known for its food and drink scene.
- 11.136 Heading south on Rochdale Road you arrive at Manchester's Northern Quarter, a dynamic neighbourhood which offers restaurants, music venues and creative industries. The redevelopment of Smithfield in the Northern Quarter which includes Mackie Mayor, a 1858 Grade II listed market, the Crowne Plaza hotel and 350 new homes.
- 11.137 The surrounding area has experienced significant development in recent years, including the construction of new residential and commercial buildings.
- 11.138 The area surrounding the site displays a variety of building typologies, materials and styles. As a recently redeveloped part of the city centre, the newer developments are now the predominant architectural style for receptors moving in and out of the city centre and there is currently no unifying character. There are a number of existing historic buildings to the immediate vicinity, including the Baptist Church which forms part of the development proposals. These building are still visible within the urban grain, albeit relegated to subsidiary roles, and form part of the character and as such should be conserved. The overall image is of new-build residential units with low to medium sensitivity to change.
- 11.139 The area currently lacks a unified identity, being situated at the intersection of distinct neighbourhoods. Despite utilising the original historic street pattern, newer developments have struggled to harmonise with the architectural styles of existing buildings. As the area undergoes regeneration, new developments, such as the Hampton by Hilton, Premier Inn, and Ancoats Gardens, are adopting brick facades to align with Manchester's industrial heritage and contribute to a more coherent architectural style.

SENSITIVE RECEPTORS

Introduction

- 11.140 The views agreed with the Local Planning Authority are set out in Figure rbmp.2419/02/Viewpoints, and are summarised as:
- Views looking South along Rochdale Road
 - Views looking north along Shudehill
 - Views looking north along Rochdale Road
 - Views looking east along Sharp Street
 - Views looking east from Angel Meadow Park
 - Views from road network around Corporation Street
 - Distant Views from North including Lowry Footbridge and Sand Hills
 - Distant Views from Cheetham Hill at St Chad's Street
 - Distant Views from River Irwell looking across norther city edge development
 - Distant View from Great Ancoats Street looking north

ASSESSMENT OF EFFECTS

Users of Rochdale Road looking South towards the Site

- 11.141 Represented by Viewpoints VP01, VP02, VP03 and VP04.
- 11.142 As users travel south along Rochdale Road towards the city centre, open vistas gradually transition to more confined views towards Shudehill. This effect will be further accentuated upon the completion of the 25 and 87 Rochdale Road developments. From a distance, the area lacks a cohesive architectural style, with a diverse mix of buildings and heights forming a general mass. This mass helps to visually define the inner-city boundary, with taller buildings clustered towards the junction with Ring Road. As a user approaches the site, the Baptist Church becomes a recognisable landmark, but its connection to the wider historic context is obscured by newer buildings facing Rochdale Road. The overall experience is that of a recently developed area with a contemporary architectural character, dominated by the Angel Gardens building at 1 Rochdale Road, which forms the backdrop to all south-facing views.
- 11.143 These receptors have a medium sensitivity to the proposals.

Potential visual effects

- 11.144 The AVRs show that the proposed development will seamlessly integrate with the existing urban fabric. From a distance, the development will be largely obscured by existing and under-construction buildings to the north along Rochdale Road including the under-construction 87 Rochdale Road development. As the user approaches the site and enters the area of taller buildings, the proposed development will partially restrict views outward. However, the adjacent 25 Rochdale Road development will contribute to a more pronounced corridor effect, of which the proposed development will form a part. The overall massing of the area will extend further north with the completion of Gasworks and beyond to Victoria North and Redbank, reinforcing its role as an emerging gateway to the city centre. Additionally, the Baptist Church frontage will remain visible, intentionally designed to project outward from the development and maintain its status as a historic landmark and wayfinding point.
- 11.145 These receptors will receive a low level of effect on their visual amenity as a result of the Proposed Development.

Users of Shudehill looking North towards the Site

- 11.146 Represented by Viewpoint 06.
- 11.147 Pedestrians and drivers on the arterial road network to the south of the site will be the primary receptors of the development's impact. Further along Shudehill, though receptors are situated amidst lower-level buildings, the taller buildings of Angel Gardens and Swan House effectively frame the views northwards, revealing open vistas beyond. For these receptors, the area presents a diverse mix of architectural styles lacking a cohesive character. The Baptist Church frontage is partially obscured by street furniture, hindering its recognition as a historic building. Upon completion, 25 Rochdale Road will further define Rochdale Road and channel views along the arterial route.
- 11.148 These receptors have a medium sensitivity to the proposals.

Potential Visual Effects

- 11.149 The proposed building will emerge as a taller addition to the skyline beyond the Ring Road junction. However, its height will align with adjacent buildings, contributing to a cohesive and focused massing for those traveling north. The 25 Rochdale Road development will further enhance this effect, creating a unified presence alongside the proposed building. The 87 Rochdale Road development, although lower in height, will create a sense of visual continuity, extending the built form north and partially blocking the open view along Rochdale Road. The setback and contrasting materials employed against the retained church façade will help to isolate and highlight the Baptist Church as a significant landmark.
- 11.150 These receptors will receive a low level of effect on their visual amenity as a result of the Proposed Development.

Users of Rochdale Road looking North towards the Site

- 11.151 Represented by Viewpoint VP05.
- 11.152 Closer to the site at the Ring Road junction, views open up towards the Baptist Church and the adjacent brownfield land earmarked for the 25 Rochdale Road development. The taller mass of Skyline Central is juxtaposed with the adjacent residential buildings and distant newer developments including the Hilton Hotel. Tower cranes at the 87 Rochdale Road site are visible in the skyline, signifying ongoing development. The Baptist Church and surrounding hoardings create a sense of an unfinished, transitional space isolated from the surrounding massing. Lower-level apartments obscure views towards the historic Angel Meadows area, but do offer a more intimate, ground-level experience. Overall, the views towards the site feel incomplete, lacking a clear definition of the overall vision for Rochdale Road's character.
- 11.153 These receptors have a medium sensitivity to the proposals.

Potential Visual Effects

- 11.154 The proposed building will become a taller element within the skyline, but it won't appear isolated. It will seamlessly integrate with the ongoing regeneration along Rochdale Road, complementing the adjacent 25 Rochdale Road development, which will extend the building line towards Ring Road and mirror the height of Skyline Central. The proposed development will funnel views along Rochdale Road towards the under-construction 87 Rochdale Road development, helping to define the overall streetscape in this area. The designed setback of the new structure from the Baptist Church façade will emphasise the church as a landmark, acknowledging the site's historical significance as a key location along Rochdale Road.
- 11.155 These receptors will receive a low level of effect on their visual amenity as a result of the Proposed Development.

Users of Corporation Street looking East towards the Site

- 11.156 Represented by Viewpoints VP09.
- 11.157 At this point, views open eastward along Ring Road. The taller, historically significant CIS building is set back, with a landscaped entrance plaza providing a more intimate setting away from the busy road junction. Additionally, the landscaped amenity space around the Co-op building helps to open up views towards Rochdale Road, with Skyline Centre visible in the distance. The primary users here are pedestrians crossing eastward towards Rochdale Road, moving against the one-way traffic flow. The surrounding buildings dominate the architectural experience, featuring well-designed complementary styles and palettes. The buildings on Rochdale Road and beyond are of secondary importance in this context.
- 11.158 These receptors have a low sensitivity to the proposals.

Potential Visual Effects

- 11.159 The AVR shows that the top of the proposed building will add to the existing skyline. However, the distant massing along Rochdale Road, including the proposed development, is relatively low compared to the scale of the surrounding buildings, which are more significant to the local context. While the proposed building may serve as a minor landmark to identify Rochdale Road, its impact on users navigating the road and pedestrian junction will be limited. The cumulative visualisation shows that although there is an open view towards the site, this will be almost completely obscured by the NOMA Plots M & N development which will enclose the massing in this area.
- 11.160 These receptors will receive a low level of effect on their visual amenity as a result of the Proposed Development.

Users of Recreational Space and PROW North of the Site

- 11.161 Represented by Viewpoints VP10 and VP11.
- 11.162 Users of Sand Hills Park find that their views are primarily obstructed by surrounding mature vegetation. The park feels removed from the urban landscape, offering a connection to the natural environment that contrasts with the city centre. This placement on the urban fringe is a positive aspect. Local views are particularly scenic, though there is a sense of new developments encroaching from the south. From the elevated north-eastern corner of the park, views open up towards the city fringe, revealing a skyline of varying heights and architectural styles. This skyline is perceived as belonging to the city centre zone, distinct from the park's location.
- 11.163 The Lowry footbridge crosses disused railway lines, offering panoramic views across the city centre. While it is a public right of way, access to the west is limited due to poor maintenance. Coupled with the views from Sand Hills Park, these elevated positions, set back from the core city zone, provide unique opportunities for urban-fringe perspectives of the developing city.
- 11.164 These receptors have a low sensitivity to the proposals.

Potential Visual Effects

- 11.165 Both AVRs indicate that the proposed building will add to the skyline when viewed from these elevated positions. However, the overall height will remain below the surrounding massing, ultimately blending in.
- 11.166 Cumulative views from Sand Hills Park highlights that new developments in the vicinity will further reinforce the overall massing, of which the Proposed Development will be a minor contributor. The closer distance Gasworks and Redbank developments will dominate the skyline. The cumulative view from the Lowry footbridge shows that the developments will completely obscure the majority of views towards the city including Rochdale Road and the Proposed Development.

- 11.167 These receptors will receive a low level of effect on their visual amenity as a result of the Proposed Development.

Users of St Michael's Flags and Angel Meadow Park

- 11.168 Represented by Viewpoint VP07.
- 11.169 St Michael's Flags and Angel Meadow Park is an undulating, enclosed amenity space surrounded by taller, newer developments. The park features a mix of mature vegetation that obscures views. From the elevated eastern points within the park, glimpsed, longer distance, views the west are possible between existing and under-construction buildings. As visitors move westward along the park's footpaths, views open to the east but are primarily blocked by new developments, such as Mount Yard along Old Mount Street, which acts as a visual barrier between the park and Rochdale Road. The enclosed nature of the park, with its limited views between tall buildings, creates a sense of contrast and provides an urban-scenic quality that is valuable in an inner-city setting.
- 11.170 Receptors along this route have a medium sensitivity to the proposals.

Potential Visual Effects

- 11.171 The viewpoint has been selected as a location where the view opens up between existing trees. The visual assessment indicates that the proposed building will be almost entirely obscured by the intervening Mount Yard building. While there will be a slight increase in massing on the skyline, it will be lower than the existing Mount Yard building, seamlessly blending in and becoming secondary to the closer surrounding buildings.
- 11.172 These receptors will receive a low to negligible level of effect on their visual amenity as a result of the Proposed Development.

Users of Sharp Street looking towards the Site

- 11.173 Represented by Viewpoint VP08.
- 11.174 Users of Sharp Street and Naples Street experience the historic buildings, including the listed Ragged School and Cooperative Press. The close-knit street network, historic architecture, and lower elevation away from Rochdale Road create a particularly enclosed and impressive atmosphere, evoking Manchester's industrial past. There's a disconnect from the busy Rochdale Road, offering a sense of calm as users move towards St Michael's Flags and Angel Meadow Park. While there are newer infill buildings, the use of matching red brick creates a unified aesthetic. Looking northwest along Sharp Street, behind the viewpoint, the new massing of Mount Yard provides a visual barrier, but the building's partial setback at lower levels helps to integrate with its historic setting.
- 11.175 Moving southeast along Sharp Street towards the site, the historic buildings transition to newer, contemporary structures, losing the connection to the past. The yellow

facade of Skyline Central becomes visible, providing a visual landmark and orienting users towards Rochdale Road.

- 11.176 Receptors along this route have a medium sensitivity to the proposals.

Potential Visual Effects

- 11.177 The visual assessment indicates that, although partially obscured by existing buildings along Sharp Street, the proposed building will become a dominant element in the middle-distance skyline. In this location, the experience is already quite enclosed, with views funnelled towards the elevated site-position on Rochdale Road. Therefore, any new height will be visually prominent above the surrounding buildings. The building will help to contain the view and contrast with the lower-level historic buildings, but it will ultimately be a taller element within the vista.

- 11.178 The receptors will receive a medium level of effect on their visual amenity as a result of the Proposed Development.

Users of St Chad's Street looking towards the Site

- 11.179 Represented by Viewpoint VP12.

- 11.180 From St. Chad's Street, off the main arterial route of Cheetham Hill Road, the view opens up across the eastern part of the city centre. Elevated above lower-level brownfield sites and disused railway lines, the vista extends towards the contemporary glass buildings of Angel Square to the right and the under-construction Victoria Riverside development to the left. Mount Yard is visible behind the mature planting of St Michael's Flags and Angel Meadow Park, with the yellow facade of Skyline Central further in the distance. The CIS building is also visible. The primary users here are pedestrians and motorists. A set of steps connects St. Chad's Street with Red Bank, and users are aware of their position on the city centre fringe, surrounded by lower-level commercial units, with views south towards the city centre. Newer developments along Cheetham Hill Road, such as One Park Place, will introduce taller buildings along this route, but currently, it offers a contrast to the taller massing to the south.

- 11.181 These receptors will receive a low to negligible level of effect on their visual amenity as a result of the Proposed Development.

Potential Visual Effects

- 11.182 The proposed building will add to the skyline, but it will be secondary and set-back compared to the taller buildings of Angel Square and Victoria Riverside. The AVR confirms that the building's scale is appropriate in relation to the existing buildings along Rochdale Road, providing a visual reference point for orientation. Additionally, the cumulative visualisation shows that the approved Gasworks development will begin to dominate the skyline to the left of the view. Although not approved and therefore not considered within the cumulative impacts, future phases of the Red Bank Neighbourhood have been designated and therefore could extend into the area in front of this view, further obscuring view over to the east and the Proposed Development.

- 11.183 These receptors will receive a low level of effect on their visual amenity as a result of the Proposed Development.

Users of River Irwell Footpath

- 11.184 Represented by Viewpoint VP13.
- 11.185 Views from the west at this point are funnelled along the River Irwell, with typical features associated with a river-way. As the receptors walk along the route there is a visual break between the newer developments to the south and city centre, and the lower-level traditional industrial units associated with the Cheetham Hill district. The new developments around Salford and the City Centre are clearly visible from all locations.
- 11.186 There is a sense of removal from the surrounding townscape and a connection with the natural environment and historic elements. The local views here are particularly scenic in the context of the surrounding city centre and industrial landscape. The river provides a visual and physical link between Salford and the city centre. These receptors will receive a low to negligible level of effect on their visual amenity as a result of the Proposed Development.
- 11.187 Overall, the receptors in this location have a medium sensitivity to the proposals.

Potential Visual Effects

- 11.188 The AVR reveals that the Proposed Development will be a minor addition to the distant skyline, with limited visibility. Other nearby cumulative developments will be more prominent. Furthermore, from this viewpoint, the proposals should be considered alongside the significant massing of 1 Lord Street, land bound by Great Ducie Street, and the former Boddingtons Brewery site developments. Upon completion, these projects will dominate the middle and longer-distance views across the eastern skyline, obscuring much of the Proposed Development.
- 11.189 These receptors will receive a low to negligible level of effect on their visual amenity as a result of the Proposed Development.

Views from areas surrounding Great Ancoats Street looking North

- 11.190 Represented by Viewpoint VP14
- 11.191 The buildings in this location are typically taller residential units, surrounded by cleared sites. From here, views towards the Proposed Development are largely screened by existing buildings around Ancoats. As a result, views will typically be slight through gaps in the built form.
- 11.192 These receptors have negligible sensitivity to the proposals.

Potential Visual Effects

- 11.193 The AVR reveals that the Proposed Development will be a minor addition to the distant skyline, with limited visibility. Other nearby cumulative developments will be more prominent. Furthermore, from this viewpoint, the proposals should be considered alongside the significant massing of 1 Lord Street, land bound by Great Ducie Street, and the former Boddingtons Brewery site developments. Upon completion, these projects will dominate the middle and longer-distance views across the eastern skyline, obscuring much of the Proposed Development.
- 11.194 The AVR indicates that the Proposed Development is not visible. However, the taller elements of the Gasworks development are visible within the cumulative visualisation.
- 11.195 These receptors will receive no change on their visual amenity as a result of the Proposed Development.

ADDITIONAL MITIGATION AND ENHANCEMENT

- 11.196 It is crucial to consider the improvements that the proposed building will bring to the wider context of the Northern Gateway SRF. This framework aims to revitalise the area into a high-quality neighbourhood and a gateway to the northern towns of which Rochdale Road is a key arterial route.
- 11.197 The redevelopment of the Baptist Church building has been designed to sensitively integrate with Rochdale Road and contribute to the overall streetscape enhancement. While the area lacks a distinct architectural style, Hodder + Partners Architects have drawn inspiration from surrounding historic buildings.
- 11.198 The proposed building will help to maintain continuity with the existing heritage assets to the west while introducing a high-quality design language that will eventually integrate with the broader SRF as it develops.
- 11.199 The proposed building has been designed to maximise retention of the existing Baptist Church façade, fulfilling a key objective of the wider SRF: enhancing the public realm along Rochdale Road. The proposals will revitalise the currently un-utilised and isolated church building by retaining its historic structure, opening up its frontage as an entrance onto Rochdale Road. This reimagining will reframe the Baptist Church building as a significant landmark along Rochdale Road, bridging the historic environment with the inevitable contemporary character of the wider SRF.
- 11.200 Local views and sightlines across the church from north and south along Rochdale Road have been intentionally preserved through a strategic setback. This maximises the visibility of the church while accommodating the new, taller element.
- 11.201 The materials and design details for the building façades have been carefully chosen to enhance the connection with the local area. To maintain sensitivity to the surrounding buildings and integrate with the overall massing, glazing has been minimised on the facing elevations.

CUMULATIVE EFFECTS

- 11.202 As previously outlined, the application site is located near the recently completed Angel Gardens at 1 Rochdale Road and the ongoing New Victoria, Angel Square, and wider NOMA developments.
- 11.203 To provide a comprehensive assessment, it has been sensible to also consider the consented 25 Rochdale Road development, the under-construction 87 Rochdale Road, the Gasworks development, Plots M & N Noma, and the phases of the Redbank Development east of the River Irk. Collectively, these projects will increase the overall height and massing of the townscape in terms of scale, height, and form.
- 11.204 It is important to consider the application in the context of the adjacent Northern Gateway SRF, which includes some of the above developments. While the site itself is not specifically zoned within the masterplan, its strategic location, surrounded on three sides by the masterplan and fronting the main Rochdale Road arterial route, positions it to contribute positively to the overall goals of the SRF.

POTENTIAL CONSTRUCTION IMPACTS

- 11.205 The surrounding area is subject to a number of future developments, most immediately the adjacent 25 Rochdale Road development and the under-construction 87 Rochdale Road. This townscape is developing and regenerating along Rochdale Road and there are sites in construction across this area.
- 11.206 This represents positive regeneration in line with the surrounding SRF Zones and PfE policies. While the proposed development will impact the townscape and visual receptors, it is part of a broader effort to rejuvenate this area of Manchester, aligning with other city-fringe developments circling the city centre zone. Residents and visitors are already accustomed to ongoing construction activity, and the proposed development will be an additional component. While there will be inevitable impacts from construction traffic, pedestrian diversions, potential road closures, and construction noise, particularly affecting nearby residents and office workers, these impacts are considered low within the wider context of urban regeneration.

SUMMARY AND RESIDUAL EFFECTS

Table 11.7 Summary of Residual Visual Effects

Receptor	Sensitivity	Viewpoint Refs	Magnitude of Effect	Nature of Effect
Users of Rochdale Road looking south towards the Site	Medium	VP01, VP02, VP03, VP04	Low	Indirect minor Permanent beneficial

Users of Shudehill looking north towards the site	Medium	VP06	Low	Indirect minor-moderate Permanent beneficial
Users of Rochdale Road looking north towards the site	Medium	VP05	Low	Indirect minor Permanent adverse
Users of Corporation Street looking east towards the site	Low	VP09	Low to Negligible	Indirect minor Permanent beneficial
Users of Recreational Space and PROW north of the site	Low	VP10, VP11	Low	Indirect minor Permanent beneficial
Users of St Michael's Flags and Angel Meadow Park	Medium	VP07	Low to Negligible	Indirect minor Permanent beneficial
Users of Sharp Street looking towards site	Medium	VP08	Medium	Indirect Permanent adverse
Users of St Chad's Street looking towards site	Low to Negligible	VP12	Low to Negligible	Indirect minor Permanent beneficial
Users of River Irwell Footpath	Medium	VP13	Negligible	No Change
Views from areas surrounding Great Ancoats Street looking north	Medium	VP14	Negligible	No Change

SUMMARY AND CONCLUSIONS

Townscape Character

- 11.207 Due to the existing surrounding developments, the site has the appearance of a neglected building and derelict piece of land and does not contribute positively to

the character of the area currently. However, the wider area is undergoing significant regeneration

- 11.208 The retained heritage asset of the Baptist Chapel will coexist harmoniously with the new development, bridging the gap between the old and new character of this part of the city centre. The site's surrounding areas are also undergoing continued development and regeneration, and this project will contribute to that overall renewal effort.
- 11.209 The development of this site is appropriate, suitable, and utilises a vacant site. As noted in the SRF, the site's location on Rochdale Road presents an opportunity to enhance the public realm and contribute positively to the townscape. The proposed tall, landmark building will help to signify the entrance to the Northern Gateway regeneration zones and serve as a wayfinding point for those traveling between the core city centre and the northern areas.

Visual Amenity

- 11.210 Potentially sensitive visual receptors were reviewed, and representative views were collated across and agreed study area. AVRs were produced from all locations, and these are appended to this report.
- 11.211 Most receptors are road and pedestrian users of the highways and public open spaces in the area. While these latter receptors are considered more sensitive, the development's impact on their visual amenity is expected to be minimal or negligible. This is due to the ongoing regeneration and development of the area. Where views of the site are possible, the overall massing harmonises with existing developments on and around Rochdale Road and will eventually be further integrated as new developments emerge. While views of the Proposed Development from within the surrounding historic quarter, particularly Sharp Street, will introduce a taller element to the typically lower-level historic and infill buildings, it's important to note that views over the historic assets will be preserved. The building will contribute to the overall increase in massing, as exemplified by the Mount Yard building.

Overall Summary

- 11.212 It is considered that there is an opportunity to positively develop this site in townscape character terms with little adverse impact upon the potentially sensitive visual receptors in the area.

12. WIND MICROCLIMATE

- 12.1 This Chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon Wind Microclimate. Where appropriate, it also identifies proposed mitigation measures to prevent, minimise or control likely adverse effects arising from the Proposed Development and the subsequent anticipated residual effects. The Wind Microclimate assessment describes the methodology and approach for assessing the potential impacts of the Proposed Development on the wind microclimate within the surrounding area. The assessment focuses on identifying sensitive receptors, establishing baseline conditions, and the potential changes in wind patterns and speeds due to the development.
- 12.2 This Assessment is accompanied by Appendix 12.1 which contains the images of the Annual and Seasonal Comfort and Safety Results and the Velocity Contours for each direction.

PLANNING POLICY CONTEXT

- 12.3 Legislation and technical standards relevant to this Chapter are summarised in this section.

Legislative Framework

- 12.4 There is no specific national legislation or planning policy guidance dealing with wind microclimate in terms of pedestrian comfort. However, the Lawson Criteria (T.V. Lawson, Building Aerodynamics, Imperial College Press, 2001) are used to benchmark the pedestrian wind microclimate as they are well-established in the UK.

Policy

- **National:** National Planning Policy Framework NPPF (2024);
- **Regional:** Places For Everyone (2024): Places For Everyone Joint Development Plan Document For Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan; and
- **Local:** Core Strategy 2012-2027 (2012);
- and the Addendum to Manchester Core Strategy (2024).

Guidance

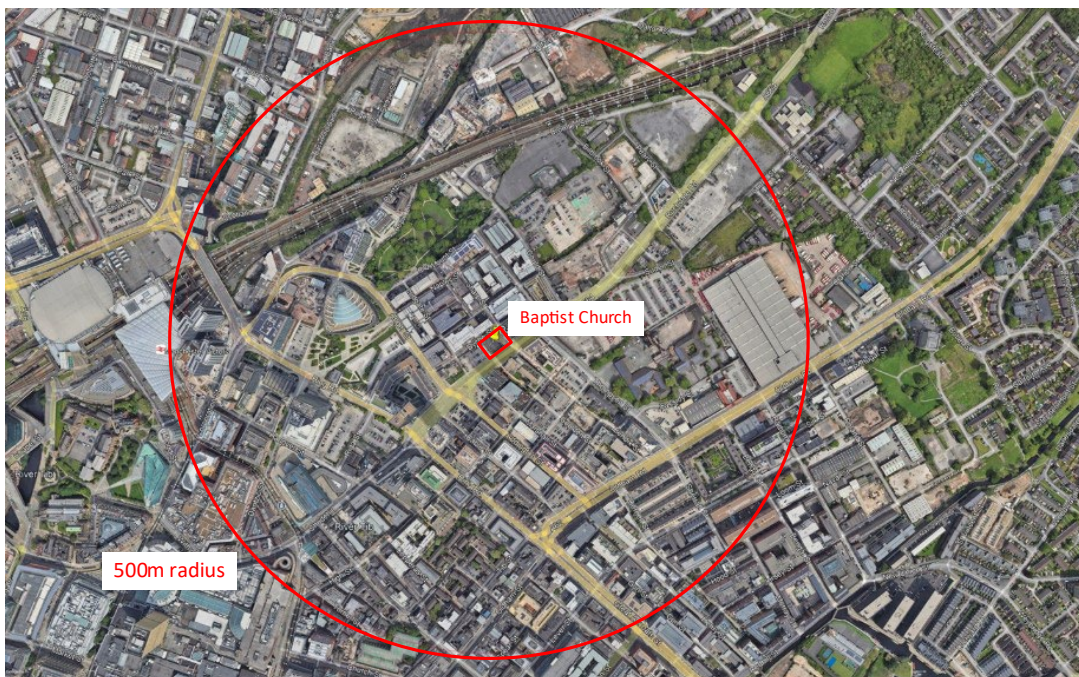
- 12.5 The following guidance documents have been used during the preparation of this Chapter:
- The Lawson Criteria (2001)

- 12.6 The Lawson Criteria are a widely accepted method in the UK and internationally for assessing pedestrian comfort and safety related to wind conditions around buildings. While not a formal UK standard, these criteria are often used by local authorities as a valuable benchmark for wind microclimate assessments. This assessment adopts the Lawson Criteria to evaluate wind comfort and safety at the site.

STUDY AREA

- 12.7 The Baptist Church development is located at 35 Rochdale Road. Given the characteristics of the site and the surrounding context, the extent of the study area covers a 500m radius from the centre of the development site (shown in Figure 12.1), in line with Best Practice Guidelines for Computational Fluid Dynamics (CFD) Simulation of Flows in the Urban Environment. Buildings beyond this radius will only be represented in the model if their distance from the region of interest is less than 6 times their height, in accordance with the guidelines.

Figure 12.1– Extent of Study Area



BASELINE CONDITIONS

- 12.8 The baseline assessment has been conducted based on the current conditions of the proposed site and its immediate surroundings. This includes the existing Baptist Church building (shown in Figure 12.2) and the surrounding existing buildings or buildings under construction, within a 500m radius of the site centre.
- 12.9 The baseline assessment has been used as a reference from which the magnitude of change has been measured for the Proposed Development which has been assessed under equal conditions.

- 12.10 The information to define the baseline model has been collected from available sources including existing drawings, topographical surveys, information from mapping data, aerial photographic data for the area, and drawings within the planning portal.

Figure 12.2 – Existing Site for Baseline Assessment



RECEPTORS

- 12.11 The receptors for the wind assessment are the users of the outdoors spaces within the site and adjacent surroundings. This will include both existing and new receptors.
- 12.12 The sensitive outdoor areas assessed include:

Existing Receptors

- Existing outdoor amenity and seating areas at ground level;
- Existing building entrances, bus stops, drop off areas; and
- Existing pedestrian circulation routes.

New Receptors

- Outdoor amenity and seating areas at ground level and elevated levels within the Proposed Development;
- Building entrances, bus stops, drop off areas within the Proposed Development; and

- Pedestrian circulation routes within the Proposed Development.

12.13 Figure 12.3 and Table 12.1 below show the location of the sensitive receptors considered for the wind assessment.

Figure 12.3 – Receptors for the wind assessment

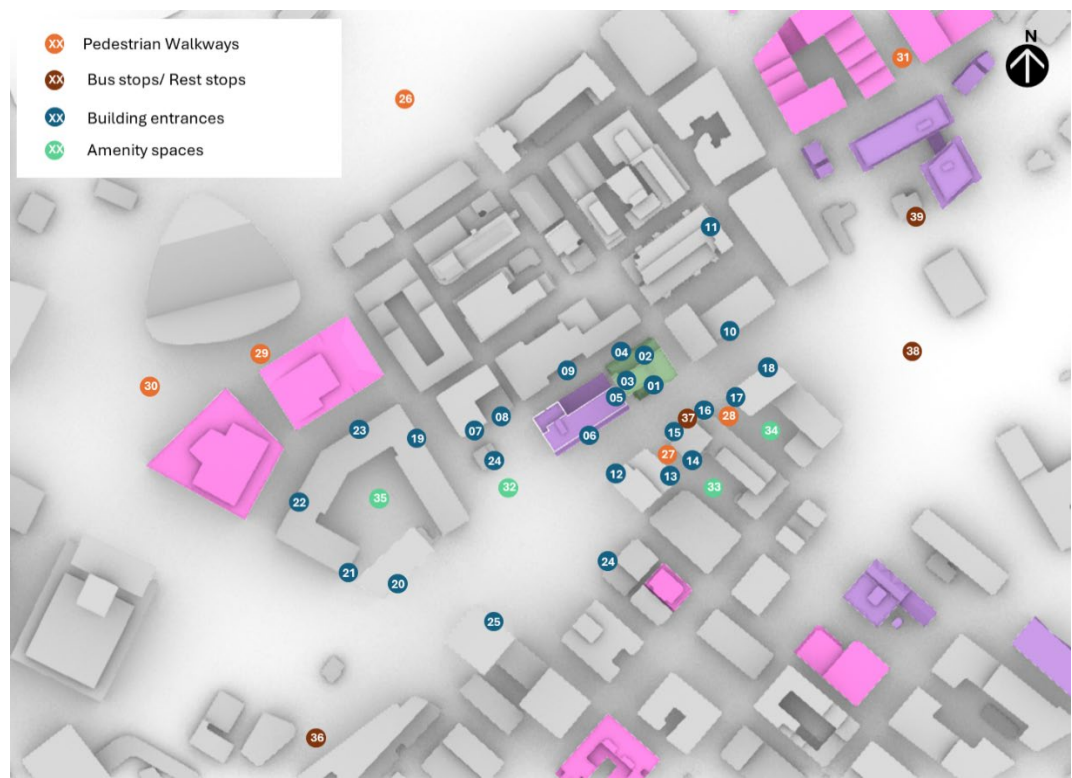


Table 12.1: Defining Sensitivity of Receptors

Receptor Number	Description	Use	Target Conditions
Existing Receptors			
5,6	25 Rochdale Road	Building entrance	Standing during all seasons
7,8	Grey building	Building entrance	Standing during all seasons
9	Northern Angel	Building entrance	Standing during all seasons
10	Hampton by Hilton	Building entrance	Standing during all seasons
11	Skyline Chambers	Building entrance	Standing during all seasons
12,13,14,15,16	Skyline Central	Building entrance	Standing during all seasons
17,18	Ancoats Gardens	Building entrance	Standing during all seasons
19,20,21,22,23	Angel Gardens	Building entrance	Standing during all seasons
24	International trimmings	Building entrance	Standing during all seasons
25	55 Cable Street	Building entrance	Standing during all seasons
26	Angel Meadow Park	Pedestrian Walkway	Leisure walking during all seasons
27, 28	Skyline Central Amenity	Pedestrian Walkway	Leisure walking during all seasons
29,30	The Co-operative Group	Pedestrian Walkway	Leisure walking during all seasons
31	Gould Street	Pedestrian Walkway	Leisure walking during all seasons
32	Angel's Pub	Amenity Spaces	Sitting during

			summer season
33	Skyline Central	Amenity Spaces	Sitting during summer season
34	Ancoats Gardens	Amenity Spaces	Sitting during summer season
35	Angel Gardens	Amenity Spaces	Sitting during summer season
36,37,38,39	Hanover, Marshall, Clive and Rochdale Road bus stops	Bus Stops	Standing during all seasons
New Receptors			
1	Main entrance to the proposed building	Building entrance	Standing during all seasons
2,3,4	Entrances from terraces/ balconies	Building entrance	Standing during all seasons

SENSITIVITY OF RECEPTORS

- 12.14 The sensitivity of receptors considers the activity of pedestrians as this affects their tolerance to wind speeds. For instance, during sedentary activities such as sitting, pedestrians are highly sensitive to variations to wind speeds while more transient activities, such as walking, would tolerate stronger winds. In line with these considerations, Table 12.2 illustrates the sensitivity of the receptors depending on their expected use.

Table 12.2: Defining Sensitivity of Receptors

Receptors	Sensitivity
Areas intended for `sitting` and `standing` (e.g. benches, restaurants and bars, building entrances)	High
Areas intended for leisure `walking` (i.e. commercial or residential streets)	Medium
Areas intended for `business walking` (e.g. thoroughfares, streets leading to back-of-house or maintenance entrances, areas intended for car parks and high-speed roads); roof tops for maintenance only.	Low

ASSESSMENT METHODOLOGY

- 12.15 The pedestrian-level wind environment in an urban setting will depend on the general wind conditions as well as on the effects of the urban environment itself. Therefore, the assessment will consist of three main parts: calculation of the urban environment's aerodynamic effect on the wind; which is then combined with historical wind data; and, finally, compared against criteria to quantify the discomfort and/or level of distress caused by the wind.
- 12.16 The assessment of the wind microclimate impacts comprises 3 scenarios:
- Baseline Scenario: Assessment of the existing buildings on the site with the existing surrounding context.
 - Proposed Scenario: Assessment of the Proposed Development on the site with the existing surrounding context.
 - Cumulative Effects: This scenario includes the effects of the Proposed Development in combination with other future (consented) schemes.

ASSESSMENT MODELLING

- 12.17 The methodology adopted for the study incorporates Computational Fluid Dynamics (CFD) modelling to predict air flows and wind velocities around the Proposed Development. A 3D computer model of the site and the surrounding area has been created for the assessment. The model excludes both soft and hard landscaping (trees, street furniture etc.), which is a representation of the worst-case scenario since landscaping would generally improve the wind environment. This approach is standard practice. Figure 12.4 below shows the model used for the assessment.

Figure 12.4 – View of the wind model

South Perspective



ASSESSMENT CRITERIA

- 12.18 The criteria used in this study were developed by Lawson (2001), and have been reproduced in the Table 12.3 and Table 12.4 below. Like most criteria used in assessments of pedestrian wind conditions, they relate a threshold wind speed and a threshold frequency to the suitability of an activity.
- 12.19 The frequency threshold for each criterion is 5% - or about three weeks per year. It is also useful to assess frequency on a seasonal basis. For example, an outdoor seating area may require wind conditions suitable for sitting or standing in summer, but not in winter when the seating is unlikely to be used. For season-specific results, the criteria are based on 5% of hours across the months in that season.

Table 12.3: Lawson's Comfort Assessment Criteria

Criteria	Threshold mean wind for 5% of hours [ms ⁻¹]	Suitability
Pedestrian sitting	4 m/s	Outdoor seating and areas one can occupy comfortably for long periods
Pedestrian standing	6 m/s	Main building entrances, pickup/drop-off points
Pedestrian walking	8 m/s	Appropriate for strolling
Business walking	10 m/s	Can be tolerated if one's objective is to walk, run or cycle without lingering
Unsuitable	>10 m/s	Nuisance for most pedestrian activities

- 12.20 The Lawson Criteria method also identifies a safety criterion to identify those areas where someone could find walking difficult, or even stumble and fall. The criteria define threshold wind speeds not to be exceeded for more than 0.025% of the year. These are particularly strong winds that could cause people to have difficulties while walking and also stumble or fall. The safety criterion is set out in Table 12.4 below.

Table 12.4: Lawson's Safety Assessment Criteria

Criteria	Threshold mean wind speed for 2.2hr/year [ms ⁻¹]	Suitability
S15	15	Unsuitable for frail persons, cyclists etc
S20	20	Unsuitable for all pedestrians

- 12.21 The wind assessment for each of these criteria will be tested taking into account the season and will inform the suitability for different activities on the site based on the following general target wind conditions:

- Outdoor amenity and seating areas: 'Sitting' during the summer season

- Building entrances, bus stops, drop off areas: 'Standing' during all seasons;
- Pedestrian circulation routes: 'Leisure walking' during all seasons; and
- Pedestrian thoroughfares (minor pedestrian routes): 'Business walking' during all seasons.

POTENTIALLY SIGNIFICANT EFFECTS – CONSTRUCTION PHASE

- 12.22 The potential effects on wind microclimate at the site during the construction works have not been quantified as part of the assessment as these effects will continuously vary as construction progresses. Therefore, construction phase impacts have been scoped out of the assessment. While some minor and temporary changes might occur due to construction activities, these fluctuations are not considered significant for the purposes of this assessment.
- 12.23 Given the site location, it can be anticipated that the effects on the wind microclimate on the site during construction will be of lesser magnitude than those that will be experienced at the operational stage, i.e. once the development has been completed. These effects have been fully quantified as part of the assessment.

POTENTIALLY SIGNIFICANT EFFECTS – OPERATION PHASE

- 12.24 The wind microclimate will be affected by terrain, buildings, and other structures obstructing wind flow. The introduction of a new building development can affect the local wind flow patterns, which can produce uncomfortable and/or unsafe wind environment at pedestrian level. Fast-moving high-level winds can be deflected down to street level along windward faces of buildings. As air moves from the windward side of the site into the low-pressure regions of the buildings, it can accelerate around corners and/or through constrictions, causing localised regions of relatively high wind speed. The level of impact by the Proposed Development design will be assessed to quantify these effects.
- 12.25 The likely significant effects identified for the operational phase for assessment in the ES is as follows in Table 12.5.

Table 12.5: Likely Significant Effects for the Completed Development

Receptor	Effects	Scoped In
Outdoor amenity and seating areas both within and off site.	The assessment has been used to determine whether wind conditions are 'unsafe' or 'unsuitable' (in terms of comfort) for the intended pedestrian use. Any effects identified will be long-term, permanent and local.	✓
Building entrances, bus stops, drop off	The assessment has been used to determine whether wind conditions are 'unsafe' or 'unsuitable' (in terms of comfort) for the	✓

areas both within and around the site.	intended pedestrian use. Any effects identified will be long-term, permanent and local.	
Pedestrian circulation routes both within and around the site.	The assessment has been used to determine whether conditions are 'unsafe' or 'unsuitable' (in terms of comfort) for the intended pedestrian use. Any effects identified will be long-term, permanent and local.	✓

EFFECT PREDICTION AND ASSESSMENT OF EFFECT SIGNIFICANCE

- 12.26 In line with EIA requirements a description of the significance of wind effects have been provided. This section is intended to provide consistency in these significance descriptors. For the purposes of the wind assessment, whether a condition is significant or not depends on whether the condition requires mitigation. The tables in the following sections include a column that defines if mitigation measures are necessary.
- 12.27 The significance of on-site measurement locations is defined by comparing the wind comfort/safety levels with the intended pedestrian activity at each location, using Table 12.6 below.

Table 12.6: On-Site (New) Receptor

Significance	Trigger	Mitigation required?
Major Adverse	Conditions are 'unsafe'	Yes
Moderate Adverse	Conditions are 'unsuitable' (in terms of comfort) for the intended pedestrian use.	Yes
Negligible	Conditions are 'suitable' for the intended pedestrian use.	No
Moderate Beneficial	Conditions are calmer than required for the intended pedestrian use (by at least one comfort category).	No

- 12.28 The significance of off-Site measurement locations is defined not only by comparing the wind comfort levels with the intended pedestrian activity, but also by comparing the conditions to those experienced prior to the introduction of the Proposed Development (Baseline), using Table 12.7 below.

Table 12.7: Off-Site (Existing) Receptor

Significance	Trigger	Mitigation required?
Major Adverse	Conditions that were 'safe' in the baseline scenario become	Yes

	'unsafe' as a result of the Proposed Development. OR Conditions that were 'suitable' in terms of comfort in the baseline scenario become 'unsuitable' as a result of the Proposed Development. OR Conditions that were 'unsafe' in the baseline scenario are made worse as a result of the Proposed Development.	
Moderate Adverse	Conditions that were 'suitable' in terms of comfort in the baseline scenario are made windier (by at least one comfort category) as a result of the Proposed Development but remain 'suitable' for the intended pedestrian activity.	No
Minor Adverse	Minor increase in wind speeds from baseline but conditions are 'suitable' for the intended pedestrian use.	No
Negligible	Conditions remain the same as in the baseline scenario.	No
Moderate Beneficial	Conditions that were 'unsuitable' in terms of comfort in the baseline scenario become 'suitable' as a result of the Proposed Development. OR Conditions that were 'unsafe' in the baseline scenario are made better as a result of the Proposed Development (but not so as to make them 'safe').	No
Major Beneficial	Conditions that were 'unsafe' in the baseline scenario become 'safe' as a result of the Proposed Development.	No

- 12.29 The above terms have been used to define the impact identified as positive, adverse or no impact, and the significance of the effect identified as either beneficial, adverse or negligible.

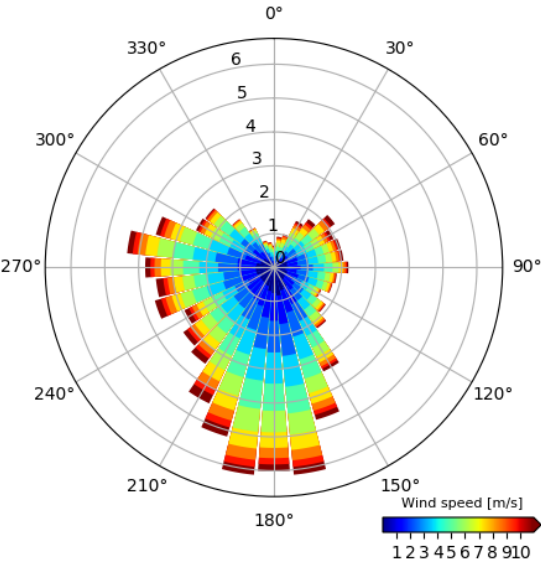
WIND CLIMATE ANALYSIS

- 12.30 Wind data was collected from the nearby meteorological station at Manchester Airport which is approximately 15.3 km south of the site. The data consisted of mean hourly wind speeds and directions over the last 10 years. The data was discretised into 36 bins, representing 10° sectors. The nomenclature adopted in this report

assigns 0° to winds coming from North and increases clockwise such that 90° refers to winds blowing from East, 180° from South and 270° from West.

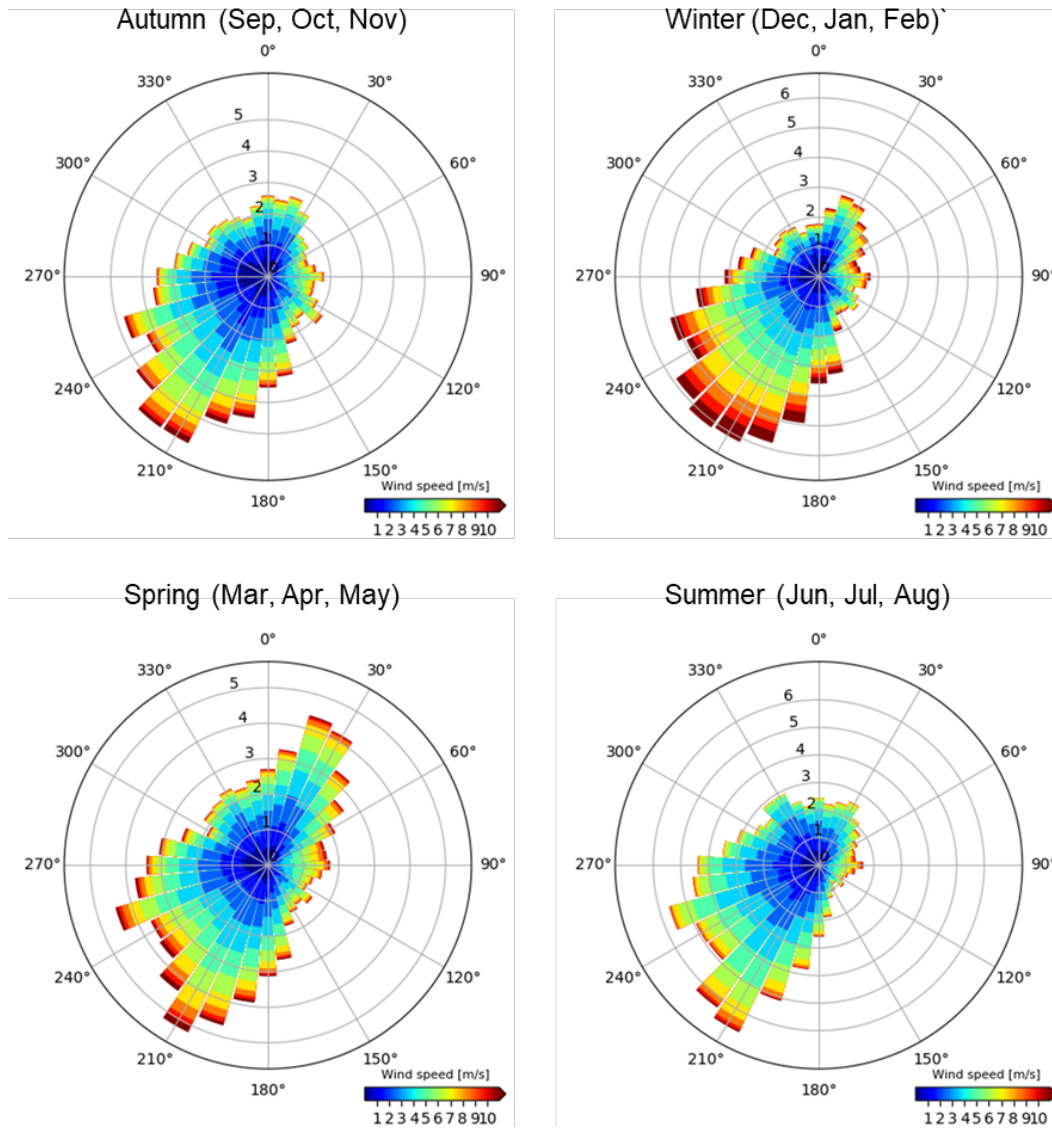
- 12.31 Figure 12.5 shows a summary of the wind data at the project site for the whole year in the form of a wind rose. Wind direction is shown on the angular axes, with percentage of hours on the radial axes. From this plot, it is possible to observe that southerly winds are the prevailing wind direction, representing the largest proportion of higher wind speeds.

Figure 12.5 - Annual wind rose at the site, showing the frequency and magnitude of mean-hourly wind speeds.



- 12.32 Figure 12.6 shows similar wind roses split into three-month seasons. It shows heavy southerly winds in Autumn and Winter, though winter is windier. There is some variation in directionality in the spring months, including northeastern and northwestern winds, while summer is predominantly affected by western and southern winds.

Figure 12.6 - Annual wind roses for each season



- 12.33 Linear regression methods were used to fit the data to a Weibull probability distribution, i.e.:

$$P(U) = pe^{-\left(\frac{U}{c}\right)^k}$$

- 12.34 where the p , c and k coefficients are the probability of the wind direction occurring, the dispersion parameter and the shape parameter respectively.

- 12.35 To account for the differences in terrain surrounding the weather station at Manchester Airport and the project site, adjustments were made using the wind model proposed by ESDU, an engineering advisory organisation based in the UK (ESDU 2010). This method assigns transposition factors to the c term in the Weibull distribution of the data at the meteorological site, based on upwind aerodynamic

roughness of the terrain. The weather centre data was initially transposed to open country terrain and subsequently transposed to a reference height of 80m at the site of the Proposed Development, accounting for upwind terrain and topographical features. This terrain analysis was based on the CORINE Land Cover (CLC) dataset4 which is shown Figure 12.7. This resulted in the transposition factors shown in Table 12.8 .

Figure 12.7 - Categorisation of the terrain surrounding the site.

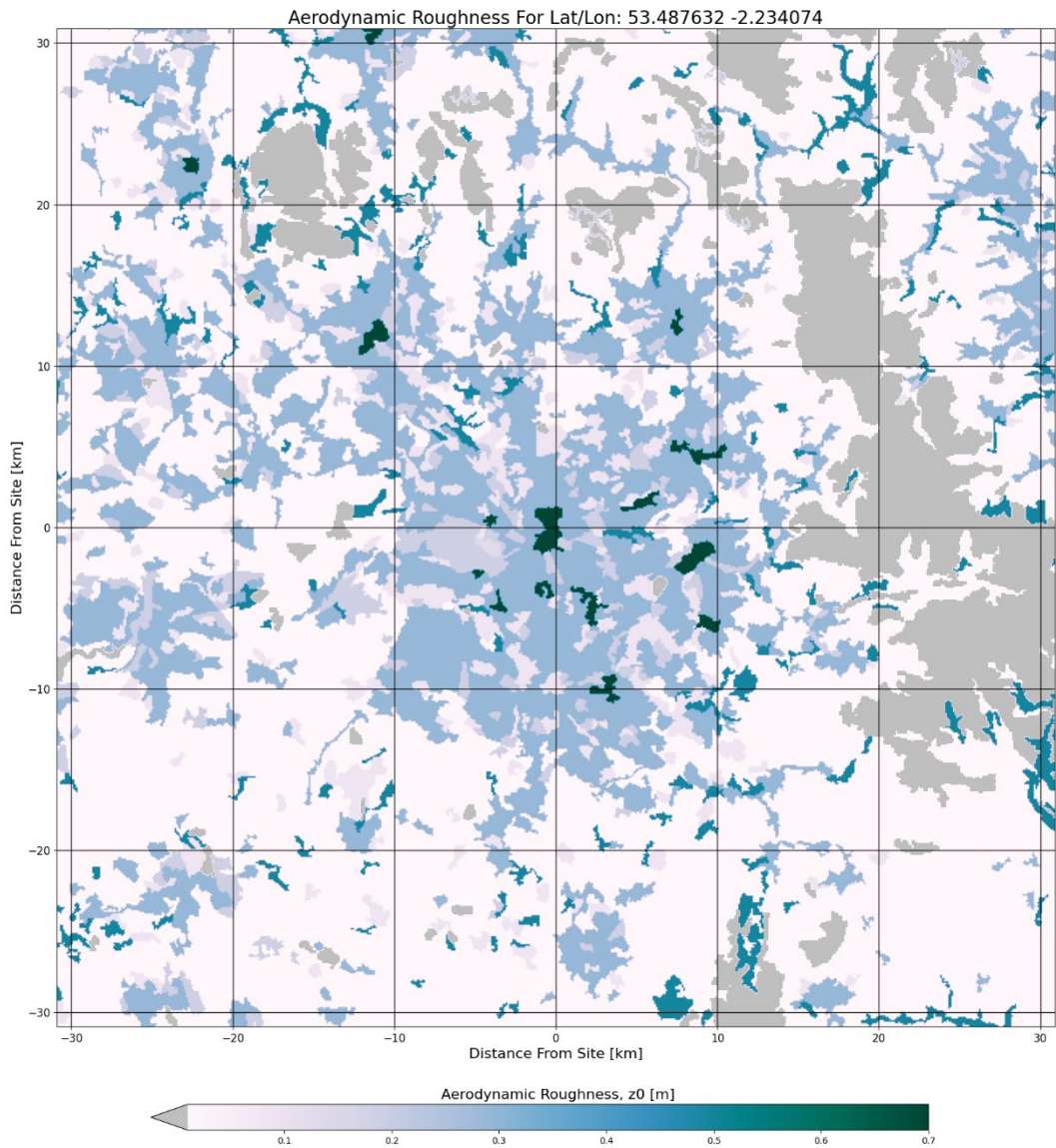


Table 12.8 – Transposition factors from 10m open country to 80 m reference height at the project site

Direction	Transposition factors
0	1.200
30	1.217
55	1.224
75	1.229
100	1.226
130	1.219
150	1.214
160	1.205
170	1.196
180	1.187
190	1.181
200	1.174
210	1.168
220	1.172
230	1.177
240	1.182
250	1.190
260	1.197
270	1.204
280	1.200
290	1.196
305	1.189
330	1.185

12.36 The aerodynamic effect from all wind directions must be accounted for and, as the weather data has an azimuthal resolution of 10°, 36 simulated directions will provide the best possible resolution. However, this can be computationally expensive and infrequent wind directions will not contribute significantly to the final outcome. Therefore, some adjacent infrequent directions have been grouped together such that each simulated direction has a similar frequency of occurrence. The grouping methodology is such that the frequency of grouped wind directions should generally not exceed that of the most frequent (prevailing) wind directions.

12.37 In this case, 23 wind directions were explicitly simulated (see Table 12.9).

Table 12.9 – Wind directions simulated.

Simulated direction [°]	Bins included [°]	Combined frequency [%]
0	0, 10, 350	2.311
30	20, 30, 40	4.303
55	50, 60	4.17
75	70, 80	4.12
100	90, 100, 110	5.872
130	120, 130, 140	5.642
150	150	3.401
160	160	4.665
170	170	6.146
180	180	6.021
190	190	6.147
200	200	5.178
210	210	4.446
220	220	3.492
230	230	3.292
240	240	2.934
250	250	3.653
260	260	3.505
270	270	3.806
280	280	4.359
290	290	3.623
305	300, 310	5.042
330	320, 330, 340	3.874

SIMULATION DETAILS AND ASSUMPTIONS

- 12.38 A CFD numerical simulation has been performed for each of the directions shown in Table 12.9. Relative wind speeds were sampled at a plane 1.5m from the ground. These values were then combined with the weather data shown in the Wind Climate section and compared against criteria discussed in the Assessment Criteria section.
- 12.39 Each simulation uses numerical methods to solve the governing equations of fluid mechanics around the site. The modelling site comprises the geometry discussed in the Assessment Modelling section surrounded by a volume which extends 3km in the horizontal directions and 480m in the vertical direction. The CFD method employed requires this volume to be split into smaller volumes or 'cells'. These cells are nominally hexahedral and reduce in size from approximately 25m in the far field to 0.1m near the building in order to sufficiently resolve the fluid flow. Thin prismatic layers of cells were added to the ground and buildings to resolve the large gradients in the flow near the solid obstructions. The total number of cells in the cumulative scenario was approximately 30.5 million.
- 12.40 As time-averaged results are of interest, the equations in the model have been time-averaged using Reynolds averaging to produce the Reynolds-Averaged Navier-Stokes (RANS) equations. The realizable version of the $k - \epsilon$ model (Shih et. al., 1995)

has been used to describe the statistical effect of turbulence by solving transport equations for the turbulent kinetic energy (k) and turbulent dissipation rate (ϵ).

- 12.41 The velocity magnitude output from the CFD is a mean velocity defined as

$$\bar{U} = (\bar{u}^2 + \bar{v}^2 + \bar{w}^2)^{\frac{1}{2}}$$

- 12.42 where the overbar represents a time-averaged quantity and u, v, w are the velocity components in the x, y, z directions, respectively. However, a pedestrian's perception to the wind does not depend on direction; a wind from any direction is equally as uncomfortable. Therefore, the velocity of interest is actually:

$$\bar{U} = \overline{(u^2 + v^2 + w^2)^{\frac{1}{2}}}$$

- 12.43 these scalar values are different because $u = \bar{u} + u'$ and $\bar{u'^2} = 0$ but $\overline{u'^2} \neq 0$, where u' is the fluctuating part of the instantaneous velocity, u . Using the fact that $k = \frac{1}{2}(\overline{u'^2} + \overline{v'^2} + \overline{w'^2})$, the velocity used of interest from the RANS equations is:

$$\bar{U}_{scalar} = (\bar{U}^2 + 2k)^{\frac{1}{2}}$$

- 12.44 Additionally, a 'gust' wind speed has been estimated as:

$$U_{gust} = \bar{U}_{scalar} + g \sqrt{\frac{2}{3}k}$$

- 12.45 Where g is a peak gust factor that was set to 3.0. This gust wind speed was divided by 1.85 to give a gust equivalent mean (GEM) value. The maximum of the GEM and the scalar mean wind speed at each sampled cell was the quantity used in the analysis.

- 12.46 A non-slip condition was applied to the ground and buildings. Buildings and ground within the 500m radius had a rough wall function with an assigned roughness of $z_0 = 0.001m$ and $z_0 = 0.005m$ respectively; the far-field (>500m radius) ground and heavily forested areas had a rough wall function with varying roughness heights depending on their terrain classification (ESDU). The outlet had a zero-gradient boundary condition, side and top walls had free slip conditions. An atmospheric boundary layer velocity profile was applied to the inlet based on the ESDU transposition process described in the Wind Climate Analysis section.

- 12.47 The SIMPLEC algorithm as implemented in OpenFOAM (Engys version Helyx Core-4.0.1) was used to iteratively solve the equations. The solution was considered to be converged when the change in the standard deviation of the pressure field on the proposed building in the simulations (i.e. the relative change from one iteration to the next) fell below 1%.

ASSESSMENT RESULTS

- 12.48 This section presents the results of the study. Conditions are assessed against the proposed usages and comparisons are made between the baseline and proposed scenarios. The result plots are taken at 1.5m plane above ground which is the industry standard height to represent pedestrian level. Seasonal plots for each case, as well as directional wind speed contour plots, are presented in Appendix 12.1.

BASELINE SCENARIO

Baseline Seasonal Pedestrian Comfort Results

- 12.49 Figure 12.8 and Figure 12.9 illustrates contours of the winter and summer comfort criteria for the Baseline scenario.

Ground Level – Winter

- 12.50 The results reflect the mixed massing and height variation of the buildings in this area, with wind conditions being suitable for 'sitting' and 'standing' in the areas where buildings are of lower height, and for 'leisure walking' in the adjacent areas to the taller developments such as those on Ring Road and Angel St. Generally, the results indicate that the wind conditions at all off-site receptors in the baseline scenario are suitable for the existing uses in winter.

Ground Level – Summer

- 12.51 The summer wind comfort results indicate that the wind environment around the outdoor areas is predominantly suitable for 'sitting' with some areas around the taller development being suitable for standing. The results indicate that the wind conditions at all off-site receptors in the baseline scenario are suitable for the existing uses in summer.

Figure 12.8 – Winter Comfort Assessment of the baseline

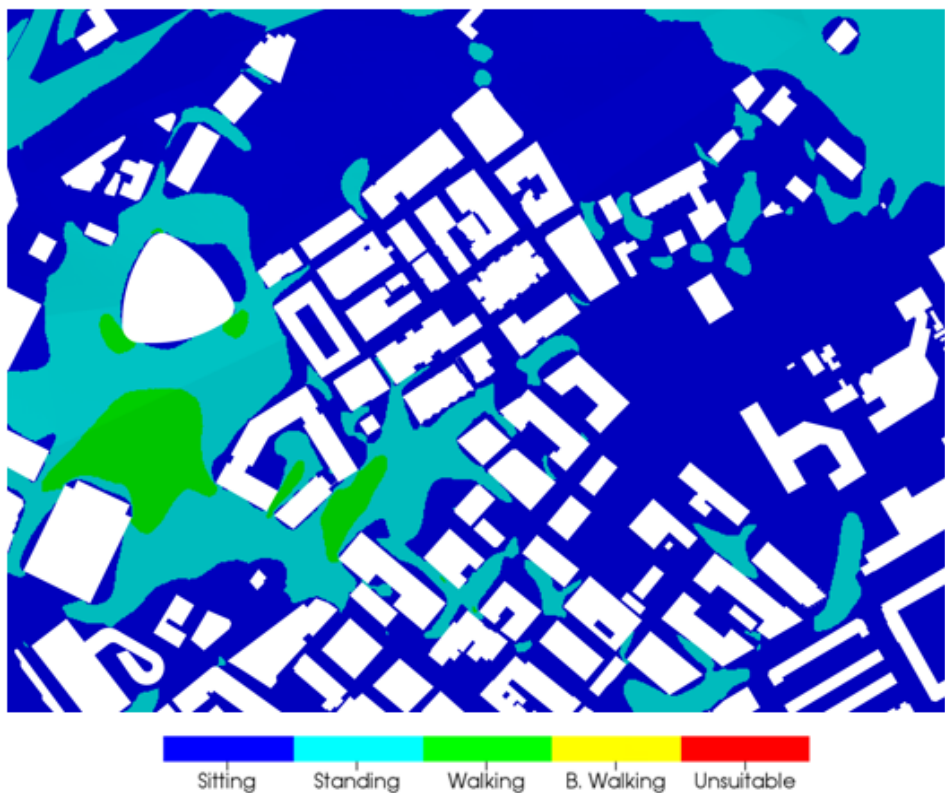
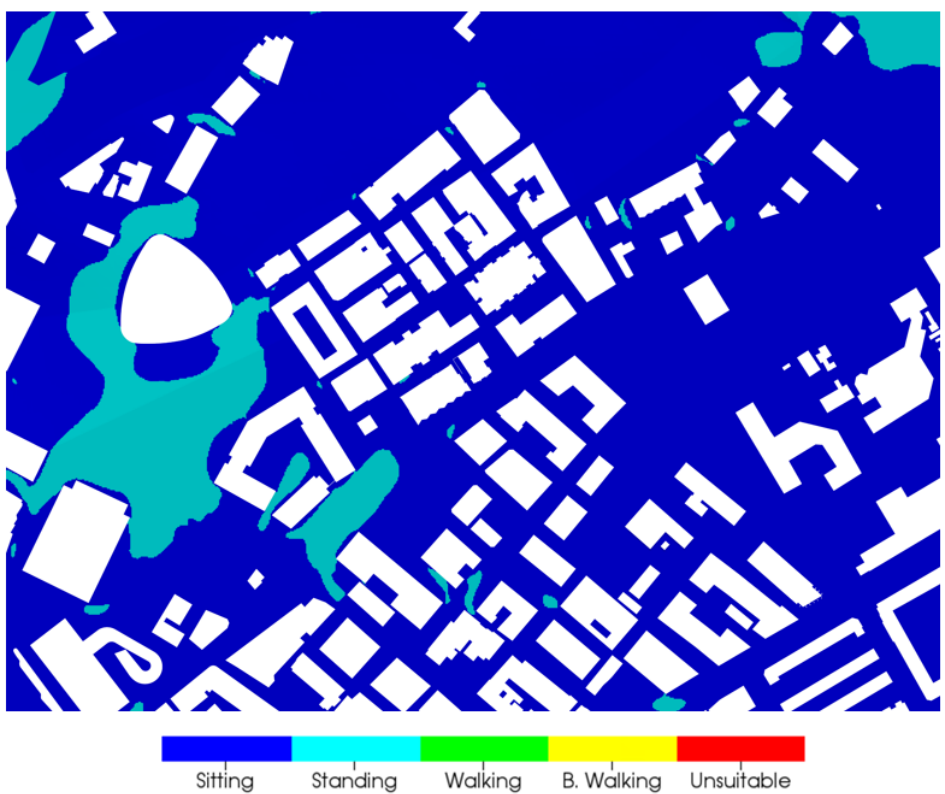


Figure 12.9 – Summer Comfort Assessment of the baseline



Baseline Scenario Annual Pedestrian Safety Results

- 12.52 Figure 12.10 shows the contours of the annual safety criteria for the baseline scenario. The results show that the recommended criteria for safety are met at all areas at pedestrian ground level, with only one exception at the north side of the Co-operative Group building on Angel Street where a relatively small region exceeding the criteria is identified. The rest of the area remains within the safety thresholds for pedestrians.

Figure 12.10 – Annual safety criteria for the baseline



PROPOSED SCENARIO

Proposed Scenario Seasonal Pedestrian Comfort Results

- 12.53 Figures 12.11 to 12.14 show the contour plots for the summer and winter months, both at ground and elevated levels.

Ground Level - Winter

- 12.54 The results show that there is a slight variation in the distribution of wind conditions in the areas adjacent to the Proposed Development due to the deflections of the wind flow caused by the new massing. However, the comfort conditions at all ground level existing and proposed receptors (building entrances, bus stops,

walkways and throughfares) in the proposed scenario remain suitable for the existing and intended uses.

Elevated Level - Winter

- 12.55 At elevated level, the external terrace at level 01 in wintertime shows that this space would be suitable for sitting. This means that access to the terrace from the building is not affected as the doors are located in areas that are suitable for accessing the space. Therefore, wind conditions at the level 01 terrace in the proposed scenario are suitable for the intended use.
- 12.56 The residents' terrace on level 20 is predominantly suitable for 'standing' and 'sitting' with minor areas suitable for leisure walking at the western and eastern ends of the terrace. This means that access to the terrace from the building is not affected as the doors are located in areas that are suitable for accessing the space. Therefore, wind conditions at the residents terrace on level 20 in the proposed scenario are suitable for the intended use.
- 12.57 Balconies on the south side show suitability for 'sitting' and 'standing' which are suitable conditions for their expected usage.
- 12.58 The roof is expected to be too windy and unsuitable for general use, however it is assumed that this space will only be accessed for maintenance purposes and that maintenance operatives accessing this space would be wearing suitable safety equipment.

Figure 12.11 – Winter comfort assessment of the proposed scenario – Ground level

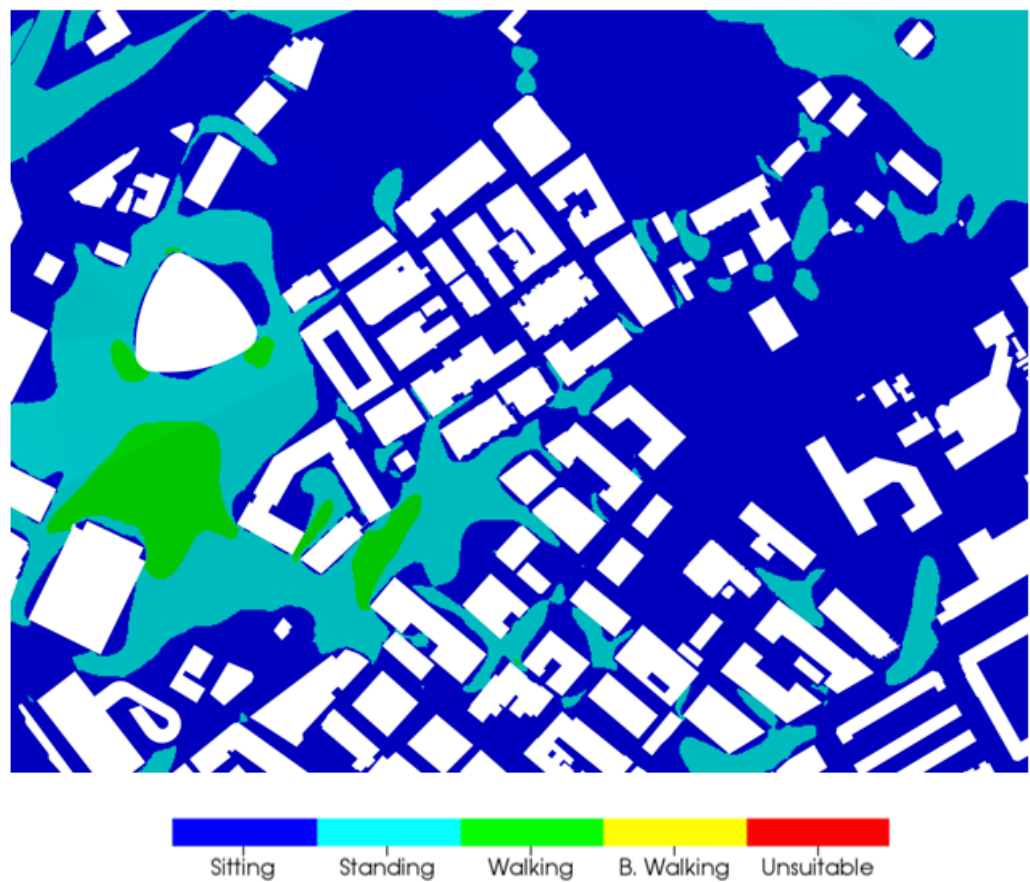
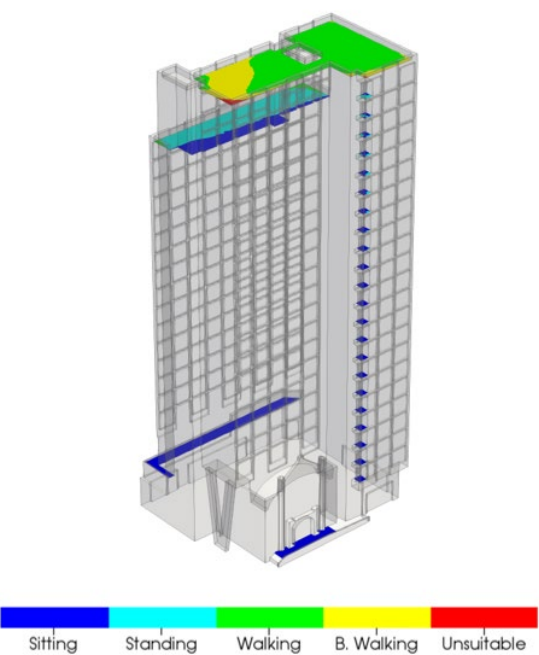


Figure 12.12 – Winter comfort assessment of the proposed scenario – Elevated Level



Ground Level - Summer

- 12.59 The results show that compared to the existing baseline condition, there is little variation in the local wind conditions in the areas adjacent to the Proposed Development. The results indicate that in the summer period, all areas within the site and the surroundings remain suitable either for sitting or standing. The comfort conditions at all receptors (open spaces, building entrances, bus stops, walkways and throughfares) in the proposed scenario remain suitable for the existing and intended uses.

Elevated Level - Summer

- 12.60 At elevated level, the external terrace at level 01 in summertime shows that this space would be suitable for sitting. Therefore, wind conditions at the level 01 external terrace in the proposed scenario are suitable for the intended use.
- 12.61 The residents' terrace on level 20 is predominantly suitable for 'standing' and 'sitting' with a minor area suitable for leisure walking at the eastern end of the terrace. Therefore, wind conditions at the residents' terrace on level 20 in the proposed scenario are suitable for the intended use.
- 12.62 Balconies on the south side show suitability for 'sitting' which are suitable conditions for their expected usage.
- 12.63 The roof is expected to only be accessed for maintenance purposes, and it is assumed that maintenance operatives accessing this space would be wearing suitable safety equipment.

Figure 12.13 – Summer comfort assessment of the proposed scenario – Ground level

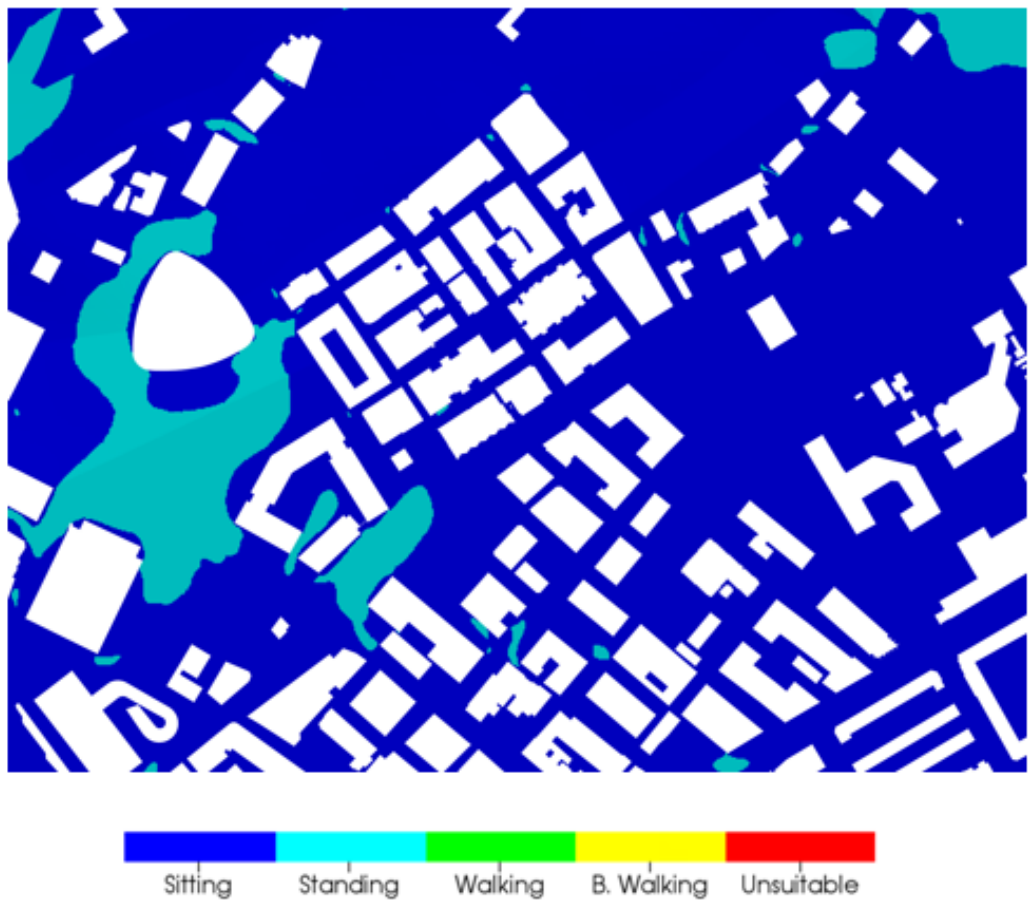
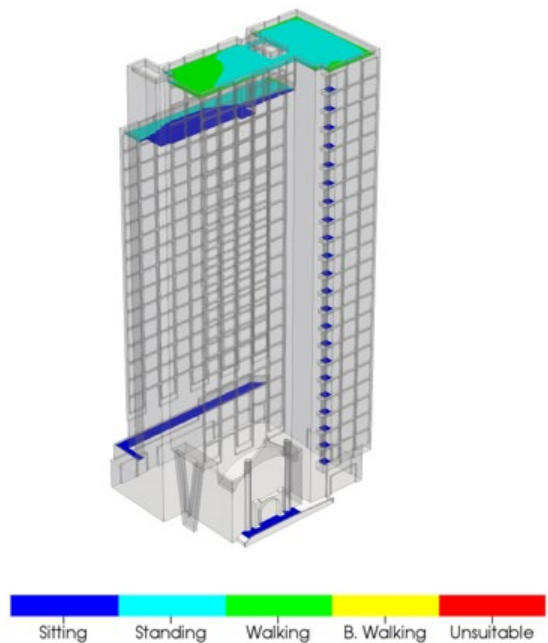


Figure 12.14 – Summer comfort assessment of proposed scenario – Elevated level



Proposed scenario Annual Pedestrian Safety Results

Ground Level – Safety

- 12.64 Figure 12.15 shows contours of safety criteria. The results show that the recommended criteria for safety are met at all areas at pedestrian ground level, with only one exception at the north side of the Co-operative Group building on Angel St where a relatively small region exceeding the criteria is identified. This effect is also observed in the baseline condition indicating that it is not caused by the Proposed Development. The rest of the area remains within the safety thresholds for pedestrians.

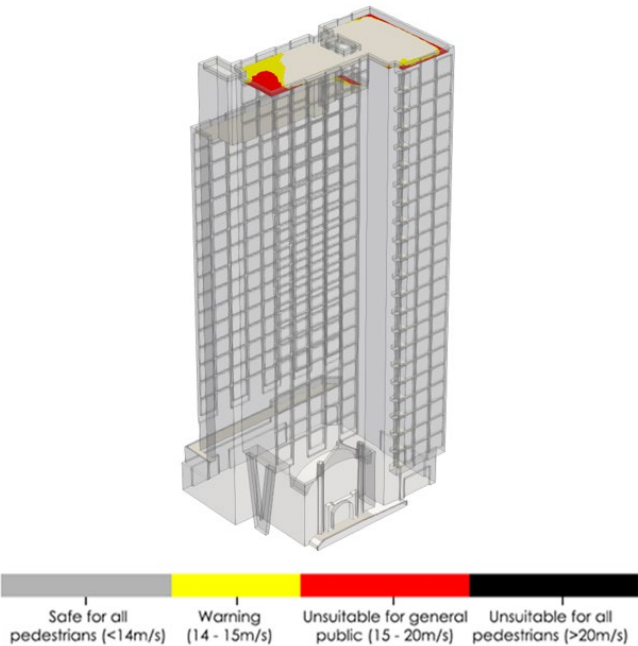
Elevated Level - Safety

- 12.65 At elevated level (Figure 12.16), the external terrace at level 01 shows that this space remains within the safety threshold, and it would be suitable for usage. Therefore, wind conditions at the level 01 terrace in the proposed scenario are suitable for the intended use.
- 12.66 The residents' terrace on level 20 shows small areas that exceed the safety threshold at the eastern end of the terrace. This will require local mitigation. Mitigation measures are discussed in the Mitigation section.
- 12.67 Balconies on the south side all remain within the safety thresholds and are suitable for usage.
- 12.68 The roof is expected to be too windy and unsuitable for general use, however it is assumed that this space is not accessible to residents, and it will only be accessed for maintenance purposes. Also, it is assumed that maintenance operatives accessing this space would be wearing suitable safety equipment.

Figure 12.15 – Safety of the proposed scenario – Ground level



Figure 12.16 – Safety of the proposed scenario – Elevated level



CUMULATIVE SCENARIO

Cumulative Scenario Seasonal Pedestrian Comfort Results

- 12.69 Figures 12.17 to 12.20 show the contour plots for the winter and summer months for the cumulative scenario, both at ground and elevated levels.

Ground Level - Winter

- 12.70 The results show that there is a slight variation in the distribution of wind conditions between the proposed and cumulative scenarios. This variation reflects the introduction of consented developments into the assessment. The results do not show any relevant impacts in the areas of influence of the Proposed Development other than a slight improvement of the wind conditions around the Site, due to the additional wind shelter from the consented schemes. Further away there are local effects in the areas of new development particularly towards the north side of the area, around the Dantzic Street where larger new development is planned for the area and those effects are clearly associated with the new taller future developments. The comfort conditions at all ground level existing and proposed receptors within the influence of the Proposed Development (building entrances, bus stops, walkways and thoroughfares) in the cumulative scenario remain suitable for the existing and intended uses.
- 12.71 At elevated level, the external terrace at level 01 in wintertime shows that this space would be suitable for sitting. This means that access to the terrace from the building is not affected as the doors are located in areas that are suitable for accessing the space. Therefore, wind conditions at the level 01 terrace in the cumulative scenario are suitable for the intended use.
- 12.72 The residents' terrace on level 20 is predominantly suitable for 'standing' and 'sitting' with minor areas suitable for leisure walking at the western and eastern ends of the terrace. This means that access to the terrace from the building is not affected as the doors are located in areas that are suitable for accessing the space. Therefore, wind conditions at the residents' terrace on level 20 in the cumulative scenario are suitable for the intended use.
- 12.73 Balconies on the south side show suitability for 'sitting' and 'standing' which are suitable conditions for their expected usage.
- 12.74 The roof is expected to be too windy and unsuitable for general use, however it is assumed that this space will only be accessed for maintenance purposes and that maintenance operatives accessing this space would be wearing suitable safety equipment.

Figure 12.17 – Winter Comfort of Cumulative scenario – Ground Level

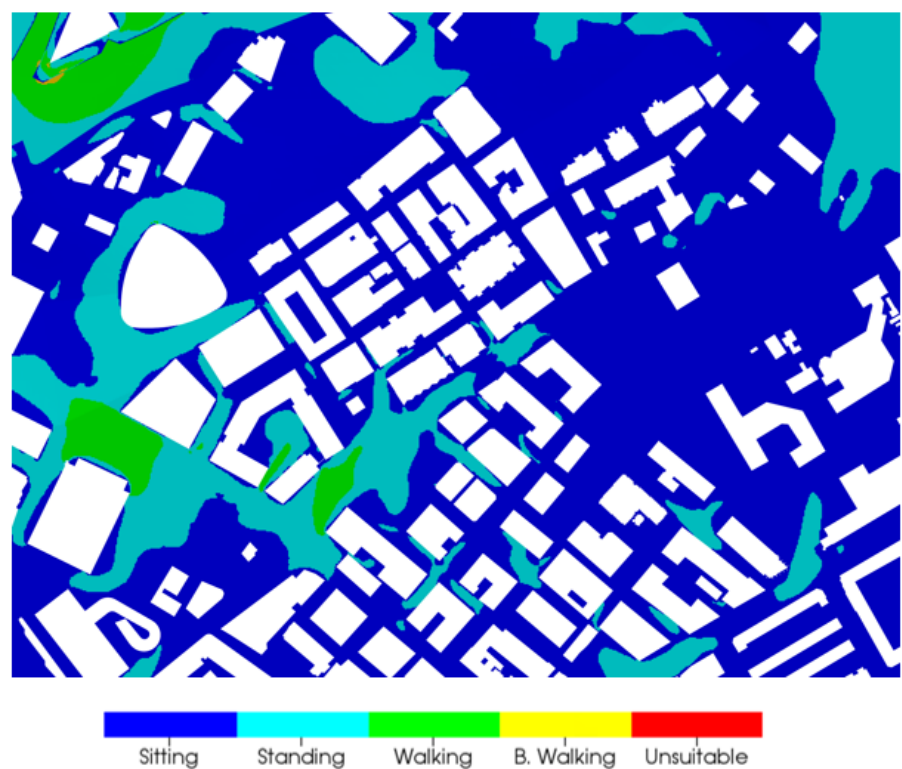
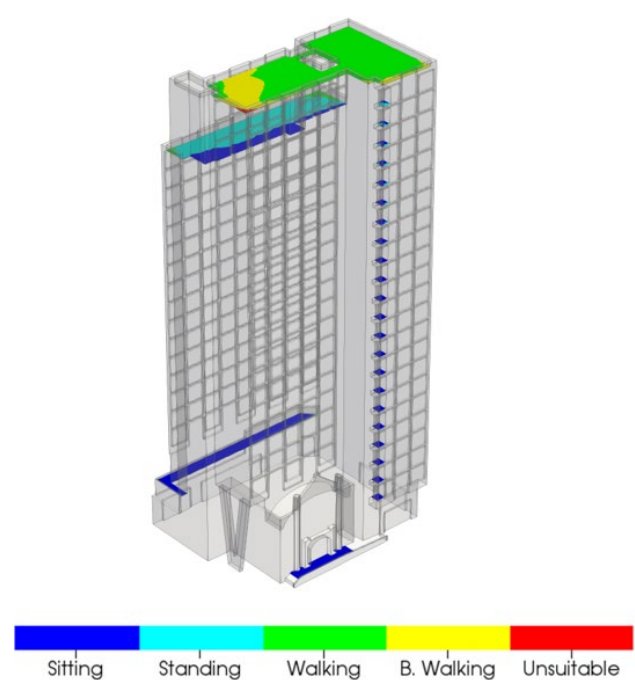


Figure 12.18 – Winter Comfort of Cumulative scenario – Elevated Level



Ground Level - Summer

- 12.75 The results show that there is a slight variation in the distribution of wind conditions between the proposed and cumulative scenarios. This variation reflects the introduction of consented developments into the assessment. The results do not show any relevant impacts in the areas of influence of the Proposed Development other than a slight improvement of the wind conditions around the site, due to the additional wind shelter from the consented schemes. Further away there are local effects in the areas of new development particularly towards the north side of the area, around the Dantzic Street where larger new development is planned for the area and those effects are clearly associated with the new taller future developments. The comfort conditions at all ground level existing and proposed receptors within the influence of the Proposed Development (open spaces, building entrances, bus stops, walkways and throughfares) in the cumulative scenario remain suitable for the existing and intended uses.

Elevated Level - Summer

- 12.76 At elevated level, the external terrace at level 01 in summertime shows that this space would be suitable for sitting. Therefore, wind conditions at the level 01 external terrace in the cumulative scenario are suitable for the intended use.
- 12.77 The residents' terrace on level 20 is predominantly suitable for 'standing' and 'sitting' with a minor area suitable for leisure walking at the eastern end of the terrace. Therefore, wind conditions at the residents' terrace on level 20 in the cumulative scenario are suitable for the intended use.
- 12.78 Balconies on the south side show suitability for 'sitting' which are suitable conditions for their expected usage.
- 12.79 The roof is expected to be too windy and unsuitable for general use, however it is assumed that this space will only be accessed for maintenance purposes and that maintenance operatives accessing this space would be wearing suitable safety equipment.

Figure 12.19 – Summer Comfort of Cumulative scenario – Ground Level

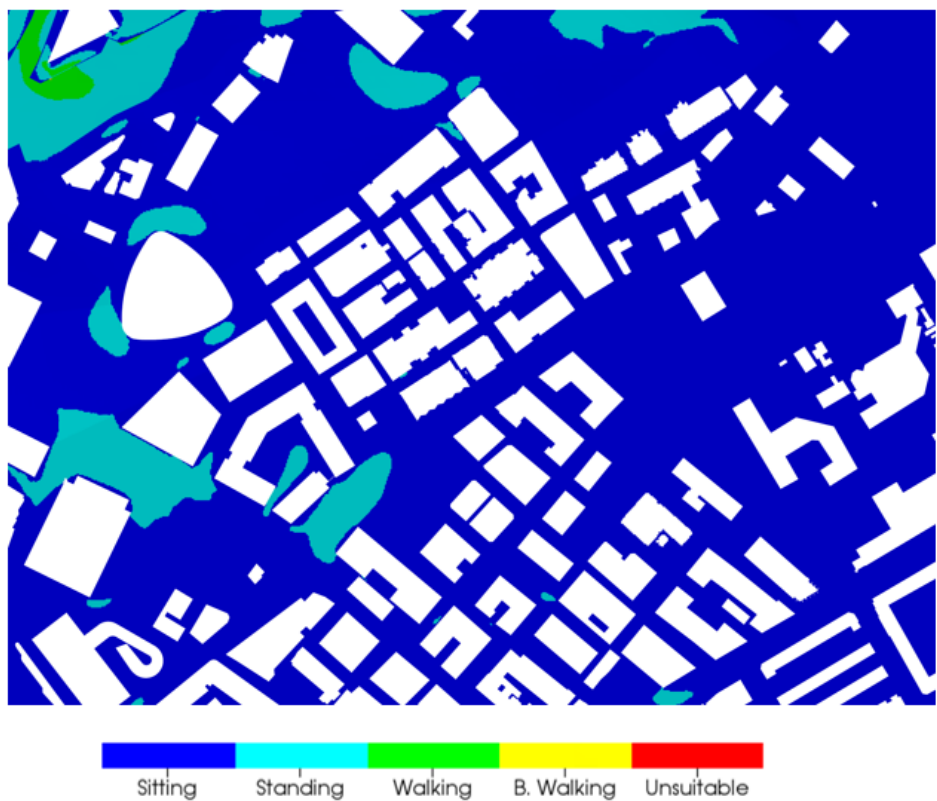
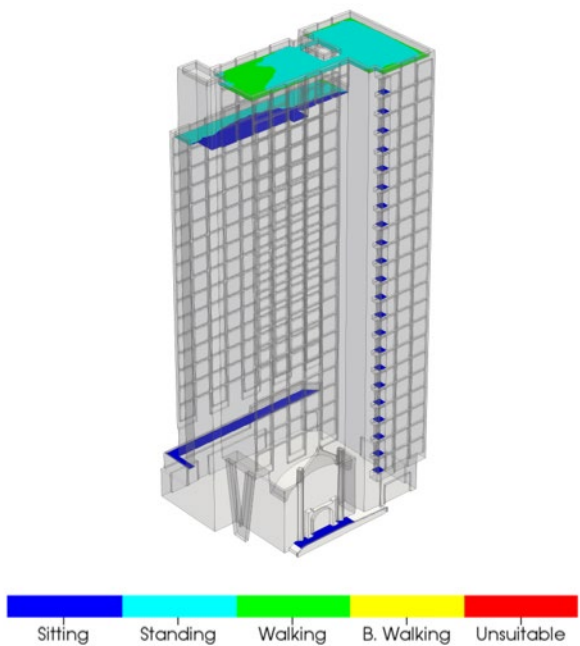


Figure 12.20 – Summer Comfort of Cumulative scenario – Elevated Level



CUMULATIVE SCENARIO ANNUAL PEDESTRIAN SAFETY RESULTS

Ground Level

- 12.80 Figures 12.21 and 12.22 show contours of safety criteria. The results show that the recommended criteria for safety are met at all areas at pedestrian ground level, with only one exception at the north side of the Co-operative Group building on Angel St where a relatively small region exceeding the criteria is identified. This effect is also observed in the baseline condition indicating that it is not caused by the Proposed Development. The rest of the area remains within the safety thresholds for pedestrians.

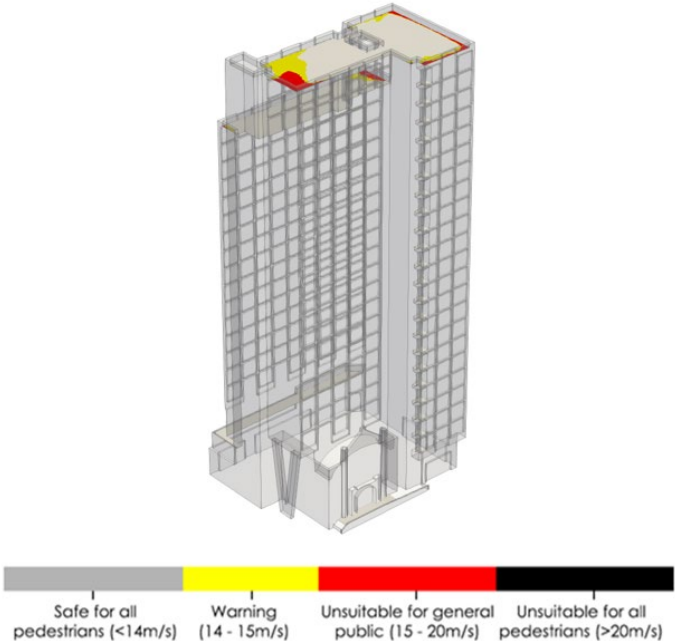
Elevated Level - Safety

- 12.81 At elevated level, the external terrace at level 01 shows that this space remains within the safety threshold, and it would be suitable for usage. Therefore, wind conditions at the level 01 terrace in the cumulative scenario are suitable for the intended use.
- 12.82 The residents' terrace on level 20 is shows small areas that exceed the safety threshold at the eastern end of the terrace. This will require local mitigation. Mitigation measures are discussed in the Mitigation section.
- 12.83 Balconies on the south side all remain within the safety thresholds in the cumulative scenario and are suitable for usage.

Figure 12.21 – Annual Safety of Cumulative scenario – Ground Level



Figure 12.22 – Annual Safety of Cumulative scenario – Elevated Level



MITIGATION

- 12.84 Where the results of the assessments identify areas where the recommended guidelines are not met or where the suitability exceeds that of the intended use, mitigation measures will be introduced to limit the adverse effect of the Proposed Development and/or achieve suitability for the designated uses.
- 12.85 The results indicated that at ground level wind conditions remain suitable for the intended uses and no additional mitigation is required.
- 12.86 At elevated level, the external terrace at level 01 shows that this space remains within the safety threshold, and it would be suitable for usage, therefore, no mitigation is required.
- 12.87 The residents' terrace on level 20 shows small areas that exceed the safety threshold at the eastern end of the terrace. This will require local mitigation. The mitigation consists of a 1.5m solid balustrade at the perimeter of the terrace to provide the required wind protection.
- 12.88 Balconies on the south side all remain within the safety thresholds in the cumulative scenario and are suitable for usage, therefore these do not require mitigation.

SUMMARY & CONCLUSIONS

- 12.89 This Chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon Wind Microclimate. Where appropriate, it also identifies proposed mitigation measures to prevent, minimise or control likely adverse effects arising from the Proposed Development and the subsequent anticipated residual effects. The main findings were:

Baseline Scenario

- 12.90 The results reflect the mixed massing and height variation of the buildings in this area, with calmer wind conditions in the areas where buildings are of lower height, and windier in the adjacent areas to the taller developments such as those on Ring Road and Angel Street. Generally, the results indicate that the wind conditions at all receptors in the baseline scenario are suitable for the existing uses with only one exception at the north side of the Co-operative Group building on Angel Street where a relatively small region exceeding the pedestrian safety criteria is identified. The rest of the area remains within the recommended thresholds for pedestrians.

Proposed Scenario

- 12.91 The results showed that at ground level there is a slight variation in the distribution of wind conditions in the areas adjacent to the Proposed Development due to the deflections of the wind flow caused by the new massing. However, the pedestrian comfort and safety conditions at all ground level receptors (open spaces, building entrances, bus stops, walkways and throughfares) in the proposed scenario remain suitable for the existing and intended uses, or unchanged from the baseline conditions.

- 12.92 At elevated level, the external terrace at level 01 and the balconies in the proposed scenario are suitable for the intended use. The residents' terrace on level 20 shows small areas that exceed the safety threshold at the eastern end of the terrace. This will require local mitigation. The mitigation consists of a 1.5m solid balustrade at the perimeter of the terrace to provide the required wind protection.
- 12.93 The roof is expected to be too windy and unsuitable for general use, however it is assumed that this space will only be accessed for maintenance purposes and that maintenance operatives accessing this space would be wearing suitable safety equipment.

Cumulative Scenario

- 12.94 The results show that there is a slight variation in the distribution of wind conditions between the proposed and cumulative scenarios. This variation reflects the introduction of consented developments into the assessment. The results do not show any relevant impacts in the areas of influence of the Proposed Development other than a slight improvement of the wind conditions around the site, due to the additional wind shelter from the consented schemes. Further away there are local effects in the areas of new development particularly towards the north side of the area, around the Dantzic Street where larger new development is planned for the area and those effects are clearly associated with the new taller future developments. The comfort and safety conditions at all ground level existing and proposed receptors within the influence of the Proposed Development (building entrances, bus stops, walkways and throughfares) in the cumulative scenario remain suitable for the existing and intended uses.
- 12.95 At elevated level within the Proposed Development, the results in the cumulative scenario remain unchanged from the proposed scenario.

Mitigation

- 12.96 The residents' terrace on level 20 shows small areas that exceed the safety threshold at the eastern end of the terrace. This will require local mitigation. The mitigation consists of a 1.5m solid balustrade at the perimeter of the terrace to provide the required wind protection. No other mitigation measures have been identified.

DESCRIPTION OF SIGNIFICANT EFFECTS	RECEPTOR	SIGNIFICANCE OF EFFECTS					SUMMARY OF MITIGATION / ENHANCEMENT MEASURES	SIGNIFICANCE OF RESIDUAL EFFECTS					RELEVANT POLICY	RELEVANT LEGISLATION
		Major / Moderate / Minor / Negligible	Positive / Adverse	P / T	D / I	ST / MT / LT		Major / Moderate / Minor / Negligible	Positive / Adverse	P / T	D / I	ST / MT / LT		
Demolition & Construction														
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Operation														
Scenario 2 Proposed Development														
Pedestrian Safety	Receptors Ground Level	Negligible	n/a	P	D	LT	n/a	Negligible	n/a	P	D	LT	n/a	n/a
Pedestrian Safety	Receptors Elevated Level	Major	Adverse	P	D	LT	Perimeter 1.5m solid balustrade at residents' terrace on Level 20.	Negligible	n/a	P	D	LT	n/a	n/a
Pedestrian Comfort	Receptors Ground Level	Negligible	n/a	P	D	LT	n/a	Negligible	n/a	P	D	LT	n/a	n/a
Pedestrian Comfort	Receptors Elevated Level	Negligible	n/a	P	D	LT	n/a	Negligible	n/a	P	D	LT	n/a	n/a
Scenario 3 Cumulative Effects														
Pedestrian Safety	Receptors Ground Level	Negligible	n/a	P	D	LT	n/a	Negligible	n/a	P	D	LT	n/a	n/a
Pedestrian Safety	Receptors Elevated Level	Major	Adverse	P	D	LT	Perimeter 1.5m solid balustrade at residents' terrace on Level 20.	Negligible	n/a	P	D	LT	n/a	n/a
Pedestrian Comfort	Receptors Ground Level	Negligible	n/a	P	D	LT	n/a	Negligible	n/a	P	D	LT	n/a	n/a
Pedestrian Comfort	Receptors Elevated Level	Negligible	n/a	P	D	LT	n/a	Negligible	n/a	P	D	LT	n/a	n/a

LIMITATIONS & ASSUMPTIONS

- 12.97 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:
- 12.98 The wind study focuses on the effects on the pedestrian-level wind environment and, as such, it will exclude other wind effects such as façade pressure wind loads, inputs to structural engineering, internal airflows within buildings, or impacts on vehicles or waterways.
- 12.99 The model for the wind assessment includes all relevant buildings and structures in the surrounding area but as a worst-case scenario will exclude trees and landscape features. Where required, these will be added as part of the mitigation options.

13. AIR QUALITY

- 13.1 This chapter assesses the likely significant effects of the Proposed Development on the environment in respect to local air quality. In particular it considers the potential direct and indirect impacts of the Proposed Development arising from fugitive dust emissions during construction and road traffic exhaust emissions associated with vehicles travelling to and from the site during operation, as well as the potential exposure of future occupants to existing air quality issues.
- 13.2 This chapter has been prepared by technical specialists Redmore Environmental Ltd. The author was Emily Pears-Ryding BSc (Hons) MIAQM MEnvSc who is an Air Quality Consultant with over eight years' experience in the air quality sector. She has been responsible for conducting air quality studies for a range of projects, including residential, commercial, employment and industrial schemes. Emily has experience in a range of air quality impact assessments for standalone planning applications and Environmental Impact Assessment (EIA).
- 13.3 The reviewer was Jethro Redmore BEng (Hons) MSc Cenv PIEMA MIAQM MEnvSc who is an Air Quality Consultant and has worked as a professional environmental scientist for approximately 18 years. He has been responsible for conducting environmental studies for major road improvement and construction scheme, power stations, oil refineries and other major industrial complexes. In addition, he has undertaken air quality assessments for a wide variety of residential schemes, from individual properties to large scale 'eco-towns'.
- 13.4 As such, Jethro has experience in a range of air quality impact assessments for standalone assessments required to support a planning application and EIAs in accordance with relevant industry guidance provided by the Department for Environment, Food and Rural Affairs (DEFRA) and the Institute of Air Quality Management (IAQM), amongst others.

SCOPE

- 13.5 The proposed scope was set out in the Scoping Report, which is attached to the Environmental Impact Assessment (EIA). The scope utilised for this chapter is summarised in Table 13.1.

Table 13.1: Scope

Topic/Source of Impact	Scoped In/Out?	Justification
Fugitive dust emissions associated with demolition, earthworks, construction and trackout	In	During the demolition construction of the Proposed Development there is the potential for air quality effects as a result of fugitive dust emissions from demolition, earthworks, construction and trackout activities
Road traffic vehicle exhaust emissions associated with vehicles travelling to and from the Site during construction	In	During the construction of the Proposed Development there is the potential for air quality impacts as a result of road traffic exhaust emissions associated with vehicles travelling to and from the Site
Road traffic vehicle exhaust emissions associated with vehicles travelling to and from the Site during operation	In	During the operation of the Proposed Development there is the potential for air quality impacts as a result of road traffic exhaust emissions associated with vehicles travelling to and from the Site
Exposure of future occupants to exceedances of relevant Air Quality Objectives (AQOs) and Interim Target	In	During the operation of the Proposed Development there is the potential for exposure of future occupants to any existing air quality issues at the site arising due to the Site location in close proximity to the road network

- 13.6 The matters scoped in (indicated in Table 13.1) have been addressed in this assessment.

LEGISLATION AND POLICY CONTEXT

Legislation

- 13.7 The Air Quality Standards Regulations (2010) (UK Government, 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.

- 13.8 Air Quality Target Values have also been provided. It should be noted that the AQLV for the PM_{2.5} stated in the Air Quality Standards Regulations (UK Government, 2010) was amended in the Environment (Miscellaneous Amendments) (EU Exit) Regulations (UK Government, 2020).
- 13.9 The Air Quality Strategy (AQS) was produced by DEFRA and published on 28th April 2023 (DEFRA, 2023). The document contains standards, objectives and measures for improving ambient air quality, including a number of AQOs. These are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedances over a specific timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.
- 13.10 The Environmental Impact Plan 2023 (UK Government, 2023) 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) (UK Government, 2023).
- 13.11 Table 1.2 presents the AQOs and Interim Target for pollutants considered within this assessment.

Table 13.2: AQOs/Interim Target

Pollutant	AQO/Interim Target	
	Concentration (µg/m ³)	Averaging Period
NO ₂	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM ₁₀	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
PM _{2.5}	12	Annual mean to be achieved by the end of January 2028

Local Air Quality Management

- 13.12 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 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

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

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

- 13.14 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.

National Planning Policy

- 13.15 The revised National Planning Policy Framework (NPPF) (UK Government, 2024) sets out the Government's planning policies for England and how these are expected to be applied.

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

"c) an environmental objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

- 13.17 Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. It states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

[...]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality [...]"

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

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

- 13.19 The implications of the NPPF have been considered throughout this assessment

Planning Practice Guidance

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

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

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

Local Planning Policy

- 13.22 The Manchester Local Development Framework consists of a series of planning documents of which the Core Strategy Development Plan Document (Manchester City Council (MCC), 2012) is central. This was adopted by MCC on 11th July 2012 and provides policies which guide the determination of planning applications within the city.

- 13.23 Review of the document indicated the following policies of relevance to this assessment:

"Policy EN 16

Air Quality

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

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

"Policy DM 1

Development Management

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

[...]

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

- 13.24 Places for Everyone (Greater Manchester Combined Authority (GMCA), 2024) was adopted by nine Greater Manchester councils, including MCC, on 21st March 2024 and it forms part of Manchester's Local Development Framework. Review of the document indicated the following policy of relevance to the assessment:

"Policy JP-S5: Clean Air

A comprehensive range of measures will be taken to support improvements in air quality, focusing particularly on locations where people live, where children learn and play, where there are impacts on the green infrastructure network and where air quality targets are not being met, including:

- 1. Locating and designing development, and focusing transport investment, so as to reduce reliance on forms of transport that generate air pollution:*
- 2. Determining planning applications having regard to the most recent development and planning control guidance published jointly by the Institute of Air Quality Management (IAQM) and the Environmental Protection UK (EPUK), and the most recent IAQM Guidance on the Assessment of Dust from Demolition and Construction, or relevant successor guidance, including the requirement for developers to submit construction management plans as appropriate:*
- 3. Requiring applications for developments that could have an adverse impact on air quality to submit relevant air pollution data so that adverse impacts on air quality can be fully assessed and development only permitted where they are acceptable and/or suitable mitigation can be provided;*
- 4. Restricting developments that would generate significant point source pollution such as some types of industrial activity and energy generation;*
- 5. Significantly expanding the existing commercial network of electric vehicle charging points, both for public and private use, including as part of new developments;*
- 6. Implementing the Clean Air Plan and associated measures;*
- 7. Facilitating the more sustainable distribution of goods within the urban area, including through accommodating urban consolidation centres and urban distribution centres that use ultra-low-emission vehicles, and local delivery facilities to reduce repeat delivery attempts;*
- 8. Designing streets to avoid trapping air pollution at ground level, including through the appropriate location and scale of buildings and trees;*
- 9. Controlling traffic and parking within and around schools, early years sites and other locations that are particularly sensitive to air quality;*
- 10. Promoting actions that help remove pollutants from the air, such as enhancing the green infrastructure network and using innovative building materials that capture air pollutants; and*
- 11. Development should be located in areas that maximise the use of sustainable travel modes and be designated to minimise exposure to high levels of air pollution, particularly for vulnerable users."*

- 13.25 MCC has also produced 'Air Quality & Planning Technical Guidance' (MCC, 2022) which provides detail on assessing the impact of Proposed Development on air quality.
- 13.26 The above policies and technical guidance were taken into consideration throughout the undertaking of the assessment.

Greater Manchester Clean Air Plan

- 13.27 The UK Government has instructed a number of LAs to take rapid action to reduce harmful roadside levels of NO₂ within their areas of jurisdiction in the quickest possible timeframe. The GMCA and Transport for Greater Manchester (TfGM) have collaborated to develop a Clean Air Plan (CAP) to ensure Greater Manchester achieves compliance with the relevant AQOs for NO₂ by 2026 at the latest. The initial CAP proposal included implementation of a Class C charging Clean Air Zone. The GMCA has subsequently updated the CAP proposals to comprise an investment-led, non-charging approach. This is currently under review by the UK Government. The implications of the CAP were taken into account during the undertaking of this assessment.

ASSESSMENT METHODOLOGY

- 13.28 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 which is based on the requirements of the 'Air Quality & Planning Technical Guidance' (MCC, 2022) document.

Construction Phase

Fugitive Dust Emissions

- 13.29 There is the potential for fugitive dust emissions to occur as a result of construction 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' (IAQM, 2024).
- 13.30 Activities to be undertaken as part of the Proposed Development have been divided into four types to reflect their different potential impacts. These are:
- Demolition;
 - Earthworks;
 - Construction; and,
 - Trackout.
- 13.31 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 (dust deposition, resulting in the soiling of surfaces);
 - Harm to ecological receptors; and,
 - The risk of health effects due to a significant increase in exposure to PM₁₀.
- 13.32 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.
- 13.33 The second stage of the assessment screens the risk of potential dust impacts. The risk category was defined based on two factors:
- The sensitivity of the area to dust impacts, which can be defined as small, medium or large sensitivity; and,
 - The scale and nature of the works, which determines the magnitude of dust arising (impact) as: low, medium or high.
- 13.34 The two factors are combined in order to determine the impact of risk without mitigation applied.
- 13.35 The influencing factors that define the sensitivity of specific receptors are shown in Table 1.3.

Table 13.3: Construction Dust - Sensitivities of People and Ecological Receptors

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 PM ₁₀ e.g. residential properties, hospitals, schools and residential care homes	Internationally or nationally designated site e.g. Special Area of Conservation
Medium	Users would expect to enjoy a reasonable level of amenity Aesthetics or value of their property could be diminished by soiling	Nationally designated site e.g. Sites of Special Scientific Interest

	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	
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

- 13.38 The criteria for determining the sensitivity of the area to dust soiling effects on people and property is summarised in Table 13.4.

Table 13.4: Construction Dust - Sensitivities of Area to Dust Soiling Effects on People or Property

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

- 13.39 Table 13.5 outlines the criteria for determining the sensitivity of the area to human health impacts.

Table 13.5: Construction Dust - Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Background Annual Mean PM ₁₀ Conc.	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
		1 - 10	Medium	Low	Low	Low
	28 - 32µg/m ³	More than 10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28µg/m ³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	Less than 24µg/m ³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Low	-	Greater than 1	Low	Low	Low	Low

13.40 Table 13.6 outlines the criteria for determining the sensitivity of the area to ecological impacts.

Table 13.6: Construction Dust - Sensitivity of the Area to Ecological Impacts

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

- 13.41 The scale and nature of the construction works determines the magnitude of dust impacts arising from each activity. The relevant criteria are summarised in Table 1.7.

Table 13.7: Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
Large	Demolition	Total building volume greater than 75,000m ³ Potentially dusty construction material (e.g. concrete) On-site crushing and screening Demolition activities more than 12m above ground level
	Earthworks	Total site area greater than 110,000m ² Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) More than 10 heavy earth moving vehicles active at any one time Formation of bunds greater than 6m in height
	Construction	Total building volume greater than 75,000m ³ On site concrete batching Sandblasting
	Trackout	More than 50 Heavy Duty Vehicle (HDV) trips per day Potentially dusty surface material (e.g. high clay content) Unpaved road length greater than 100m
Medium	Demolition	Total building volume between 12,000m ³ and 75,000m ³ Potentially dusty construction material Demolition activities between 6, and 12m above ground level

Magnitude	Activity	Criteria
	Earthworks	Total site area 18,000m ² to 110,000m ² Moderately dusty soil type (e.g. silt) 5 to 10 heavy earth moving vehicles active at any one time Formation of bunds 3m to 6m in height
	Construction	Total building volume 12,000m ³ to 75,000m ³ Potentially dusty construction material (e.g. concrete) On site concrete batching
	Trackout	20 to 50 HDV trips per day Moderately dusty surface material (e.g. high clay content) Unpaved road length 50m to 100m
Small	Demolition	Total building volume less than 12,000m ³ Construction material with low potential for dust release (e.g. metal cladding or timber) Demolition activities less than 6m above ground Demolition during wetter months
	Earthworks	Total site area less than 18,000m ² Soil type with large grain size (e.g. sand) Less than 5 heavy earth moving vehicles active at any one time Formation of bunds less than 4m 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

13.45 The dust emission magnitude was combined with the sensitivity of the area to determine the risk of unmitigated impacts.

13.46 Table 13.8 outlines the dust risk category from demolition activities.

Table 13.8: Construction Dust - Dust Risk from Demolition

Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Medium

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

- 13.47 Table 13.9 outlines the dust risk category from earthworks, construction and trackout.

Table 13.9: Construction Dust - Dust Risk from Earthworks, Construction and Trackout

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

- 13.48 It should be noted that predicted effects from construction phase fugitive dust emissions are considered to be adverse but temporary in nature.
- 13.49 Site specific mitigation measures were identified from the IAQM guidance (IAQM, 2024) in order to reduce potential dust impacts.
- 13.50 The significance of residual impacts was then determined based on professional judgement. For almost all construction activity, the aim should be to control effects through the use of 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) (UK Government, 2017).

Road Vehicle Exhaust Emissions

- 13.51 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 construction phase. An assessment was therefore undertaken in accordance with the IAQM guidance 'Land-Use Planning & Development Control: Planning for Air Quality' (IAQM, 2017). This involved comparing the predicted change in vehicle flows on the local road network as a result of construction 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 an AQMA or more than 100 AADT elsewhere.

13.52 Should these criteria not be met, then the IAQM guidance (IAQM, 2017) indicates potential road traffic exhaust emission impacts associated with a development are **negligible** and no further assessment is required. These effects would be considered **not significant** with respect to the Town and Country Planning (Environmental Impact Assessment) Regulations (2017) (UK Government, 2017).

Operational Phase

Potential Development Impacts

13.53 There is the potential for road traffic exhaust emissions associated with vehicles travelling to and from the Site during the operational phase to impact on existing air quality at sensitive receptor locations. Similarly to the assessment of construction phase, road vehicle exhaust emissions were assessed in accordance with the previously outlined criteria within the IAQM guidance (IAQM, 2017).

13.54 Should the relevant criteria not be met, then the IAQM guidance (IAQM, 2017) indicates potential road traffic exhaust emission impacts associated with a development are **negligible** and no further assessment is required. These effects would be considered **not significant** with respect to the Town and Country Planning (Environmental Impact Assessment) Regulations (2017) (UK Government, 2017).

Potential Future Exposure

13.55 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 any exceedence. Reference should be made to Appendix 13.1 for a full description of the assessment input data.

13.56 Should the AQOs or Interim Target be exceeded, then the IAQM guidance (IAQM, 2017) considers potential air quality impacts associated with a Proposed Development to be **significant** and mitigation is required. Should compliance with the AQOs and Interim Target be indicated, then the impacts would be considered **not significant** with respect to the Town and Country Planning (Environmental Impact Assessment) Regulations (2017) (UK Government, 2017).

BASELINE CONDITIONS

Local Air Quality Management

13.57 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, one AQMA has been declared. This is described as follows:

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

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

Air Quality Monitoring

- 13.60 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 results recorded in the vicinity of the development, as provided in the 'Greater Manchester LAQM and CAP NO₂ Diffusion Tube Results 2011-2022' (GMCA, 2023), are shown in Table 13.10. Exceedences of the relevant AQO are shown in **bold**.

Table 13.10: Monitoring Results

Monitor		Annual Mean NO ₂ Concentration (µg/m ³)			
		2019	2020	2021	2022
Manchester 88	Angel Street	43.3	30.1	36.8	35.7
CAP_MANC_052	Shudehill	66.3	40.2	44.4	45.6
CAP_MANC_064	Shudehill	64.6	43.7	49.2	59.4
CAP_MANC_076	A665 (Miller Street)	47.1	26.4	-(a)	29.5
CAP_MANC_077	A665 (Miller Street)	44.1	26.6	30.6	32.2
CAP_MANC_078	A665 (Swan Street)	57.1	32.9	37.2	40.6
CAP_MANC_079	A665 (Swan Street)	66.3	36.2	42	44.3
CAP_MANC_141	Swan Street ^(b)	-	-	-	45.8
CAP_MANC_142	Swan Street ^(b)	-	-	-	39.1
CAP_MANC_143	Studehill ^(b)	-	-	-	43.2
CAP_MANC_144	Studehill ^(b)	-	-	-	41.9

Note: (a) No data available.

(b) Monitor commissioned in 2022.

- 13.61 As shown in Table 13.10, annual mean NO₂ concentrations were above the AQO of 40µg/m³ at seven monitors in recent years. As these positions are adjacent to roads

within an AQMA, elevated concentrations would be expected. Reference should be made to Figure 1 for a map of the survey sites.

- 13.62 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 is now considered representative of post-pandemic conditions. This is supported by the IAQM (IAQM, 2023), 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."

- 13.63 MCC and GMCA do not undertake monitoring of PM₁₀ and PM_{2.5} concentrations within the vicinity of the Site.

Background Pollution Concentrations

- 13.64 Predictions of background pollutant concentrations on a 1km by 1km grid basis have been produced by DEFRA for the entire of the UK to assist LAs in their Review and Assessment of air quality. The Proposed Development is located in grid square National Grid Reference (NGR): 384500, 399500. Data for this location was downloaded from the DEFRA website (DEFRA, 2018) for the purpose of the assessment and is summarised in Table 1.11.

Table 13.11: Background Pollutant Concentration Predictions

Pollutant	Predicted Background Pollutant Concentration (µg/m ³)		
	2022	2024	2027
NO ₂	19.63	18.41	17.08
PM ₁₀	12.02	11.81	11.67
PM _{2.5}	7.86	7.70	7.60

- 13.65 As shown in Table 13.11, predicted background concentrations are below the relevant AQOs and Interim Target at the Site.

Sensitive Receptors

- 13.66 A sensitive receptor is defined as any location which may be affected by changes in air quality as a result of a Proposed Development. Receptors sensitive to potential dust impacts during demolition, earthworks and construction were identified from a desk-top study of the area up to 250m from the Site boundary. These are summarised in Table 13.12.

Table 13.12: Construction Dust - Demolition, Earthworks and Construction Dust Sensitive Receptors

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

- 13.67 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 route. These are summarised in Table 13.13

Table 13.13: Construction Dust - Trackout Dust Sensitive Receptors

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

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

- 13.69 A number of additional factors have been considered when determining the sensitivity of the surrounding area. These are summarised in Table 1.14.

Table 13.14: Construction Dust - Additional Area Dust Sensitivity Factors to Potential Dust Impacts

Guidance	Comment
Whether there is any history of dust generating activities in the area	Review of Google Maps imagery indicated construction works have recently taken place approximately 35m south-east of the Site. As such, it is possible there has been a history of dust generating activities in the area
The likelihood of concurrent dust generating activity on nearby sites	A review of the planning portal indicated that a number of applications have recently been submitted in the vicinity of the Site. It is therefore possible that there will be concurrent dust generation should

Guidance	Comment
	these be granted permission and the construction phases overlap with that of the Proposed Development
Pre-existing screening between the source and the receptors	There is no existing screening between the Proposed Development and surrounding receptors
Conclusions drawn from analysing local meteorological data which accurately represents the area and if relevant the season during which the works will take place	As shown in Figure 2, the predominant wind bearing at the Site is from the south-west. As such, receptors to the north-east of the boundary are most likely to be affected by dust releases
Conclusions drawn from local topography	There are no significant constraints to dust dispersion
Duration of the potential impact, as a receptor may become more sensitive over time	It is anticipated the construction phase will last approximately 2-years. The sensitivity of nearby receptors is unlikely to change during this time
Any known specific receptor sensitivities which go beyond the classifications given in the document	No specific receptor sensitivities have been identified during the baseline assessment

13.70 Based on the criteria shown in Table 13.14, the sensitivity of the receiving environment to potential dust soiling and health impacts is classified as **high**. This was because identified receptors included residential properties.

13.71 The sensitivity of the receiving environment to specific dust impacts is shown in Table 13.15.

Table 13.15: Sensitivity of the Surrounding Area to Specific Dust Impacts

Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High	High	High	High
Human Health	Medium	Medium	Medium	Medium

PREDICTED EFFECTS

Construction Phase

Fugitive Dust Emissions

- 13.72 The undertaking of activities such as demolition, excavation, ground works, cutting, construction, concrete batching and storage of materials has the potential to result in fugitive dust emissions throughout the construction phase. Vehicle movements both on-Site and on the local road network also have the potential to result in the re-suspension of dust from haul roads and highway surfaces.
- 13.73 The potential impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.
- 13.74 The desk study undertaken to inform the baseline identified a number of sensitive receptors within 250m of the Site boundary. As such, a detailed assessment of potential dust impacts has been undertaken.
- 13.75 It should be noted that predicted air quality impacts from construction phase activities are considered to be adverse but temporary in nature.

Demolition

- 13.76 Demolition will be undertaken at the start of the construction phase and involve clearance of a portion of the building on Site. The building volume to be demolished is anticipated to be less than 12,000m³. In accordance with the criteria outlined in Table 13.7, the magnitude of potential dust emissions from earthworks is therefore **small**.
- 13.77 Table 13.15 indicates the sensitivity of the area to dust soiling effects on people of property is **high**. In accordance with the criteria outlined in Table 13.8, the Proposed Development is considered to be a **medium** risk site for dust soiling as a result of demolition.
- 13.78 Table 13.15 indicates the sensitivity of the area to human health impacts is **medium**. In accordance with the criteria outlined in Table 13.8, the Proposed Development is considered to be a **low** risk site for human health impacts as a result of demolition.

Earthworks

- 13.79 Earthworks will primarily involve excavating material, haulage, tipping and stockpiling, as well as Site levelling. The area of earthworks is less than 18,000m². In accordance with the criteria outlined in Table 13.7, the magnitude of potential dust emissions from earthworks is therefore **small**.
- 13.80 Table 13.15 indicates the sensitivity of the area to dust soiling effects on people of property is **high**. In accordance with the criteria outlined in Table 13.9, the Proposed Development is considered to be a **low** risk site for dust soiling as a result of earthworks.

- 13.81 Table 13.15 indicates the sensitivity of the area to human health impacts is **medium**. In accordance with the criteria outlined in Table 13.9, the Proposed Development is considered to be a **low** risk site for human health impacts as a result of earthworks.

Construction

- 13.82 Due to the size of the Proposed Development, it is anticipated the total building volume will be greater than 75,000m³. In accordance with the criteria outlined in Table 13.7, the magnitude of potential dust emissions from construction is therefore **large**.
- 13.83 Table 13.15 indicates the sensitivity of the area to dust soiling effects on people or property is **high**. In accordance with the criteria outlined in Table 13.9, the Proposed Development is considered to be a **high** risk site for dust soiling as a result of construction activities.
- 13.84 Table 13.15 indicates the sensitivity of the area to human health is **medium**. In accordance with the criteria outlined in Table 13.9, the Proposed Development is considered to be a **medium** risk site for human health impacts as a result of construction activities.

Trackout

- 13.85 Based on the Site area and existing hard standing, it is anticipated that the unpaved road length will be less than 50m. In accordance with the criteria outlined in Table 1.7, the magnitude of potential dust emissions from trackout is therefore **small**.
- 13.86 Table 13.15 indicates the sensitivity of the area to dust soiling effects on people or property is **high**. In accordance with the criteria outlined in Table 13.9, the Proposed Development is considered to be a **low** risk site for dust soiling as a result of trackout.
- 13.87 Table 13.15 indicates the sensitivity of the area to human health is **medium**. In accordance with the criteria outlined in Table 13.9, the Proposed Development is considered to be a **low** risk site for human health impacts as a result of trackout.

Summary of Dust Effects

- 13.88 A summary of the potential risk from each dust generating activity is provided in Table 13.16.

Table 13.16: Summary of Potential Unmitigated Construction Dust Risk

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium	Low	High	Low
Human Health	Low	Low	Medium	Low

Road Traffic Exhaust Emissions

- 13.89 Vehicle movements associated with the construction phase will generate exhaust emissions on the local and regional road networks. Information provided by SK Transport Planning Ltd, the Project Transport Consultants for the, indicated the Proposed Development is predicted to generate 58 vehicle movements per day, including 12 HDVs.
- 13.90 Based on the information above, the Proposed Development is not predicted to result in an increase of LDV flows of more than 100 AADT or HDV flows of more than 25 AADT on any individual road link. Additionally, the Proposed Development does not include significant highway realignment or the introduction of a junction. As such, potential air quality impacts associated with construction phase road vehicle exhaust emissions are predicted to be **negligible**, which is **not significant**.

OPERATIONAL PHASE

Potential Development Impacts

- 13.91 Vehicle movements associated with the operational phase will generate emissions on the local and regional road networks. Information provided by SK Transport Planning indicated the Proposed Development is predicted to generate 48 vehicle movements per day, including 2 HDVs.
- 13.92 Based on the information above, the Proposed Development is not predicted to result in an increase of LDV flows of more than 100 AADT or HDV flows of more than 25 AADT on any individual road link. Additionally, the Proposed Development does not include significant highway realignment or the introduction of a junction. As such, potential air quality impacts associated with construction phase road vehicle exhaust emissions are predicted to be **negligible**, which is **not significant**.

Potential Future Exposure

- 13.93 The Proposed Development has the potential to cause the exposure of future occupants to elevated pollution levels. Dispersion modelling was therefore undertaken with the inputs described in Appendix 13.1 to quantify air quality conditions at the Site.
- 13.94 The Proposed Development comprises commercial and amenity space from ground to first floor, including a mezzanine level. As such, the assessment has focused on predicted concentrations at second floor level and above where residential units will be located.
- 13.95 As shown in Figure 3, annual mean NO₂ concentrations were predicted to be below the AQO of 40µg/m³ at second floor level. The maximum concentration was 37.72µg/m³.

- 13.96 As shown in Figure 4, annual mean PM₁₀ concentrations were predicted to be below the AQO of 40µg/m³ at second floor level. The maximum concentration was 16.34µg/m³.
- 13.97 As shown in Figure 5, annual mean PM_{2.5} concentrations were predicted to be below the Interim Target of 12µg/m³ at second floor level. The maximum concentration was 10.15µg/m³.
- 13.98 As annual mean pollutant concentrations were predicted to be below the relevant AQOs and Interim Target at second floor level, further assessment above this height was not considered necessary.
- 13.99 Based on the findings of the assessment it is considered unlikely that future occupants will be exposed to exceedances of the relevant AQOs and Interim Target. As such, impacts are predicted to be **not significant**.

MITIGATION

Construction Phase

Fugitive Dust Emissions

- 13.100 Due to the size and nature of the Proposed Development, a Construction Environmental Management Plan (CEMP) will be produced to control potential impacts during the construction phase. The mitigation measures outlined in Table 13.17 will be included within the CEMP to mitigate fugitive dust emissions during construction. These are based on the advice provided within the IAQM guidance (IAQM, 2024) and are therefore considered suitable for the Site.

Table 13.17: Summary of Potential Unmitigated Construction Dust Risk

Guidance	Comment
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)
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken Make the complaints log available to the LA when asked 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

Guidance	Comment
	Hold regular liaison meetings with other high risk construction sites within 250m of the Site boundary
Monitoring	Undertake daily on-Site and off-Site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the LA when asked Carry out regular Site inspections to monitor compliance with the DMP, record inspection results and make an inspection log available to the LA when asked Increase the frequency of Site inspections by the person accountable for air quality and dust issues on Site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
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 high potential for dust production and the Site is active for an extensive period Avoid site run-off or mud Keep site fencing, barriers and scaffolding clean using wet methods Remove materials that have a potential to produce dust from Site as soon as possible, unless being re-used on Site
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 such as water sprays or local extraction Ensure an adequate water supply on the Site Use enclosed chutes and conveyors and covered skips Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment where appropriate Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods
Waste management	Avoid bonfires and burning of waste materials

Guidance	Comment
Demolition	Ensure effective water suppression is used during demolition operations Avoid explosive blasting, using appropriate manual or mechanical alternatives Bag and remove any biological debris or damp down such material before demolition
Construction	Avoid scabbling (roughening of concrete surfaces) 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
Trackout	Use water assisted dust sweepers on the access and local roads, as necessary Avoid dry sweeping of large areas Ensure vehicles entering and leaving Site are covered to prevent escape of materials during transport

Road Vehicle Exhaust Emissions

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

Operational Phase

- 13.102 Air quality effects as a result of operational phase road vehicle exhaust emissions were predicted to be **not significant**. As such, additional mitigation measures were not considered necessary. However, a number of measures have been included in the Proposed Development in accordance with the requirements of the IAQM (IAQM, 2017) guidance to encourage the use of sustainable transport modes, manage vehicle flow and reduce pollution around the Site. These include the following, which are detailed further within the Framework Travel Plan (SK Transport Planning Ltd, 2024) for the Proposed Development:

- Provision of cycle parking at a rate of 50%;
- Provision of external visitor cycle parking within two Sheffield stands;
- Provision of Travel Packs to all future residents, to include contact details of the Travel Plan Co-ordinator, information on cycle and walking routes, bus routes, bus ticket arrangements and building delivery arrangements; and,
- Provision of localised pedestrian improvements.

- 13.103 The above methods can be secured through planning condition and would further reduce the overall pollutant burden of the Proposed Development.

RESIDUAL EFFECTS

- 13.104 Following the effective implementation of the additional mitigation measures proposed above, there are no significant residual effects arising from the Proposed Development during the construction or operational phases.

CUMULATIVE EFFECTS

- 13.105 Cumulative effects are the combined effects of several development schemes (in conjunction with the Proposed Development) which may, on an individual basis be insignificant but, cumulatively, have a significant effect.
- 13.106 The ES has given consideration to potential cumulative effects associated with schemes in the vicinity of the Site.

Construction Phase

Fugitive Dust Emissions

- 13.107 Should permission be granted for other schemes within 500m of the Site, it is possible that cumulative dust impacts 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, residual cumulative effects are predicted to be **not significant**.

Road Vehicle Exhaust Emissions

- 13.108 Cumulative vehicle exhaust emission effects may occur as a result of additional traffic movements associated with committed schemes in the vicinity of the Site. However, the number of vehicle trips associated with the Proposed Development is considerably lower than the relevant screening criteria (IAQM, 2017), below which **negligible** impacts would be expected. A similar level 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

- 13.109 Similar to the construction phase, cumulative vehicle exhaust emission effects may occur as a result of additional traffic movements associated with committed schemes in the vicinity of the Site. However, the number of vehicle trips associated with the Proposed Development is considerably lower than the relevant screening criteria (IAQM, 2017), below which **negligible** impacts would be expected. A similar level or lower level of vehicle trip generation would be expected for any other committed development with no proposed parking. 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**.

SUMMARY

- 13.110 The Proposed Development has the potential to cause air quality effects as a result of dust and road traffic exhaust emissions. As such, an assessment was undertaken in order to determine baseline conditions and assess the significance of predicted effects.
- 13.111 The desktop study indicated that the Site is located within an AQMA, with a number of monitoring sites recording annual mean NO₂ concentrations above the relevant AQO. It is noted that predicted background pollutant concentrations at the Site were below the relevant AQOs and Interim Target.
- 13.112 A number of receptors were identified for consideration within the assessment of fugitive dust emission impacts during construction.

Likely significant effects

- 13.113 During the construction phase of the Proposed Development there is the potential for air quality impacts as a result of fugitive dust emissions. These were assessed in accordance with the IAQM methodology (IAQM, 2024). The results indicated that subsequent to the implantation of mitigation measures, potential air quality effects from dust generated during construction were classified as **not significant**.
- 13.114 During the construction and operational phases of the Proposed Development, there is the potential for air quality impacts as a result of road traffic exhaust emissions associated with vehicles travelling to and from the Site. These were assessed in accordance with the IAQM guidance (IAQM, 2017). This indicated that effects were predicted to be **not significant**.
- 13.115 The potential for exposure of future occupants to poor air quality was assessed using dispersion modelling. This indicated that pollutant concentrations were below the relevant AQOs and Interim Target across the Site. As such, the predicted effect is **not significant**.

Mitigation and Enhancement

- 13.116 A CEMP 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 construction as far as practicable. Based on the inclusion of these measures, air quality effects associated with dust emissions were predicted to be **not significant**. As such, additional mitigation is not considered necessary.
- 13.117 The results of the assessment indicated that air quality effects associated with road vehicle exhaust emissions were **not significant**, and mitigation is not required. However, a number of measures have been included within a Travel Plan for the Proposed Development in order to further reduce the overall pollutant burden in the local area.

Conclusion

- 13.118 Based on the results of the assessment, residual effects associated with the Proposed Development are considered to be **not significant**.

14. SUMMARY OF IMPACTS

- 14.1 The Environmental Statement (ES) has reported on the results of the Environmental Impact Assessment of the Proposed Development. In total, seven technical disciplines have been considered, with a range of potential impacts arising from both construction and operation of the Proposed Development.

SUMMARY OF RESIDUAL IMPACTS

- 14.2 This section collates the impacts upon receptors that have been identified in each of the technical chapters of this ES.
- 14.3 Mitigation measures have been incorporated into the Proposed Development to minimise adverse residual effects as is set out in each topic chapter.
- 14.4 The majority of operational and construction effects identified can be appropriately mitigated or compensated and reduced to a level which is not considered to be significant. The effect of the Proposed Development's Greenhouse Gas Emissions on the global atmosphere is minor adverse during construction and operation. Certain receptors experience significant impacts in relation to daylight/sunlight, the majority remain unaffected and this is a common challenge for dense urban areas.
- 14.5 The following table summarises the residual effects resulting from the Proposed Development.

Table 13.1: Summary of Impacts

Daylight and Sunlight			
Receptor	Mitigation	Residual Impact - Daylight Amenity	Residual Impact – Sunlight Amenity
Operational Phase			
Northern Angel	N/A	Major Adverse	Major Adverse
25 Rochdale Road	N/A	Minor Adverse	Negligible
Hampton by Hilton	N/A	Major Adverse	Major Adverse
Ancoats Gardens	N/A	Minor Adverse	Negligible
10 Rochdale Road	N/A	Moderate Adverse	Negligible
Skyline Chambers	N/A	Minor Adverse	Moderate Adverse
Corner Building	N/A	Minor Adverse	Negligible
Grey Building	N/A	Minor Adverse	Minor Adverse
Krupa Building	N/A	Major Adverse	Major Adverse
12 Rochdale Road	N/A	Major Adverse	Negligible
Halo Buildings	N/A	Minor Adverse	Minor Adverse

Sharp Street	N/A	Minor Adverse	Moderate Adverse
Courtyard Buildings	N/A	Minor Adverse	Negligible
11 Dyche St.	N/A	Minor Adverse	Negligible
The Cooperative Group	N/A	N/A	Negligible
Corner Building courtyard	N/A	N/A	Negligible
Angel Pub	N/A	N/A	Negligible
Skyline Chambers	N/A	N/A	Negligible

Greenhouse Gas Emissions			
Receptor	Effect	Mitigation Proposed	Residual Impact
Construction Phase			
The global atmosphere	Embodied carbon associated with the product and construction process stage (lifecycle stages A1-A5).	The proposed development has been considered in relation to local and national policy. The key construction phase mitigation measures which are relevant to this GHG emissions assessment include: ▪ A CEMP will be secured, which will set out mitigation measures to minimise and reduce GHG emissions during the construction stage, in line with policy and best practice requirements; ▪ The inclusion of low carbon materials in the construction of the proposed development; ▪ The implementation of a construction waste management plan, emphasizing material reuse, recycling and waste segregation to minimise landfill contributions; ▪ Energy-efficient management will be	Minor adverse

		employed to minimise fossil fuel use during construction; ▪ Efforts will be made to reduce transport emissions through careful logistics planning, reduced on-site deliveries, and the use of low emission vehicles where feasible; ▪ Sustainable drainage systems, efficient water use, and on-site biodiversity considerations will be employed to maintain local ecosystems, reduce water use, and enhance local biodiversity during construction; ▪ The project will aim to achieve BREEAM certification or similar recognised sustainability standards, ensuring all aspects of construction meet high environmental and efficiency criteria; It is considered that the proposed development is consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. Therefore, in line with the IEMA GHG Guidance, this is considered to be a minor adverse effect. In line with the guidance, this effect is considered to not be significant.	
Operational Phase			
The global atmosphere	Embodied carbon associated with the in-use stage for the Proposed Development (lifecycle stages B1-B5, B6 and B7).	The proposed development has been considered in relation to local and national policy. The key operational mitigation measures which are relevant to this GHG emissions assessment, based on information provided by the applicant include:	Minor adverse

		▪ The building has been designed to meet the requirement of the existing Building Regulations with an emphasis on reducing heat loss through the fabric of the building; ▪ All electric heating appliances will be fitted, ready for the decarbonisation of the grid; ▪ An all electric approach will be adopted; and ▪ Water consumption will be kept to below 100L per day per person; ▪ Sustainable drainage systems, and efficient water use will be employed to reduce water waste; ▪ Circular economy principles will be considered o identify opportunities to minimise resource demand during operation, arising from repair, refurbishment and replacement; ▪ A whole life carbon assessment will be undertaken to identify opportunities to reduce embodied carbon through design, material specifications and construction processes; ▪ Materials will be chosen with an extended longevity; ▪ The use of materials that require more frequent replacement and refurbishment will be minimised;	
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		▪ The use of passive design measures will be explored to reduce the need for heating; ▪ Energy efficient equipment will be selected; ▪ Water saving devices will be specified; ▪ The use of water meters will be specified; ▪ The feasibility of rainwater harvesting will be explored and ▪ All measures will be subject to ongoing monitoring, with regular reporting to ensure compliance with sustainability targets. It is considered that the proposed development is compliant with the applicable existing and emerging policy requirements and good practice design standards for projects of this type. Therefore, in line with the IEMA GHG Guidance, this is considered to be a minor adverse effect, which is considered to be not significant.	
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Built Heritage		
Receptor	Proposed Mitigation	Residual Impact
Construction		
Listed Buildings		
Marble Arch Inn	N/A	Neutral
Warehouse On West Corner of Junction With Simpson Street	Construction methodology and programme	Minor Adverse
Cooperative Press	N/A	Neutral

Sharp Street Ragged School	Construction methodology and programme	Minor Adverse
Charter Street Mission (Formerly Charter Street Ragged School And Working Girls' Home),	N/A	Neutral
Former Police and Ambulance Station	N/A	Neutral
8 Cable Street	N/A	Neutral
New Century House, Including its Attached Conference Hall and Abstract Concrete Relief Wall In The Entrance Piazza, Grade II	N/A	Neutral
Parkers Hotel	N/A	Neutral
Co-operative Insurance Society (CIS) Building	Construction methodology and programme	Minor Adverse
Conservation Areas		
Shudehill Conservation Area	N/A	Neutral
Non-Designated Heritage Assets		
Particular Baptist Chapel (the site)	Construction methodology and programme	Moderate Adverse
Operational Phase		
Listed Buildings		
Marble Arch Inn	N/A	Neutral
Warehouse on West Corner of Junction with Simpson Street	Public benefits including activation of local streetscape and pedestrian environment in setting of heritage asset.	Minor Adverse
Cooperative Press	N/A	Neutral
Sharp Street Ragged School	Public benefits including activation of local streetscape	Minor Adverse

	and pedestrian environment in setting of heritage asset.	
Charter Street Mission (Formerly Charter Street Ragged School and Working Girls' Home),	N/A	Neutral
Former Police and Ambulance Station	N/A	Neutral
8 Cable Street	N/A	Neutral
New Century House, Including its Attached Conference Hall and Abstract Concrete Relief Wall in the Entrance Piazza	N/A	Neutral
Parkers Hotel	N/A	Neutral
Co-operative Insurance Society (CIS) Building	N/A	Minor Adverse
Conservation Areas		
Shudehill Conservation Area	N/A	Neutral
Non-Designated Heritage Assets		
Particular Baptist Chapel (The site)	The restoration of a number of significant elements of the building, and public benefits such as the activation of local streetscape and pedestrian environment in setting of heritage asset.	Minor-Moderate Adverse

Socio-Economics			
Receptor	Effect	Mitigation Proposed	Residual Impact
Construction Phase			

Regional Workforce	Creation of 22 new additional demolition and construction jobs	None required	Negligible
Operational Phase			
Local businesses	An increase in the residential population could lead to additional local spending.	None required	Minor beneficial, long-term permanent effect at the local level. Negligible at all other spatial levels.
Local employment	Generation of 33 new additional jobs once complete and operational.	None required	Negligible
Local and borough residents	Provision of up to 133 new units of different sizes.	None required	Minor beneficial, long-term permanent effect
Local and borough residents	No affordable units are included in the Proposed Development.	Provision of affordable housing units to be agreed through the S106 process	Negligible
Local children & young people	The Proposed Development could lead to demand for an additional 14 primary school places. The baseline indicates there is sufficient capacity to accommodate this increase in demand	None required	Negligible
Local children & young people	The Proposed Development could lead to demand for an additional 2 secondary school places. The baseline indicates there is sufficient capacity to accommodate this increase in demand.	None required	Negligible
Local residents	The Proposed Development could lead to an additional 283 people requiring healthcare through GP services. The baseline assessment indicates that existing patient to GP ratio is higher than average, and additional residents	Provision of additional GP services to be agreed through the S106 process	Negligible

	will place additional pressure on the healthcare services.		
Local residents	Up to an additional 283 people could reside in the local area as a result of the Proposed Development, increasing the pressure on green space. The Proposed Development increases amenity space for residents, which may help to mitigate against the increased demand for open space.	Provision of open space to be agreed through the S106 process	Negligible
Local children & young people	The Proposed Development could lead to an additional 57 children and young people in the area, requiring an additional 13.7 sqm of play space for children and 1.8 sqm of play space for young people. The site is within close proximity to one park (Cathedral Gardens and Playground) designated for children and young people. The Proposed Development does not seek planning approval for play areas.	Provision of play space to be agreed through the S106 process	Negligible

Townscape and Visual Impact Assessment			
Receptor	Magnitude of Effect	Mitigation Proposed	Residual Impact
Operation			
Users of Rochdale Road looking south towards the Site	Low	n/a	Indirect minor Permanent beneficial
Users of Shudehill looking north towards the site	Low	n/a	Indirect minor-moderate Permanent beneficial
Users of Rochdale Road looking north towards the site	Low	n/a	Indirect minor Permanent adverse

Users of Corporation Street looking east towards the site	Low to Negligible	n/a	Indirect minor Permanent beneficial
Users of Recreational Space and PROW north of the site	Low	n/a	Indirect minor Permanent beneficial
Users of St Michael's Flags and Angel Meadow Park	Low to Negligible	n/a	Indirect minor Permanent beneficial
Users of Sharp Street looking towards site	Medium	n/a	Indirect Permanent adverse
Users of St Chad's Street looking towards site	Low to Negligible	n/a	Indirect minor Permanent beneficial
Users of River Irwell Footpath	Negligible	n/a	No change
Views from areas surrounding Great Ancoats Street looking north	Negligible	n/a	No change

Wind Microclimate			
Receptor	Effect	Mitigation	Residual Impact
Construction Phase			
Thoroughfares & Roadways	n/a	n/a	n/a
Bus stops	n/a	n/a	n/a
Off-site entrances	n/a	n/a	n/a
Existing amenity spaces	n/a	n/a	n/a
Strong winds	n/a	n/a	n/a
Operational Phase			
Thoroughfares & Roadways	Negligible	n/a	Negligible
On-site entrances	Negligible	n/a	Negligible
Off-site entrances	Negligible	n/a	Negligible
Proposed ground floor amenity spaces	Negligible	n/a	Negligible
Proposed terrace level amenity spaces	Negligible	n/a	Negligible
Proposed Balconies	Major Adverse	Perimeter 1.5m solid balustrade	Negligible

		at residents' terrace on Level 20	
Existing amenity spaces	Negligible	n/a	Negligible
Strong winds	Negligible	n/a	Negligible

Air Quality			
Receptor	Effect	Mitigation	Residual Impact
Construction Phase			
Human receptors within 250m of the site boundary	Adverse amenity impacts as a result of deposited dust Increases in particulate concentrations as a result of fugitive dust emissions	Comprehensive Construction Environmental Management Plan	Not significant
Human receptors within 50m of the site access route within 250m of the site entrance	Adverse amenity impacts as a result of deposited dust Increases in particulate concentrations as a result of fugitive dust emissions	Comprehensive Construction Environmental Management Plan	Not significant
Human receptors within the vicinity of the site	Changes in pollutant concentrations as a result of vehicle exhaust emissions	None	Negligible
Operational Phase			
Human receptors within the vicinity of the site	Changes in pollutant concentrations as a result of vehicle exhaust emissions	Provision of cycle parking at a rate of 100% (one per residential unit) Provision of external visitor cycle parking within two Sheffield stands Provision of Travel Packs to all future residents Provision of localised	Negligible

		pedestrian improvements	
Future occupants of the Proposed Development	Exposure to elevated pollution levels	None	Not significant

CUMULATIVE AND INTERACTIVE EFFECTS

- 14.6 The purpose of this section is to draw together the findings from the individual topic chapters and to consider the inter-relationships between these assessments and any other developments in the area surrounding the site. It also establishes whether there are any other residual effects on the identified sensitive receptors, which may require additional mitigation not previously identified.
- 14.7 This chapter considers two types of effects in associated with the Proposed Development:
- Cumulative: these arise from the combined effect of the Proposed Development with committed development schemes that, individually, may be insignificant, but when combined with other impacts, may be significant. This includes consideration of the impacts during the construction and operational phases; and
 - Interactive: the combined effect of different types of impacts arising from the Proposed Development on a particular receptor. An example of this could include the combined impact of noise and air quality effects on a residential dwelling. This also includes consideration of the impacts during the construction and operational phases.

CUMULATIVE EFFECTS

- 14.8 The list of cumulative sites was agreed with the Council through the Scoping Opinion. This list is set out again in Table 13.1 and a map is provided at Appendix 6.2.

Table 13.1: Agreed Cumulative Sites

Name	Application ref.	Description	Status and programme
Land Bound By Gould Street, Williamson Street, Bromley Street And Bilbrook Street	139811/ NMC/ 2024	Erection of 9 buildings ranging from 8 to 34 storeys in height to form 1202 residential apartments (Use Class C3a) and ground floor commercial uses (Use Class E) (192 sqm) together with associated car parking, new vehicular and pedestrian access, public realm, landscaping and other	Application approved December 2023

Manchester M4 4DD		associated works following demolition of existing structures and buildings Subsequent NMA ref 128248/FO/ 2020 approved April 2024	
87 Rochdale Road Manchester M4 4HY	136574/ NMC/ 2023	Original application consented February 2022 for the erection of a part 11, part 13 storey building to form residential apartments (Use Class C3a) together with the erection of two blocks of 3 storey duplexes (Use Class C3a) to form 237 residential homes in total with associated commercial floor (Use Class E) (132 sqm), basement car parking, landscaping and public realm, and associated engineering and infrastructure works following demolition of existing buildings and structures Subsequent NMA ref 131708/FO/2021 approved March 2023	Application approved February 2022
25 Rochdale Road Manchester M4 4HT	127537/ FO/ 2020	Erection of a 11 storey 229 bedroom hotel (Use Class C1) with ancillary ground floor bar / restaurant together associated public realm and other associated works, approved October 2020 Subsequent NMA ref 138248/NMC/ 2023, approved October 2023	Confirmation of lawful start ref 138365/LE/ 2023, dated December 2023
Land Bounded By Angel Street, Miller Street And Angel Square Known As Plots M And N Manchester	134307/FO/2022	Erection of 2 Angel Square, a 14 storey building to form a mixed use office development with flexible commercial units; Erection of 3 Angel Square, a 13 storey building to form a mixed use office development with flexible commercial units, cinema space and ancillary gym space with hard and soft landscaping and other associated works. Subsequent variation of condition ref 141138/JO/2024 granted December 2024	Several conditions discharged; variation approved December 2024
Land Bounded By Dantzic Street,	136814/FO/2023	Erection of a phased residential led mixed use development comprising three residential towers with associated flexible	Latest condition discharge approved December 2024

Dalton Street And The Railway Line Known As Plots NT02, NT03 And NT04 Manchester		non-residential floorspace comprising commercial, business, service and community uses; erection of a 6 storey residential amenity space within a clubhouse building and hard and soft landscaping	
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- 14.9 An assessment of potential cumulative effects arising from the Proposed Development in combination with the developments identified above has been considered within each topic chapter and is summarised below.
- 14.10 In order to summarise the respective cumulative impacts, we have utilised professional judgement to interpret the findings of each technical chapter and assigned impacts according to the following significance criteria:
- Non anticipated – no cumulative impacts identified.
 - Negligible – Potential for cumulative impact identified of negligible significance to identified receptors.
 - Minor – Potential for cumulative impact identified of minor significance to identified receptors.
 - Moderate – Potential for cumulative impact identified of moderate significance to identified receptors.
 - Major – Potential for cumulative impact identified of major significance to identified receptors.
- 14.11 Table 13.2 provides a summary of all cumulative impacts identified.

Table 13.2: Inter-Project Cumulative Effects

	Cumulative Impacts	
	Construction Phase	Operational Phase
Daylight and Sunlight	Negligible The cumulative developments were considered holistically in the assessment.	Negligible The cumulative developments were considered holistically in the assessment.
Greenhouse Gas Emissions	Negligible No cumulative effects anticipated – although cumulative effects are considered to be significant, quantification of GHG emissions is scoped out.	Negligible No cumulative effects anticipated – although cumulative effects are considered to be significant, quantification of GHG emissions is scoped out.
Built Heritage	Heritage assets – Negligible	Heritage assets – Negligible

	The cumulative developments were considered holistically in the assessment. The residual effects during construction does not reduce or increase in the context of these developments.	The cumulative developments were considered holistically in the assessment. The residual effects during operation does not reduce or increase in the context of these developments.
Townscape and Visual Impact Assessment	Sensitive Receptors – Negligible The cumulative developments were considered holistically in the assessment. The level of impact during construction is considered low.	Sensitive Receptors - Minor The cumulative developments were considered holistically in the assessment. The level of impact during operation ranges from no change to indirect adverse with most impacts being minor.
Socio-Economics	Construction Employment – Moderate Beneficial The combined effects of the developments are likely to have a moderate beneficial (significant), long term cumulative effect on construction employment due to the potential for the committed developments to generate a considerable amount of construction employment (in addition to the Proposed Development).	Employment Market – Negligible A high level assessment suggests that gross direct employment resulting from the cumulative schemes may be upwards of 130 jobs. This is an overall negligible cumulative effect on employment in the North-West. Housing Market – Minor beneficial There will be an overall permanent minor beneficial long term cumulative effect on housing in the North West.
Wind Microclimate	Negligible Limited cumulative impacts anticipated, slight improvement around the site.	Negligible Limited cumulative impacts anticipated, slight improvement around the site.
Air Quality	Negligible Fugitive dust emissions from construction traffic associated with this proposal and other schemes will be mitigated and controlled.	Negligible The number of vehicle trips associated with the proposal is considerably lower than the relevant screening criteria, and are unlikely to be exceeded when cumulative trips are considered.

- 14.12 The above table summarises the cumulative effects of the Proposed Development when considered alongside relevant commitments and pending applications within the locality. Allowing for mitigation, the predicted impacts from Negligible to Minor/Indirect Adverse, and for positive effects, Moderate Beneficial.

INTERACTIVE EFFECTS

- 14.13 This section considers the inter-relationship between the direct effects arising from the Proposed Development. It takes account of the main residual effects following mitigation as identified in the technical chapters of this ES, which could be expected to arise during the construction and operational phases of the Proposed Development.
- 14.14 The objective is to identify where the accumulation of effects on particular receptors, and the relationship between those effects, may give rise to a need for additional mitigation not identified previously.
- 14.15 For example, a local resident might be affected by the noise from the construction phase, but might also be affected by dust, vibration and increased traffic. Individually, these might not be assessed as being significant, but in combination they might become significant.
- 14.16 This section focuses only on those issues where the effect identified is of minor, moderate or major significance (i.e. where the effect is negligible or there is no effect, it has not been considered).
- 14.17 The table below summarises the receptors that are identified in the technical chapters, which may be subject to an accumulation of environmental impacts.

Table 13.3: Interactive Effects for Receptors

Receptor	Construction Phase		Operational Phase	
	Discipline	Impact	Discipline	Impact
Northern Angel			DS	Major Adverse
25 Rochdale Road			DS	Minor Adverse/Negligible
Hampton by Hilton			DS	Major Adverse
Ancoats Gardens			DS	Minor Adverse/Negligible
10 Rochdale Road			DS	Moderate Adverse/Negligible
Skyline Chambers			DS	Minor Adverse/Moderate Adverse
Corner Building			DS	Minor Adverse/Negligible
Grey Building			DS	Minor Adverse
Krupa Building			DS	Major Adverse
12 Rochdale Road			DS	Major Adverse/Negligible
Halo Buildings			DS	Minor Adverse
Sharp Street			DS	Minor Adverse/Moderate Adverse
Courtyard Buildings			DS	Minor Adverse/Negligible
11 Dyche St.			DS	Minor Adverse/Negligible
The global atmosphere	GHG	Minor Adverse	GHG	Minor Adverse

Warehouse on West Corner of Junction with Simpson Street	H	Minor Adverse	H	Minor Adverse
Sharp Street Ragged School	H	Minor Adverse	H	Minor Adverse
Co-operative Insurance Society (CIS) Building	H	Minor Adverse	H	Minor Adverse
Particular Baptist Chapel	H	Moderate Adverse	H	Minor-Moderate Adverse
Local businesses			SE	Minor Beneficial
Local and borough residents			SE	Minor beneficial
Users of Rochdale Road looking south towards the Site			TVIA	Indirect minor Permanent beneficial
Users of Shudehill looking north towards the site			TVIA	Indirect minor-moderate Permanent beneficial
Users of Rochdale Road looking north towards the site			TVIA	Indirect minor Permanent adverse
Users of Corporation Street looking east towards the site			TVIA	Indirect minor Permanent beneficial
Users of Recreational Space and PROW north of the site			TVIA	Indirect minor Permanent beneficial
Users of St Michael's Flags and Angel Meadow Park			TVIA	Indirect minor Permanent beneficial
Users of Sharp Street looking towards site			TVIA	Indirect Permanent adverse
Users of St Chad's Street looking towards site			TVIA	Indirect minor Permanent beneficial
Users of River Irwell Footpath			TVIA	No change
Views from areas surrounding Great Ancoats Street looking north			TVIA	No change

SUMMARY

- 14.18 Overall, the analysis above has identified that there is no requirement to identify additional mitigation measures to address effects arising from the interrelationship between impacts on identified receptors.
- 14.19 In this case, it is not considered that in-combination effects are significantly greater than individually assessed impacts and that therefore no additional mitigation is required.