Deloitte.



1 Castlefield

Environmental Statement: Volume 1

September 2026

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1. Introduction

1.1. The Environmental Statement ('ES') accompanies an application for full planning permission to redevelop One Castlefield (the Site) for a residential-led development (the Proposed Development).

1.2. The Site comprises approximately 0.72 hectares of vacant land close to Manchester city centre. It is bounded by Trentham Street, Ellesmere Street, Castlefield Locks, the elevated railway line and a small area of the Bridgewater Canal.

1.3. The Site is currently vacant, with previous industrial uses having been demolished following a planning permission secured in 2018.

1.4. The application for full planning permission comprises 592 dwellings across two blocks (Block A: 46 storeys and Block B: 9 storeys), supporting amenity space, a ground-floor café (Use Class E(b)), car and cycle parking, new access arrangements, landscaping and associated works.

- Redevelopment of the Site for a residential-led development comprising 592 dwellings across two blocks (Block A: 46 storeys, Block B: 9 storeys).

1.5. Provision of supporting amenity spaces, car and cycle parking, landscaping, and other associated works.

1.6. The Proposed Development would be constructed as a single development, with both residential blocks progressing through overlapping work stages. Block B would complete first, while Block A would continue to overall project completion.

1.7. The Proposed Development is outlined in detail in Chapter 4 of this ES and is hereafter referred to as the Proposed Development.

Requirements for EIA

1.8. The ES sets out the findings of an Environmental Impact Assessment (EIA) carried out in respect of the Proposed Development of the site.

1.9. The EIA process is the mechanism by which development proposals are appraised in terms of their likely environmental effects, in addition to socio-economic, engineering, and technical considerations.

1.10. The purpose of the EIA is to establish the nature of the Proposed Development and the environment in which it is likely to take place to identify likely significant effects on the environment that may arise, by comparing the existing situation at the start of the work (baseline) with the situation once the proposals are in place.

1.11. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the "EIA Regulations") require that any Proposed Development falling within the description of a 'Schedule 2 development' (Regulation 2(2)) will be subject to an EIA where such development is likely to have 'significant' effects on the environment by virtue of such factors as its nature, size or location (EIA Regulation Schedule 2).

1.12. The Proposed Development is considered to fall under the category of 'Urban development projects' (EIA Regulations Schedule 2, 10, (b)) where:

- The development includes more than 1 hectare of urban development which is not a dwellinghouse development; or
- The development includes more than 150 dwellings; or
- The overall area of the development exceeds 5 hectares.

1.13. In accordance with the EIA Regulations, the ES sets out the following information:

- A description of the environment, including in particular:
- A description of the location of the Development;
- A description of the physical characteristics of the whole development, including where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
- A description of the main characteristics of the operational phase of the development, and;
- An estimate, by type and quantity, of expected residues and emissions during the construction and operation phases.
- A description of the reasonable alternatives studied, 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 relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development in so far as nature processes from the modelling of which can be made with reasonable effects on the basis of the available environmental information and scientific knowledge.
- A description of the factors specified in regulation 4(2) likely to be significantly affected by the development.
- A description of the likely significant effects of the development on the environment resulting from, inter alia:
    - The construction and existence of the development, including, where relevant, demolition works;
    - The use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
    - The emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
    - The risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
    - 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;
    - The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change, and;
    - The technologies and the substances used.
- A description of the likely significant effects on the factors specified in Regulation 4(2) that covers the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.
- A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered concerning the required information and the main uncertainties involved.

- 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 arrangements (for example the preparation of a post-project analysis);

- A description of the expected significant adverse effects to the development, on the environment, stemming from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned.

- A non-technical summary of the information.

1.14. A reference for detailing the sources used for the descriptions and assessments included.

1.15. A request for a Scoping Opinion was submitted to Manchester City Council, as local planning authority, on 8 July 2026 and has informed the methodology adopted in this ES.

Project Team

1.16. Deloitte has extensive experience and expertise in managing the EIA process and holds the IEMA EIA Quality Mark. Deloitte has managed the EIA process and the production of the ES for 1 Castlefield and has received technical input from a range of suitably qualified and experienced technical consultees. Together the EIA "Consultants" are:

- **EIA Coordination**: Deloitte LLP (IEMA EIA Quality Mark)
- **Planning**: Deloitte LLP
- **Architecture & Design**: Denton Corker Marshall
- **Townscape & Visual Impact**: re-form landscape architecture
- **Heritage**: Civic Heritage
- **Daylight, Sunlight & Overshadowing**: Proximity
- **Solar Glare**: Proximity
- **Wind Microclimate**: Architectural Aerodynamics Ltd
- **Climate Change**: Crookes Walker Consulting
- **Human Health**: Enfusion
- **Socio-Economics**: GC Insight

Organisation of the ES

1.17. This ES comprises 15 Chapters and is supported by figures (located at the back of each Chapter within Volume 1) and technical appendices (within a separate Volume 2), which are set out in full in the Contents section of this ES. A Non-Technical Summary (NTS) of the full ES is provided as a separate standalone document.

1.18. Figures have been referenced using the chapter number as a prefix followed by the number of the figure within a given chapter. Appendices have been referenced in the same way but due to their size they are contained separately in Volume 2.

1.19. Individual technical ES Chapters have been prepared by the disciplines set out above. Table 1.2 below sets out the structure and parties responsible for the technical content within Chapters 6 to 15 of this ES. Although we have made the Consultants' reports for consistency and provide our observations based on our knowledge and experience, we do not accept liability and responsibility for the Consultants' Reports and the technical content within Chapters 6 to 15 of this ES.

Chapter Number	Chapter Title	Author	Description
1	Introduction	Deloitte	Introduction to the ES, EIA requirements, details of the project team, ES organisation and availability.
2	EIA Methodology	Deloitte	Methods used to prepare each chapter, description of ES structure and content, generic significance criteria, scoping and consultation.
3	Alternatives and Design Evolution	Deloitte and Denton Corker Marshall	Outline of the main alternatives considered by the Applicant.
4	Site, Surroundings and Description	Deloitte	Site description and details of the Proposed Development.
5	Construction Management and Phasing	Deloitte	Details of anticipated programme for development and construction methodology are also included.
6	Climate Change Resilience and GHG	CWC	Assessment of the Proposed Development and its potential impact in relation to climate change.
7	Daylight, Sunlight and Overshadowing	Proximity	Assess the impacts of the Proposed Development on nearby daylight/sunlight and overshadowing in relation to amenity areas/public spaces.
8	Solar Glare	Proximity	Assess the impacts of the Proposed Development on nearby receptors (junctions for vehicles and signal locations for tram/train drivers) in relation to solar glare effects.
9	Townscape and Visual Impact Assessment	Re-form Landscape	This assessment will evaluate the visual impact of the Proposed Development on the surrounding townscape and views, considering the sensitivity of visual receptors and the magnitude of change.
10	Wind Microclimate	Architectural Aerodynamics Limited	This assessment will analyse the potential for the proposed buildings to generate wind conditions at street level, which could impact pedestrian comfort and safety.
11	Human Health	Enfusion	This assessment will evaluate the potential impacts of the development on the physical and mental health of local residents, new residents, and workers, considering a wide range of health determinants.
12	Socio-Economic	GC Insights	This assessment will evaluate the potential impacts of the development on the local economy, housing market and social infrastructure, including employment, housing provision, local services, and demand for educational facilities.
13	Heritage	Civic Heritage	This assessment will evaluate the impact of the development on the setting of nearby listed buildings and

Chapter Number	Chapter Title	Author	Description
			conservation areas, considering both its direct (physical) and indirect (visual) impacts.
14	Summary of Residual Impacts	All	Summary of the effects that remain after mitigation.
15	Type 1 Cumulative Impacts	All	Review of inter-project effects, which are combined effects arising from the Proposed Development on defined sensitive receptors.
Volume 2 – Technical Appendices (See list)			
Non-Technical Summary – a summary of each of the documents.			

1.20. Together with the ES, the following documents will be submitted to Manchester City Council (MCC) as the Local Planning Authority (LPA) in support of the Planning Application:

Document	Prepared by
Accommodation Schedule	Denton Corker Marshall
Application Site Boundary and Location Plan	Denton Corker Marshall
Aviation Impact Assessment	Pager Power
Broadband Connectivity Assessment	Pager Power
Covering Letter	Deloitte LLP
Crime Impact Statement	Greater Manchester Police
Design and Access Statement	Denton Corker Marshall
Ecology Phase 1 Desk Survey and BNG Assessment	Rachel Hacking Ecology
Energy Strategy and BREEAM Pre-Assessment	CWC
Existing and Proposed site plans, sections and elevations (including drawing schedule)	Denton Corker Marshall
Fire Strategy	BB7
Flood Risk Assessment and Drainage Strategy	De Simone
Landscaping Strategy and associated landscaping drawings	Re-Form Landscape
Local Benefits Proposal – Statement of Intent	Kirindolam 8 Limited
Residential Management Strategy	Centrick
Phase 1 Ground Conditions Report	E3P

Document	Prepared by
Planning Application Form and Ownership Certificates	Deloitte LLP
Planning and Tall Statement	Deloitte LLP
Statement of Community Consultation	Deloitte LLP
Travel Plan	Rappor
Transport Statement	Rappor
TV Reception Survey	Pager Power
Ventilation Strategy	CWC
Waste Management and Servicing Strategy	Rappor

Scenarios

1.21. So that environmental effects arising from the Proposed Development are robustly assessed, unless stated otherwise within Chapters 6-13 due to the nature of the technical chapters, the scenarios tested are as follows:

- Scenario 1: Baseline (no development in existing surrounds with development currently under construction);
- Scenario 2: Baseline plus Proposed Development; and
- Scenario 3: Baseline plus Proposed Development plus cumulative development.

1.22. Where there is a deviation from the above scenarios this is clearly explained and justified within the relevant technical chapter, for example, both the heritage and townscape and visual impact chapters have considered an existing and future baseline for completeness.

1.23. The ES is available for public viewing on Manchester City Council's Public Access website at the following address: http://pa.manchester.gov.uk/online-applications/ once the application has been submitted and validated.

1.24. The ES may be purchased in volumes, the costs for which are set out below:

- Volume 1: ES Main Text and Figures - £150;
- Volume 2: ES Appendices - £150;
- Volume 3: Non-Technical Summary (NTS) - £15;
- Full Copy (Volumes 1 and 2, and NTS) of the ES on CD - £15.

1.25. For copies of any the above, please contact the Manchester Planning Team at Deloitte:

1 Castlefield – Planning and EIA Team
Deloitte LLP
100 Embankment
Cathedral Approach
Manchester
M3 7FB

Figure 1.1 Site Location Plan



2. EIA Methodology

Introduction

2.1. This Chapter sets out the methodology used to prepare each Chapter of the ES and describes its structure and content. In particular, it sets out the process of identifying and assessing the likely significant effects of the Proposed Development on the environment as defined in Chapter 1 and described in detail in Chapter 4.

2.2. It is accompanied by the following technical appendices:

- Appendix 2.1: EIA Screening and Scoping Report dated July 2026

Legislation and Guidance

2.3. The ES has been prepared to comply with EIA Regulations, which implement European Council Directive No. 85/337/EEC as amended by Directive 2014/52/EU and entered into force on 17 May 2017. The EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation, under the control of the UK's Parliaments and Assemblies. The European Union (Withdrawal) Act 2018 introduced "retained EU law" which provides that EU-derived domestic legislation continues to have effect.

2.4. Reference has also been made to currently available good practice guidance in EIA including:

- Circular 02/99: Environmental Impact Assessment
- The European Commission's numerous EIA guidance documents available here: http://ec.europa.eu/environment/eia/eia-support.html
- Guidance on EIA Scoping, European Commission, June 2001
- Guidance on Transport Assessment, DCLG and DfT, March 2007
- National Planning Practice Guidance – Department for Communities and Local Government (March 2014 and continuously updated as a 'live' resource)
- Reference has been made to the Institute of Environmental Management and Assessment (IEMA) publications, including:
  - IEMA ES Review Criteria
  - IEMA Guidelines for Environmental Impact Assessment (2004)
  - IEMA Special Report into the State of Environmental Impact Assessment Practice in the UK (2011)
  - IEMA Shaping Quality Development (2015)
  - IEMA Delivering Quality Development (2016)
  - IEMA Delivering a Proportionate EIA (2017)

2.5. The ES has also had regard to the National Planning Policy Framework (NPPF) published in August 2026. The NPPF has been considered where relevant to the scope, methodology and assessment of effects in the ES.

2.6. As relevant to the ES technical chapter's scope, methodology and assessment of effects, key local planning policy and guidance documents have been considered. These include:

- Places for Everyone (PfE) (2024)
- Manchester City Council Core Strategy (2012)

- Saved Unitary Development Plan Policies (1995)

2.7. Any additional planning policy or guidance documents considered relevant have been identified within the relevant technical chapters.

Screening and Scoping

2.8. A formal EIA Screening and Scoping request was submitted to Manchester City Council on 8 July 2026 and is provided at Appendix 2.1. The request set out the proposed scope of the EIA. No formal scoping opinion had been received by the application submission date; accordingly, the ES reflects the submitted scoping material and any consultation responses received from the local planning authority and relevant consultees.

2.9. Based on the contents of Appendix 2.1, the following Chapters have been scoped into the EIA:

- Townscape and Visual Impact
- Heritage
- Daylight, Sunlight and Overshadowing
- Solar Glare
- Wind
- Climate Change
- Human Health
- Socio-Economics

Consultation

2.10. The Proposed Development has been prepared in consultation with Manchester City Council and a range of technical statutory stakeholders (refer to Table 2.1), which were also consulted upon as part of the EIA Scoping exercise.

Table 2.1: Scope of Stakeholder Consultation

Planning Application Stakeholder Consultation
Manchester City Council Planning Authority
Manchester City Council Highways
Transport for Greater Manchester
Greater Manchester Archaeological Advisory Service
Manchester City Council Environmental Health Officers
Environment Agency
Greater Manchester Ecology Unit (GMEU)
Historic England
National Air Traffic Control
Manchester Airport

2.11. In addition to the stakeholder consultation noted above, the Proposed Development has benefited from public consultation. Further details are provided in the Statement of Consultation that accompanies the application. Considerations of any legitimate alternative proposals are set out in Chapter 4 of this ES.

Non-Significant Effects

2.12. As set out in the request for a Scoping opinion, dated July 2026, the following disciplines will not give rise to likely significant effects on the environment and therefore do not require inclusion in the Environmental Statement. An explanation for scoping out each discipline set out below is provided in the EIA Scoping Report in Appendix 2.1:

- Agricultural Circumstances;
- Aviation;
- Archaeology;
- Ground conditions;
- Water resources;
- Electronic Interference;
- Ecology;
- Air Quality;
- Noise and Vibration; and
- Traffic and Transport.

Approach to Technical Studies

2.13. Various technical studies were commenced at an early stage in the development process. The findings of the baseline environmental studies played an important role in the design of the Proposed Development by defining the environmental sensitivities, constraints and opportunities associated with the Site.

2.14. Design team reviews, attended by members of the project team, were held throughout the pre-application process. These reviews provided a valuable forum for the exchange of information and ensured that the design team was fully aware of the environmental constraints and opportunities and of the interactions between disciplines. Pre-application engagement was also undertaken with MCC as the Local Planning Authority.

2.15. The technical studies have been undertaken in accordance with current best practice. Specific guidance used is referenced within each of the respective assessment Chapters.

2.16. The majority of assessments involved consultations with statutory and non-statutory bodies, desk-based research, site inspections and surveys, impact prediction and mitigation.

2.17. The assessment and conclusions of the ES are based on the description of the Proposed Development provided in Chapter 4.

Structure of Technical Chapters

2.18. Each technical Chapter of the ES has been set out broadly in line with Table 2.2. Where chapters differ from the structure set out below, the reasons for that have been clearly articulated within the chapter introduction.

Table 2.2: Structure of the ES Technical Chapters

Technical Chapter Subheading	Summary of information
Introduction	Each of the technical Chapters begins with an introduction providing context to the EIA completed.
Policy Context	This section includes a summary of legislation and of national and local policies relevant to the environmental discipline and explains its purpose in the context of the Proposed Development and the ES.
Assessment Methodology and Significance Criteria	This section describes the method or approach employed in the assessment of impacts, the criteria against which the significance of effects has been evaluated, the sources of information used and any technical difficulties encountered. Relevant legislation is also identified.
Baseline Conditions	This section describes and evaluates the baseline environmental conditions i.e. the current situation and anticipated changes over time assuming the Site remains unchanged. This is a critical part of the EIA process as it provides a measure against which potential environmental effects can be assessed.
Identification and Evaluation of Key Impacts	This section identifies the likely significant effects on the environment resulting from the Proposed Development. A description of the likely effects of the Proposed Development and an assessment of their predicted significance is provided. The assessment of effect significance has been undertaken using appropriate national and international quality standards. Where no such standards exist, the judgments that underpin the attribution of significance are described. The guidelines, methods and techniques used in the process of determining significance of effects are contained within each of the technical Chapters presented.
Mitigation Measures	One of the main aims of the EIA process is to develop suitable mitigation measures to avoid, reduce or compensate for any significant adverse effects of a project. This section of each technical Chapter describes the measures which would be implemented to mitigate potential adverse effects. Where possible, enhancement measures have also been proposed.
Cumulative Effects	This section considers the cumulative effects of the Proposed Development identified within the vicinity of the Site. Any likely significant effects on the environment arising in this respect are set out in this section. There are two distinct types of cumulative effects: • Type 1 - Cumulative effects are the interactions between effects of the Proposed Development on a single receptor. • Type 2 - Cumulative effects are those that arise from incremental changes caused by other consented or reasonably foreseeable activities ('committed developments') together with the Proposed Development.
Residual Effects	The residual effects, i.e. the remaining effects of the Proposed Development assuming implementation of the proposed mitigation measures, have been estimated and presented. The methods used to make these estimates are described and proposed methods of treatment for any residual effects have been identified and quantified where possible.

Technical Chapter Subheading	Summary of information
Summary	Each technical Chapter concludes with a brief summary outlining the potential residual effects of the Proposed Development.

2.19. Chapter 5 provides information to allow the construction phase of the Proposed Development to be assessed by the disciplines set out in Chapter 1.

Magnitude

2.20. The methodology for determining the scale, or magnitude, of effect is set out in Table

Table 2.3 Methodology for Assessing Magnitude

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Sensitivity

2.21. The sensitivity of a receptor is based upon the relative importance of the receptor using the scale in Table 2.4.

Table 2.4: Methodology for Assessing Sensitivity

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Significance

2.22. The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the impacts can be positive or negative. Table 2.5 below shows how magnitude and sensitivity interact to derive effect significance.

Table 2.5: Methodology for Assessing Significance

Magnitude	Sensitivity		
	High	Medium	Low
Major	**Major Adverse/Beneficial**	**Major - Moderate Adverse/Beneficial**	**Moderate** or Minor **Adverse/Beneficial**
Moderate	**Major - Moderate Adverse/Beneficial**	**Moderate Adverse/Beneficial**	Minor Adverse/Beneficial
Minor	**Moderate** or Minor **Adverse/Beneficial**	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

2.23. The above magnitude and significance criteria have been provided as a guide for technical specialists to assess impact significance. Where discipline specific methodology has been applied that differs from the generic criteria above, this has been clearly explained within the given Chapter under the heading of 'Assessment Methodology and Significance Criteria'.

2.24. For the purposes of this Environmental Statement, an effect will be potentially 'significant' if it is classed as either 'moderate' or 'major' (bold text in Table 2.5).

Baseline Conditions

2.25. Each technical Chapter includes a section describing and evaluating the baseline environmental conditions, including the current situation and anticipated changes over time if the Site remains unchanged. Baseline data has been obtained from published documents, mapping, historical information and site-specific surveys. Given the complexity of the Site and its surroundings, Chapters 6 to 13 each identify the baseline against which the assessment has been undertaken.

2.26. The method used to obtain baseline information, where relevant and possible, has been clearly identified within each technical Chapter and agreed in advance with statutory consultees.

Mitigation

2.27. Any adverse environmental effects have been considered for mitigation at the design stage and, where practicable, specific measures have been put forward. Measures have been considered based on the following hierarchy of mitigation:

- Avoidance;
- Reduction;
- Compensation;
- Remediation;
- Enhancement.

2.28. Where the effectiveness of the mitigation proposed has been considered uncertain, or where it depends upon assumptions of operating procedures, data and/or professional judgement has been introduced to support these assumptions.

2.29. Mitigation recommended during the construction phase would be set out in the Construction Management Plan (CMP) to be agreed with MCC prior to the commencement of work and implemented throughout the duration of the works. Outline mitigation measures to be included in a future CMP are set out in Chapter 5: Construction

Methodology and Programme and are cross referred to in the relevant chapters. It is anticipated that a condition be attached to any subsequent consent that requires submission and approval of a CMP.

2.30. Mitigation to be implemented during the operational phase would be secured through planning conditions and obligations, which are explicitly referenced in each chapter.

Residual Effects

2.31. The likely significant effects on the environment, assuming the successful implementation of mitigation measures proposed, have been estimated within each Chapter. These are termed 'residual effects' and are considered in Chapter 14 of this Statement.

Cumulative Effects

2.32. The ES considers the potential for likely significant effects on the environment resulting from consented or reasonably foreseeable activities or developments in the area, which could lead to potentially significant cumulative effects in conjunction with the Proposed Development ('Committed Developments'). These include:

- Approved but unimplemented projects;
- Plans or projects for which an application has been made, and which are under consideration by the consenting authority; and,

2.33. Certain projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress for the completion of the development and for which sufficient information is available to assess the likelihood of cumulative effects.

2.34. A search of Manchester, Trafford and Salford Councils' planning application databases, together with the project team's knowledge of the area, identified schemes with potential to give rise to cumulative effects. The committed developments and relevant sensitive receptors are identified in the committed-development information accompanying the ES.

2.35. Each technical Chapter (Chapters 6-13) has assessed the potential for likely significant effects on the environment because of the above cumulative developments, together with the Proposed Development.

2.36. In addition, Chapter 14 sets out all of the residual effects from all of the Chapters, and Chapter 15 assesses the Type 1 Cumulative effects, which are the inter-relationship between disciplines on specific identified and sensitive receptors.

Assumptions and Limitations

2.37. The principal assumptions that have been made and any limitations that have been identified in preparing the ES are set out in each technical Chapter. General assumptions include the following:

- All of the principal land uses adjoining the Site remain. Where redevelopment proposals have been granted Planning Permission, the effect of those proposals is considered as part of the Cumulative Impacts;
- Information received from third parties is complete and up to date;
- The various stages of the Proposed Development will satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge;
- Assessments are based upon, and conclude, the 'worst case' effects that would arise from the application as defined by the description of development set out in Chapter 4, Site Surroundings and Description of the Proposals;
- Construction and demolition methods and phasing will follow the timetable and methods set out in Chapter 5, Construction Management;

- Conditions will be attached to the Planning Permission that will control disturbance during the Proposed Development; and,
- Necessary off-site services infrastructures for the Proposed Development will be provided by statutory undertakers.

Objectivity

2.38. The technical studies undertaken with the ES have been progressed in a transparent, impartial, and unbiased way with equal weight attached, as appropriate, to beneficial and adverse effects. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgements and expert interpretations.

2.39. The assessment has explicitly recognised areas of limitation within the ES and any difficulties encountered, including the assumptions on which the assessments are based. Where appropriate, confidence levels have been assigned to the assessment of significance.

3. Alternatives and Design Evolution

Introduction

3.1. Regulation 18(3) and Paragraph 2 of Schedule 4 of the EIA Regulations requires the Applicant to produce an outline of the main alternatives studied and an indication of the main reasons for the choice made, considering the environmental effects.

3.2. The scheme has been developed through an iterative design process, incorporating feedback from the Local Planning Authority (LPA) and stakeholders.

3.3. This chapter reviews the process and use and testing of alternatives and the reasoning for the selection of the current design for the Proposed Development, which forms the subject of assessment within this ES.

3.4. This chapter considers the following four options in the context of the existing Development Brief:

- The 'do nothing' alternative where the Proposed Development is not progressed.
- Alternative Locations for the Proposed Development.
- Alternative Technologies.
- Alternative Designs (including size and scale) for the Proposed Development.
- The "do nothing" Alternative

3.5. The 'do nothing' scenario refers to the option of leaving the Site in its current state. This is not seeking to set out a case for leaving the Site in its current condition. It is a strategically important area of Manchester. Despite being screened by site hoardings, it is a negative contributor to the local environment and street scene in terms of its visual appearance.

3.6. The 'do nothing' scenario has been discounted due to the established need for regeneration in this part of the City Centre, as well as the strong demand for high-quality housing in Manchester.

Consideration of Alternative Locations

3.7. The Proposed Development is associated with addressing the under-utilisation and strategic location of the Site in relation to the largely developed residential area of St. George's. Delivery in this location would bring about several benefits, including:

- Delivering a high-quality residential development.
- Delivering new homes during operation, as well as jobs, and investment during construction and operation through local expenditure.
- Enhancing public realm and green infrastructure.
- Improving connectivity and accessibility.
- Supporting sustainable transport.

3.8. With the Applicant's ownership, there are no viable alternative locations that can deliver this level of transformation or create the same benefits. The Site has the capacity to be appropriate for high-density development. The majority of other sites in the City Centre all have an existing or emerging development proposal or strategic framework that is expected to rule out most other alternative locations within the City Centre.

3.9. The Site at No.1 Castlefield holds significant strategic importance as a key gateway marker into the city, particularly via the Metrolink route. This location is identified as appropriate for high-density development around transport nodes, aligning with Manchester City Council's ambitions for a higher-density city centre. This positions it within an appropriate City Centre location, well-served by public transport and within easy walking and cycling distance of the wider city centre. As a brownfield site, it represents a prudent use of scarce land resources, aligning with MCC's encouragement for high-density development around transport nodes. The location is not within a conservation area, supporting its suitability for a tall building brought forward sensitively within its immediate context. Developing a brownfield site reduces the need for greenfield development, contributing to environmental objectives.

Consideration of Alternative Technologies

3.10. The iterative design process has addressed previous viability challenges, ensuring the proposal is deliverable and avoids the negative impacts of unimplemented planning permissions on land value and market distortion. Significant economic benefits will be associated with the scheme during both construction and operation through creating employment for local people and fostering investment.

3.11. The current proposals present a refined development that addresses the shortcomings of the previous iteration while maintaining a high-density residential offer that is appropriate for its city centre location. Following a change in site ownership, a re-appraisal of the development brief for this site has been necessary, taking account of changes in regulations, market demand and adjacent development proposals.

3.12. New building safety regulations, adopted in the last 4 years, classify residential blocks over 7 storeys high and/or over 18m in height as 'Higher-risk Buildings' (HRB's). These now require additional design features, such as a double stair core, additional lifts, and access requirements, which were not present in the previously consented proposals. This internal constraint required a new brief and a re-evaluation of building technologies.

3.13. The Proposed Development will be constructed and operated in a sustainable manner, aiming for an exceedance in policy compliance to Part L carbon emissions due to an energy demand reduction, helping contribute to the City's 2038 Net-Zero ambition. Measures to reduce the energy consumption of the building during the construction phase, when making materials choices, and when operational have also been incorporated.

Consideration of Alternative Scale and Massing

3.14. The proposed tall building at No.1 Castlefield has undergone a rigorous and iterative design process, evolving significantly from initial concepts to the current 46-storey tower. This evolution was driven by policy alignment, site constraints, viability, and extensive stakeholder feedback.

Previous Proposals (2017):

3.15. The previous scheme, consented in 2018, comprised a mixed-use development with residential units and commercial elements. Key aspects included:

- Height and Density: The scheme proposed a range of building heights, with Block A reaching 16 storeys, Block D at 10 storeys, and Blocks B, C, and E varying between 5 and 8 storeys. This resulted in a total of 419 apartments and 144 parking spaces.

- Massing: The massing strategy aimed to respond to existing and historic building heights along Ellesmere Street, stepping down towards the listed Insitu architectural salvage building, and rising in height towards the railway line to the north. The layout featured five distinct blocks clustered around a central courtyard.

- Materials: The material palette proposed a mix of brickwork (replicating existing red brick in the area at lower levels) and lightweight cladding for taller sections, aiming to integrate with the existing built environment.

3.16. The previous proposals, while ambitious, ultimately proved unviable due to a combination of regulatory and design challenges. Specifically:

- Regulatory Compliance: Significant changes in building regulations, particularly new fire safety requirements for high-risk buildings, necessitated the inclusion of an additional stair core. This critical requirement could not be accommodated within the existing design, rendering the scheme financially unviable.

- Site Optimisation: From a design perspective, the previous scheme could be perceived to be overdeveloping the site, leading to a lack of adequate breathing space between buildings and insufficient amenity provision. This dense arrangement limited the potential for high-quality public and private spaces, impacting the overall liveability and integration with adjacent structures. The redesign was therefore essential to create a more harmonious and compliant development.

- The previously approved development proposed the siting of development immediately adjacent to the existing Castlefield Locks apartment building to the north east of the site boundary. This raised concerns about potential loss of daylight/sunlight and privacy for existing residents, evidenced by responses to the previous approval.

- Furthermore, since the previous scheme was consented, the new Vox development situated immediately to the south west of the site has been completed, and the amenity of the residents of Vox will also need to be given due consideration in the development of new proposals for this site.

Revised Scheme - Iterative Design Development:

3.17. The draft proposals at No. 1 Castlefield have been carefully shaped through a rigorous and collaborative design journey, informed by ongoing pre-application engagement. This has allowed refinement of the vision, responding to valuable feedback, and ensuring the scheme is not only high-quality but also a positive addition to the area.

Option 1

- The original proposal sought to largely mimic the previous approval for the scheme in terms of height, massing, and building footprint, albeit seeking to increase the quantum of development.

    - **Feedback:** Highlighted the need to improve the relationship between our proposed buildings and Ellesmere Street. Furthermore, careful consideration should be given of the height of any building facing the 'Vox' development. This adjacent development had come forward since the previous planning approval for No. 1 Castlefield, and a reduction in height for the block directly adjacent to 'Vox' would be viewed more favourably by residents in this development. It was also suggested that the inclusion of commercial units within the scheme would not be beneficial and the ground floor activation should be linked to the residential nature of the scheme.

Option 2:

- The design team refined the initial concept based on this feedback, focusing on incorporating more amenity space within the new development and enhancing the public realm along Ellesmere Street:

    - **Massing Revision**: The scheme's massing was revised in direct response to previous feedback; the block adjacent to 'Vox' was reduced in height, with the corresponding balance of units strategically re-incorporated into a taller tower proposed at the western corner of the site, taking this element to 35 storeys. To further enhance the scheme's integration and provide more separation distances between adjacent buildings, the blocks fronting Ellesmere Street were consolidated into a single, more cohesive form, and the edges of the mid-rise blocks were pulled further away from Castlefield Locks.

- **Materiality**: Initial ideas for the elevational treatments and materiality were refined. Whilst the principles of the facade design for the mid-rise buildings were considered in keeping with the local brickwork vernacular, the tower's facade design and materiality were reconsidered. Recognising its potential as a landmark, particularly due to its prominence as the tallest building upon arrival at the Cornbrook Metrolink station, the design team viewed the tower as an opportunity for greater design flexibility and the use of high-quality materials, distinct from the predominantly brick mid-rise elements. This marked a pivotal shift towards embracing the tower as a distinctive architectural statement.

Option 3:

- As part of the scheme's 3rd iteration, the focus was intently on reducing the footprint of the scheme overall and evolving the design of the tower to improve its relationship with neighbouring buildings and the wider townscape. Taking the vision for a landmark in the city, a design was evolved that aimed to create a truly unique architectural statement, reinforcing its status as a gateway into Manchester.

    - **Tower Height and Orientation**: To achieve this, an increase in the tower's height to 45 storeys was proposed and a strategic reorientation of its footprint along the northern boundary, parallel to the railway and Metrolink line. This careful positioning was intended to minimise its impact on neighbouring properties by maximising separation distances and viewing angles, while simultaneously contributing a positive visual element to the city's evolving skyline.

    - **Block Omission**: To accommodate this approach, one of the mid-rise blocks, situated adjacent to Castlefield Locks, was omitted from the scheme to compensate for the now taller tower. The merits of these revised proposals mean that the taller tower is offered greater elegance and prominence, located in a position that will have the least impact on daylight, sunlight and overshadowing to immediate neighbouring buildings whilst maximising beneficial townscape effects.

Option 4:

- Following feedback on the design of the tower, further work was undertaken on the proposed facade design for the tower, which was considered to be overly complex.

    - **Facade Streamlining:** The tower's facade was streamlined; focusing on clean lines and high-quality finishes to achieve a sophisticated and impactful architectural presence. The emphasis was placed firmly on the use of high-quality materials and refined technical detailing, delivering an elegant, simple vertical form.

    - Further clarification on the specific colour and contrast of some of the proposed facade materials is now included, demonstrating meticulous attention to detail and commitment to ensuring every element contributes to the scheme's overall quality. The design has reached a point where it is both architecturally distinguished and sensitively integrated into its context.

3.18. This process, driven by constructive dialogue with key stakeholders through the design review, has been invaluable. It has allowed the development of a scheme that is not only viable and compliant with regulations but also thoughtfully designed to enhance the local area, contribute positively to Manchester's skyline, and create a truly exceptional place to live in a highly sustainable location. Figure 3.1 highlights how the overall footprint of the development has been significantly reduced compared to the previously approved designs.

3.19. Following consultation with the public, the design was also revised to include a ground floor retail unit to provide the opportunity for a café, and the secure line for the private amenity space was amended to provide more space in the publicly accessible areas of landscaping on Trentham Street.

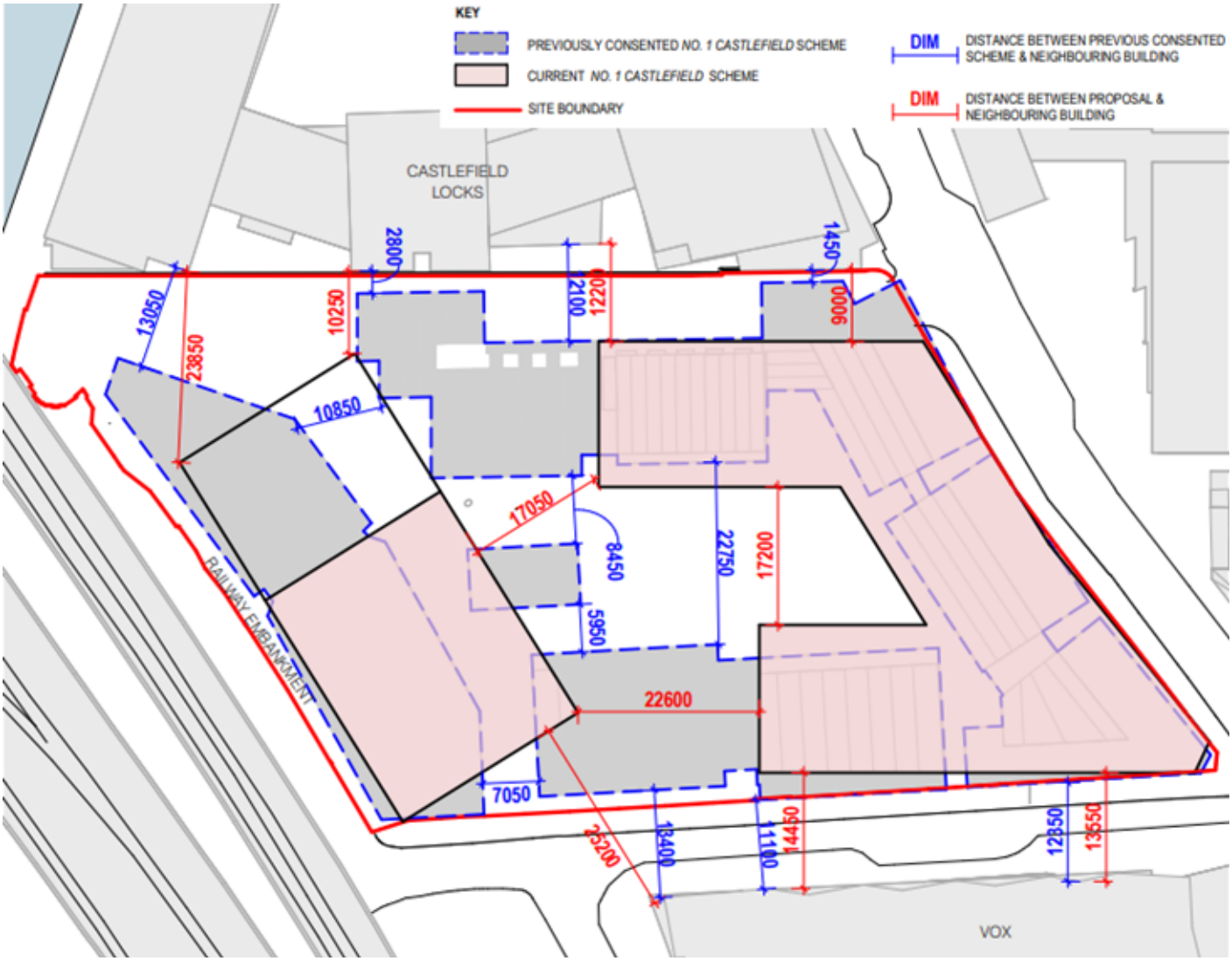
Summary

3.20. The Proposed Development has been informed by the Guidance on Tall Buildings (Historic England, March 2022), Historic England Advice Note 4, Core Strategy Policy EN2 (2012) and the relevant national decision-

making policies in the August 2026 NPPF. Together, these sources have informed the assessment of design quality, sustainability, regeneration and the historic environment.

3.21. The Proposed Development has been informed by pre-application discussions, as well as a demonstrable understanding of the site's importance as one of the last remaining plots in this part of Castlefield. The iterative design process, including the consideration of various options for height, massing, and materiality, has led to a refined scheme that responds positively to its local surroundings, contributes to the concluding regeneration of the Castlefield/St. George's area, and aligns with current planning policy and guidance for tall buildings, including those relating to the historic environment. The strategic location, high-quality design, positive environmental contributions, and significant regeneration benefits collectively present a compelling justification for its appropriateness.

Figure 3.1: Previous approval (blue dashed) and current proposals (red)



4. Site Surroundings and Description of Proposals

Site Description

4.1. This chapter provides a description of the Site, its surrounding context, a more detailed description of the Proposed Development as well as the Site's suitability for the Proposed Development.

4.2. The Site is located adjacent to one of the main vehicular routes into Manchester, the A57 Chester Road, and is approximately 1.1 miles from the centre of the city within the established community of Castlefield/St. George's.

4.3. The Site was previously a brownfield site, which has been largely cleared following the demolition of a range of low-rise office buildings. During the construction of the previous development, the site was used as a materials compound for materials and vehicles.

4.4. Since the completion of the previous demolition, the site has remained a mix of hardstanding, alongside areas of made ground and the remains of materials piles. There are limited areas of low-quality scrubland around the perimeter of the Site. The Site is accessible to vehicles from Ellesmere Street and Thorncross Close.

4.5. The Site's current condition is one of underutilisation, and the quality of public realm is poor, contributing to the visual appearance of the area.

Site Context

4.6. The Proposed Development forms the final residential phase to be brought forward for planning permission within the comprehensive and highly successful St. George's regeneration. Its design and scale have been carefully considered to ensure it acts as a positive conclusion for the area's development, rather than setting an undesirable precedent for height, alongside other material considerations.

4.7. This development opportunity is strategically positioned to represent the final phase of the comprehensive and highly successful St. George's regeneration.

4.8. The site is located adjacent to one of the main vehicular routes into Manchester, the A57 Chester Road and is approximately 1.1 miles from the centre of the city within the established community of Castlefield/St. George's. This is a well-connected location, benefiting from direct access to the city centre, key transport links and local amenities. To the north of the site lies Bridgewater Canal which provides pedestrian access to the City Centre in 15 minutes.

Site Accessibility

Pedestrian

4.9. There are footways on either side of Ellesmere Street that are approximately 1.1m wide, however there are no pedestrian crossings over Chester Road in the immediate vicinity of the Site.

4.10. The nearest pedestrian crossing over Chester Road is at the junction with Trafford Road. The next nearest crossing is around 150m from the Site.

4.11. The Bridgewater Canal provides pedestrian access to the City Centre in 15 minutes.

Cycling

4.12. The Site is a well-connected location for cycling, benefiting from direct access to the city centre, key transport links and local amenities.

4.13. Regular tram services across Greater Manchester are provided from Cornbrook Metrolink Station; 5 minutes' walk to the southwest of the site.

Bus

4.14. The nearest bus stops are located on Chester Road, approximately 100m from the Site, serving multiple routes across Greater Manchester.

Metrolink

4.15. The mainline railway and tramway are situated on the northern boundary and regular tram services across Greater Manchester are provided from Cornbrook Metrolink Station; 5 minutes' walk to the southwest of the site.

Train

4.16. The nearest train station is Deansgate-Castlefield, approximately 1.1 miles from the Site, providing services across Greater Manchester and beyond.

Local Highway Network

4.17. The Site is bounded by the A57 Chester Road, a main vehicular route into Manchester. The local road network provides connections to and from the city centre and wider motorway network.

Site Specific Designations

Heritage

4.18. The Site is not located within a conservation area, however, it lies 100m west of the Castlefield Conservation Area. There are 9 listed buildings/assets located within 500m of the Site. These include: Former Turville Public House (Grade II), Railway Bridge over the Canal (Grade II), Former Albert Mill (Grade II), Hulme Barracks (Grade II), Brindley's Weir (Grade II), Hulme Lock Branch Canal (Grade II), Churchyard Walls at Church of St George (Grade II), Church of St George (Grade II*), and Former Canal Flour Mills (Grade II).

Flood Risk and Drainage

4.19. The Site is located within Flood Zone 1, indicating a low probability of flooding from rivers and the sea. The Site is within the Conurbation Core Critical Drainage Area.

Air Quality

4.20. The Site is located within the Greater Manchester Air Quality Management Area (AQMA), where concentrations of nitrogen dioxide are monitored due to exceedances of national air quality objectives.

Planning History

4.21. The Site was redeveloped in 1970 as an industrial and distribution estate following the demolition of the brewery that occupied the Site. It more recently secured planning permission for redevelopment for residential uses in 2018 and demolition works have progress before implementation of the permission stalled.

The Proposed Development

4.22. The Proposed Development is for a residential-led scheme comprising 592 dwellings across two blocks (Block A and Block B). The proposed development includes:

- Block A: a 46-storey residential tower.

- Block B: a 9-storey residential building.

4.23. Supporting amenity spaces, car and cycle parking, and landscaping.

Table 4.1 summarises the principal development parameters, including the site area, residential unit total, building heights, parking, commercial floorspace and private amenity space.

Parameters		
Site Area (Ha)	0.715	
Residential units	592	
Maximum Height (AOD)	**Block A**	**Block B**
	9 storeys	46 storeys
Cycle Parking	388 Spaces	
Car Parking	40 spaces	
Commercial Space (sqm)	130 sq. m.	
Private Amenity Space (sqm)	500 sq. m.	

5. Construction Methodology and Programme

Introduction

5.1. This chapter sets out the anticipated construction methodology, phasing and programme for the Proposed Development at No. 1 Castlefield. It has been prepared to provide a proportionate overview of the likely construction activities, logistics arrangements and environmental management measures that would be implemented during the construction phase.

5.2. The chapter draws on the Outline Construction Management and Phasing Plan prepared in support of the planning application and should be read alongside Appendix 5.1: Outline Construction Management Plan. The purpose of the chapter is to provide sufficient information to allow the construction phase of the Proposed Development to be considered within the relevant technical assessments of this ES.

5.3. The Proposed Development comprises two residential blocks, associated amenity space, car and cycle parking, landscaping, infrastructure connections and public realm works. Construction would be undertaken following the appointment of a Principal Contractor, who would be responsible for preparing detailed construction documentation prior to commencement on site, including a detailed Construction Management Plan, Construction Phase Health and Safety Plan, Environmental Management Plan, Site Waste Management Plan, Logistics Plan and Traffic Management Plan.

5.4. The construction strategy presented in this chapter reflects the information available at the time of the planning application. Detailed construction methods, sequencing and management measures would be developed further by the appointed Principal Contractor and agreed with Manchester City Council, where required, prior to the commencement of works.

5.5. The chapter is supported by the following technical appendix:

- Appendix 5.1: Outline Construction Management Plan, Logistics Plan and Programme.

5.6. The Principal Contractor would fulfil the relevant duties under the Construction (Design and Management) Regulations 2015 and would work with the Principal Designer, Applicant and wider project team to identify and manage construction-related risks. All appointed contractors and sub-contractors would be required to demonstrate appropriate competence and would prepare relevant Risk Assessments and Method Statements to ensure works are undertaken safely and in accordance with applicable legislation and guidance.

5.7. The detailed Construction Management Plan would be reviewed and updated as necessary throughout the construction period to reflect the detailed design, contractor methodology, comments received from Manchester City Council and any planning conditions attached to the planning permission.

Overview of the Works

5.8. The primary construction activities related to the Proposed Development are set out in detail in this Chapter and the supporting Appendix 5.1 (Volume 2), and can be summarised as follows: -

- site establishment, including temporary hoarding, access arrangements, site welfare, compounds, temporary services and security measures;
- site preparation and enabling works, including clearance of remaining hardstanding and preparation of construction areas;

- piling and substructure works, including piled foundations, pile caps, ground beams and basement / substructure works for Block A;
- reinforced concrete frame construction for both Block A and Block B;
- roof construction and structural completion;
- installation of façade systems, including a unitised glazed façade to Block A and masonry, SFS framing, windows, rainscreen cladding and curtain walling to Block B;
- progressive internal fit-out, including apartment fit-out, building services installation, finishes and decorations;
- installation of lifts, mechanical, electrical and public health services;
- testing, commissioning, inspections, snagging and defect rectification;
- completion of external works, landscaping, public realm and site-wide infrastructure; and
- Building Safety Act Gateway 3 approval, handover and practical completion.

5.9. The construction strategy is based on the concurrent construction of both residential blocks, with each block progressing through broadly similar work stages but over different programme durations. Block B would complete first, with Block A continuing through to final overall completion.

5.10. The detailed methodology would be refined by the appointed Principal Contractor prior to the commencement of works, but the overarching approach would be to manage construction activities within the Site boundary wherever practicable, minimise disruption to neighbouring residents and businesses, maintain safe pedestrian and vehicular movement around the Site and ensure appropriate environmental controls are in place throughout the construction period.

Programme

Key Dates

5.11. The current construction programme indicates an overall programme period of approximately five years and eight months from the initial pre-construction period to final completion, with the main construction phase extending for approximately four years and two months.

5.12. The current key programme assumptions are as follows:

- Pre-construction period: July 2026 to December 2027.
- Planning consent: anticipated early 2027.
- Design and contractor procurement: 2027.
- Building Safety Act Gateway 2 submission and approval: 2027.
- Main contractor tender negotiation and appointment: late 2027.
- Main construction works commencement: January 2028.
- Block B construction: January 2028 to April 2031.
- Block A construction: January 2028 to March 2032.
- Block B practical completion: April 2031.
- Block A practical completion and overall project completion: March 2032.

5.13. The programme identifies a pre-construction phase during which planning approvals, Building Safety Act Gateway 2 processes, funding arrangements and contractor procurement would be completed. The construction phase would then commence in January 2028 with site preparation, enabling works, piling and substructure works.

5.14. For Block A, the construction sequence would include site preparation, piling, basement / substructure works and reinforced concrete frame construction, followed by roof works, installation of the unitised façade, progressive apartment fit-out and services installation, commissioning, Gateway 3 approval and practical completion.

5.15. For Block B, the construction sequence would similarly include site preparation, piling, substructure works, reinforced concrete frame construction, roof finishes, façade installation, internal apartment fit-out and services installation, commissioning, Gateway 3 approval and practical completion.

5.16. The construction programme would be refined and confirmed by the appointed Principal Contractor as part of the detailed Construction Management Plan.

Enabling Works

5.17. The Site has largely been cleared and comprises areas of hardstanding and made ground. Some localised excavation and preparation works would be required before construction of the Proposed Development commences.

5.18. Initial enabling works would include:

- erection of temporary hoarding and secure site boundaries;
- establishment of site access points and controlled entry arrangements;
- installation of welfare facilities and temporary services;
- preparation of site compounds and logistics areas;
- preparation of temporary hardstanding and internal access routes;
- implementation of wheel washing and road cleaning facilities where required;
- any necessary temporary traffic management or pedestrian diversion measures agreed with Manchester City Council; and
- establishment of waste storage and segregation areas.

5.19. During early site investigation and enabling activities, open mesh fencing may be used where appropriate. This would be replaced by solid hoarding around each construction phase and associated logistics areas prior to the start of main construction works. The location of hoarding and compound areas may change during the construction period to respond to the phased construction requirements.

Substructure

5.20. The substructure solution is anticipated to comprise piled foundations, likely to include continuous flight auger piling, together with pile caps, ground beams and core base construction. Block A would include basement / substructure works, while Block B would include piled foundations and substructure works appropriate to its scale and form.

5.21. Any basement and deep drainage excavations would be managed through appropriate temporary works and construction controls. Where local pumping is required, settlement tanks and agreed discharge arrangements would be implemented in consultation with the relevant statutory undertaker.

Superstructure

5.22. The superstructure of both Block A and Block B would comprise reinforced concrete frame construction. Block A would form the principal critical path activity, with the frame progressing floor-by-floor and supported by tower cranes, hoists and associated temporary works. Block B would be constructed using a shorter reinforced concrete frame programme.

5.23. The frame construction would be sequenced to allow subsequent roof, façade and internal fit-out works to commence progressively as work fronts become available.

Building Façade

5.24. Block A would be constructed with a unitised glazed façade system. The system would be installed progressively in line with the frame programme to allow the building envelope to be made weather-tight in stages.

5.25. Block B would include a combination of masonry façade, SFS framing, windows, rainscreen cladding and curtain walling. The precise façade specification and installation methodology would be confirmed through the detailed design and contractor procurement process.

5.26. The façade strategy would support a progressive weather-tight envelope approach, enabling internal fit-out and services installation to follow behind façade completion.

Health and Safety

5.27. The Proposed Development would be carried out in accordance with the Construction (Design and Management) Regulations 2015 and all other relevant health and safety legislation and guidance.

5.28. The appointed Principal Contractor would be required to demonstrate competence in the management and delivery of a complex city centre construction project and would prepare a Construction Phase Health and Safety Plan before works commence. This would identify the key project-specific risks and the procedures required to manage those risks throughout the construction phase.

5.29. All contractors and sub-contractors would be required to prepare Risk Assessments and Method Statements for their works. These would address, where relevant, working at height, lifting operations, plant movement, traffic management, excavation, piling, concrete works, fire safety, manual handling, noise, vibration, dust and the storage and use of hazardous materials.

5.30. Access to the Site would be controlled using secure entry arrangements, including turnstiles and a biometric access control system where appropriate. Site gates would be secured when not in use and would be managed by appropriately trained logistics personnel and banksmen during deliveries.

5.31. Protection of the public would be a high priority throughout the construction phase. Secure hoarding, signage, lighting, controlled access points and managed delivery procedures would be used to separate construction activities from public areas.

Construction Activities

Site Access

5.32. Construction access would be taken from the local highway network serving the Site, principally via Ellesmere Street and Trentham Street. The Site is well served by adopted roads and delivery routes would be planned to minimise the need for construction traffic to pass through the city centre.

5.33. The detailed Traffic Management Plan would be prepared by the appointed Principal Contractor and agreed with Manchester City Council where required. It would set out:

- construction access and egress arrangements;
- delivery booking and management procedures;

- routes for construction vehicles;
- arrangements for banksmen and traffic marshals;
- temporary signage and road markings;
- pedestrian and cyclist protection measures;
- any temporary footway or carriageway closures;
- temporary suspension or relocation of parking bays, where required;
- loading, unloading and turning areas;
- crane, hoist and loading bay locations; and
- arrangements for coordinating with nearby construction projects.

5.34. Deliveries would be timed and booked in advance, with off-peak deliveries promoted where practicable. No off-site stacking of delivery vehicles would be permitted.

Deliveries and Removals

5.35. All loading and unloading would take place within the Site boundary wherever practicable. Where exceptional circumstances require specific arrangements outside the Site boundary, these would be agreed with Manchester City Council and managed through the detailed Traffic Management Plan.

5.36. Deliveries would be managed to minimise disruption to local residents, businesses, pedestrians, cyclists and highway users. Where practicable, off-site construction and "just in time" delivery principles would be used to reduce material storage requirements and vehicle movements.

5.37. Waste materials would be removed from the Site at regular intervals. Waste would be stored in designated skips or containers and segregated where practicable to maximise reuse and recycling.

Contractor Parking

5.38. Construction staff parking spaces will be provided within and directly adjacent to the Site area where practicable, based on the Site logistics at each stage of construction. Site personnel will also be encouraged to use public transport, walking and cycling, taking advantage of the Site's accessible location and proximity to public transport connections.

5.39. The appointed Principal Contractor would prepare and maintain a Construction Travel Plan for employees and sub-contractors to reduce private vehicle trips and promote sustainable travel during the construction phase. This will be submitted and secured by way of condition.

Plant and Equipment

5.40. Construction plant and equipment would include tower cranes, hoists, mobile cranes, mobile elevating work platforms, piling rigs, excavators, concrete pumps, delivery vehicles and associated temporary works equipment.

5.41. Plant would be selected, located and maintained to minimise noise, vibration, dust and emissions where practicable. All plant would be operated in accordance with manufacturers' recommendations and relevant health and safety requirements. Where practicable, electrically powered plant would be selected in preference to diesel or petrol plant.

5.42. The detailed schedule of plant and equipment would be developed by the appointed Principal Contractor.

Operating Hours

5.43. The construction works would generally be undertaken during normal working hours in line with Manchester City Council guidance, assumed to be:

- Monday to Friday: 08:00 to 18:00;
- Saturday: 08:00 to 14:00; and
- Sundays and Bank Holidays: no noisy works generally planned.

5.44. Access to the Site may be permitted up to 30 minutes before the start of the working day to allow operatives to access welfare facilities and prepare for work, with noise kept to a minimum during this period.

5.45. Certain exceptional activities, such as tower crane erection or dismantling, may need to take place outside standard hours for safety or operational reasons. Such works would be infrequent and would be agreed in advance with Manchester City Council's Environmental Health Officer and communicated to local residents and businesses as appropriate.

Site Setup and Operations

5.46. The following site setup and operational requirements apply to the Proposed Development and will be developed in further detail by the Contractors.

Site Establishment

5.47. The Site compound and welfare areas would be located within the Site boundary. Welfare facilities would be appropriately sized for the anticipated number of operatives and would include offices, meeting rooms, induction and training space, canteen and rest areas, toilets and washing facilities.

5.48. As the works progress, smaller welfare facilities may be provided within upper floors of the buildings or within completed lower floors where appropriate. Temporary services would be provided to support the construction works.

5.49. Material storage areas would be managed to prevent cross-contamination, minimise waste and ensure safe storage. Flammable materials, fuels, oils and chemicals would be stored in accordance with relevant legislation and best practice, with bunding, spill kits and emergency procedures provided where appropriate.

Site and Boundary Fencing

5.50. The Site would be secured by hoarding or fencing to all boundaries. Solid hoarding would be used where required to protect the public, secure the Site and reduce the potential for dust and debris to leave the Site.

5.51. Where hoarding interfaces with public highways or footways, appropriate design and safety measures would be implemented. The hoarding would be maintained throughout the construction period and may include project information and contact details.

Access Points

5.52. Pedestrian access to the Site would be controlled through secure turnstiles. Vehicle access points would be controlled by gates and managed by logistics personnel and banksmen. Gates would remain closed when not in use.

5.53. The detailed Site Logistics Plan would identify the location of access points, internal routes, loading areas, hoists, tower cranes, welfare areas, storage areas and waste management zones.

Housekeeping

5.54. The appointed Principal Contractor would maintain good housekeeping throughout the construction period. This would include:

- regular cleaning of working areas;
- appropriate storage and removal of waste;
- maintenance of safe access routes;
- prevention of windblown litter and debris;
- regular inspection and maintenance of hoarding and fencing;
- no fires on site;
- use of road sweepers where required; and
- wheel washing or vehicle cleaning facilities where necessary.

5.55. Adjacent roads and footways affected by the works would be kept clean and safe for public use.

Lighting of the Site

5.56. Temporary lighting would be provided where required for safe construction operations and site security. Directional lighting would be used to minimise light spill to neighbouring residential properties, highways, the railway, the Metrolink and the Bridgewater Canal.

5.57. Lighting arrangements would be reviewed by the Principal Contractor as part of the detailed Construction Management Plan.

Materials

5.58. Material selection would have regard to safety, suitability, sustainability, embodied carbon and the potential for reuse and recycling. Local supply chains would be promoted where practicable to reduce transportation distances and support the local economy.

5.59. All timber used on site would be sourced from sustainable sources, such as FSC or PEFC certified suppliers

Waste

5.60. A Site Waste Management Plan or Construction Waste Management Plan would be prepared by the appointed Principal Contractor prior to commencement of works. This would identify:

- anticipated waste streams;
- methods for waste segregation;
- estimated quantities of each waste type;
- arrangements for reuse, recycling, recovery and disposal;
- hazardous waste management procedures; and
- arrangements for monitoring and recording waste movements.

5.61. Waste would be segregated where practicable and removed from the Site at regular intervals. Hazardous waste would be stored and disposed of separately. Food waste from welfare areas would be stored in covered containers and removed regularly.

Control Measures

Protection of Environmental Features

5.62. Environmental control measures would be developed by the appointed Principal Contractor through the detailed Construction Management Plan and Environmental Management Plan. These would address pollution prevention, noise, vibration, dust, drainage, water quality, waste, lighting, traffic and public liaison.

5.63. The proximity of the railway, Metrolink, Bridgewater Canal, nearby residential buildings and local highways would be taken into account in planning construction activities.

Noise and Vibration

5.64. Noise and vibration would be managed through best practicable means and in accordance with relevant guidance, including BS 5228 where applicable. Measures would include:

- selecting low-noise and low-vibration working methods where practicable;
- using silenced or acoustically enclosed plant where available;
- maintaining plant in good working order;
- locating plant to minimise noise impacts on sensitive receptors;
- avoiding unnecessary engine idling;
- programming noisy activities within agreed working hours;
- using localised hoarding, screens or barriers where required; and
- briefing operatives on noise and vibration control.

5.65. Where activities could give rise to significant vibration, monitoring would be undertaken where appropriate by a suitably qualified person.

Construction Vehicles

5.66. Construction vehicles would be managed through the Traffic Management Plan. Measures would include:

- designated routes for construction traffic;
- timed and booked delivery slots;
- use of banksmen at vehicle access points;
- loading and unloading within the Site boundary wherever practicable;
- sheeting of vehicles carrying loose material;
- wheel washing and road sweeping where required;
- no vehicle waiting with engines running within or close to the Site; and
- communication of routing requirements to suppliers and contractors.

5.67. Construction vehicle movements would be coordinated with other nearby construction projects where practicable).

Dust Suppression

5.68. The Principal Contractor would implement dust control measures appropriate to the nature and scale of the works. Measures would include:

- hard surfacing of vehicle movement areas where practicable;
- damping down and dust suppression during dusty activities;
- minimising stockpiling and locating stockpiles to reduce windblown dust;
- covering or sheeting materials where appropriate;
- wheel washing and vehicle cleaning where required;
- regular cleaning of adjacent roads and pavements;
- switching off plant when not in use; and
- using electrically powered plant where practicable.

5.69. A dust management and monitoring approach would be set out in the detailed Construction Management Plan..

Hard Standings

5.70. Hardstanding areas would be maintained to reduce dust, mud and debris tracking. Vehicle routes would be managed and cleaned as require.

Water Quality and Drainage

5.71. Best practice construction management measures would be implemented to reduce the risk of accidental pollution to surface water, groundwater, drainage systems and the Bridgewater Canal.

5.72. Measures would include:

- identifying and protecting existing drainage infrastructure;
- capping redundant drainage where required;
- managing concrete washout in designated areas;
- using settlement tanks where local pumping is required;
- storing fuels, oils and chemicals in bunded areas;
- providing spill kits and emergency procedures;
- preventing sediment-laden water entering drains or watercourses; and
- briefing operatives on pollution prevention requirements.

Nearest Water Course – Bridgewater Canal

5.73. The Bridgewater Canal lies close to the Site. Measures would be implemented to prevent sediment, debris, fuels, oils, concrete washout or other pollutants from entering the canal during construction. Particular care would be taken during works close to the northern and north-eastern boundaries of the Site.

Unexploded Ordnance

5.74. A desktop Unexploded Ordnance assessment has indicated a low risk, reflecting the redevelopment of the Site in the 1970s. Any further recommendations arising from detailed ground investigation or UXO assessment would be implemented during the construction phase.

Vapour / Ground Gases

5.75. If further ground investigation identifies a ground gas risk, appropriate control measures would be incorporated into the detailed design and construction methodology in accordance with relevant guidance such as CIRIA 665 and BS8485.

Archaeology and Cultural Heritage

5.76. Any archaeological requirements would be agreed with the relevant authority and implemented during enabling works where required. The Site is not expected to give rise to significant archaeological effects based on the scope of the ES, but any planning condition requirements would be addressed by the Principal Contractor.

Pollution Control and Contingency

Definition of a Pollutant

5.77. For the purposes of construction management, pollutants include any substance that could adversely affect air, soil, groundwater, surface water, drains, the Bridgewater Canal or the local environment. Environmental incidents include any activity or event that causes, or has the potential to cause, harm to people, property or the environment.

Pollution Prevention

5.78. The appointed Principal Contractor would prepare procedures to prevent pollution during construction. Works would be planned and managed to avoid accidental releases of sediment, concrete, oils, fuels, chemicals, trade effluent or waste materials.

Concrete and Cementitious Materials

5.79. Concrete and cementitious materials would be managed to prevent alkaline runoff entering drains or watercourses. Washout would be undertaken in designated areas and would not be discharged to the drainage network or the Bridgewater Canal.

Oils and Fuels

5.80. Fuel and oil storage would be located away from drains and watercourses where practicable, within bunded areas and on hardstanding. Refuelling would be carried out by trained personnel using appropriate spill prevention measures. Spill kits would be provided and plant with leaks or defects would be repaired or removed from the Site.

Excavated Spoil

5.81. Excavated material would be managed in accordance with waste legislation and relevant ground condition findings. Where practicable, material would be reused on Site. Material requiring removal would be treated, reused, recycled or disposed of at an appropriately licensed facility.

Construction Waste Materials

5.82. Construction waste would be segregated into appropriate streams and recycled where practicable. Hazardous waste would be stored separately and managed in accordance with relevant legislation.

Trade Effluent

5.83. Any trade effluent generated during construction would be managed in accordance with relevant consents and regulatory requirements.

Communications

5.84. The Principal Contractor would establish procedures for internal and external communication during the construction phase. This would include communication with Manchester City Council, statutory bodies, local residents, businesses and other affected parties.

5.85. Neighbourly engagement would be undertaken before and during the works, particularly in advance of disruptive activities such as piling and tower crane erection or dismantling. A site contact number would be displayed on the hoarding to allow for any complaints to be made during the construction period. Arrangements would be made for responding to enquiries or complaints through the Community Liaison Officer on behalf of the Lead Contractor.

5.86. The development would be registered with the Considerate Constructors Scheme or equivalent. A site information board would be provided, displaying key contact details and project information.

6. Climate Change

Introduction

6.1. This Chapter of the Environmental Statement (ES) has been prepared by Crookes Walker Consulting (CWC) and assesses the likely significant effects of the Proposed Development at No.1 Castlefield in respect of climate change. It describes the methodology used to undertake the assessment, the relevant legislation, policy and guidance, the baseline conditions, the mitigation measures incorporated within the Proposed Development and any further measures recommended, together with the likely residual effects.

6.2. Following the EIA Screening and Scoping exercise, Climate Change (Resilience and Adaptation) has been scoped into the ES and is the primary focus of this Chapter. The assessment considers the resilience of the Proposed Development to extreme weather events and to projected future changes in climate, in accordance with the IEMA guidance referenced below.

6.3. A Greenhouse Gas (GHG) and Whole Life Carbon (WLC) assessment has been undertaken for the Proposed Development in accordance with the RICS Professional Statement Whole Life Carbon Assessment for the Built Environment (2nd Edition, 2023) and is provided at Appendix 6.2. The Whole Life Carbon Assessment (WLCA) demonstrates that the carbon performance of the Proposed Development is consistent with the UK's legislated trajectory towards net zero by 2050, with whole life carbon intensities in line with recognised industry benchmarks (RICS and LETI). On this basis the GHG/WLC effects are not significant in EIA terms. The key results of the WLCA are summarised in Table 6.5.

6.4. A Low Carbon Heat Appraisal and an Environmental Standards Statement (ESS) have also been prepared in support of the application (Appendices 6.3 and 6.4 respectively). These confirm the adoption of a low carbon heating strategy and the environmental performance standards that the Proposed Development achieves.

6.5. Climate change resilience has been assessed in full within a Climate Change Resilience Risk Assessment (CCRRA), provided at Appendix 6.1. The CCRRA establishes the climate hazards, the sensitivity of the receptors and the residual risks, which are summarised within this Chapter.

6.6. This Chapter is supported by the following appendices:

- Appendix 6.1 – Climate Change Resilience Risk Assessment (CCRRA);
- Appendix 6.2 – Whole Life Carbon (WLC) Assessment;
- Appendix 6.3 – Low Carbon Heat Appraisal; and
- Appendix 6.4 – Environmental Standards Statement (ESS).

6.7. This Chapter has been prepared by competent experts at CWC. Details of the lead author and reviewer are set out in the table below.

	Lead Author	Reviewer
Name	John Barnett	Ben Hawksworth
Company	Crookes Walker Consulting (CWC)	Crookes Walker Consulting (CWC)
Qualifications/Accreditations relevant to technical area inlc. IEMA	BEng (Hons) in Building Services and Sustainable Engineering	BEng (Hons) in Building Services and Sustainable Engineering
Years technical experience (in technical area)	Over 20 years	15 years

	Lead Author	Reviewer
Number of EIA's delivered to date	1	0

6.8. This Chapter has been prepared by John Barnett and reviewed by Ben Hawksworth, both competent experts in building services engineering and sustainable design with the qualifications and experience set out in the table above. The assessment is based on the design information, drawings and supporting studies provided by the Client and the wider design team, which are considered appropriate for an assessment at this design stage.

Assumptions and Limitations

6.9. The assessment is based on the following assumptions, each of which is considered to provide a robust basis for the conclusions reached:

- A proportionate, risk-based approach has been adopted, appropriate to the scale and nature of the Proposed Development. This is supported by the detailed technical assessments undertaken for the scheme, including the SAP and Approved Document Part L energy assessments and the Approved Document Part O overheating assessment (undertaken using IES VE dynamic simulation);
- Climate change resilience has been assessed against the UK Climate Projections 2018 (UKCP18). The assessment is based principally on the RCP 8.5 high-emissions scenario (broadly equivalent to the upper UKCP18 percentiles), with the RCP 4.5 central scenario also considered for context. The use of RCP 8.5 as the principal basis is proportionate for a development of this scale and design life: it provides a robust, worst-case test of resilience, and where the Proposed Development is shown to be resilient under this scenario it is, by extension, resilient under the more central projections;
- The carbon assessments use the UK Government's published emissions factors, which follow the UK's legislated decarbonisation trajectory to net zero by 2050. The assessment is therefore consistent with current national policy and the recognised industry approach; and
- The legislation, policy and guidance relied upon are current at the date of this assessment.

Relevant Legislation, Policy and Guidance

6.10. The principal legislation, planning policy and guidance of relevance to this assessment are summarised below. These are current at the date of this assessment.

Legislation

- The Paris Agreement (United Nations Framework Convention on Climate Change, 2015);
- The Climate Change Act 2008 and The Climate Change Act 2008 (2050 Target Amendment) Order 2019 (which set the net zero 2050 target);
- The Planning and Energy Act 2008;
- The Carbon Budget Order 2021 (Sixth Carbon Budget); and
- The Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

Policy

National

- National Planning Policy Framework (NPPF) (MHCLG, August 2026);
- National Planning Practice Guidance (NPPG) (MHCLG);

- The Building Regulations Approved Document Part L (2021, incorporating 2023 amendments) and Approved Document Part O (2021); and
- Net Zero Strategy: Build Back Greener (HM Government, 2021).

Regional

- Places for Everyone (PfE) Joint Development Plan for the nine Greater Manchester districts (adopted 2024).

Local

- Manchester Core Strategy (MCC, 2012, as amended 2024), in particular Policies EN4, EN5 and EN6;
- Guide to Development in Manchester SPD and Planning Guidance;
- Manchester Climate Change Framework 2020–2025; and
- Manchester City Council Climate Change Action Plan 2020–2025.

Guidance

- IEMA EIA Guide to Climate Change Resilience and Adaptation (2020);
- IEMA EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition (2022);
- RICS Whole Life Carbon Assessment for the Built Environment, 2nd Edition (2023);
- BS EN 15978 Sustainability of construction works – Assessment of environmental performance of buildings; and
- CIBSE TM59 Design methodology for the assessment of overheating risk in homes, and CIBSE Guide A.

Assessment Methodology and Significance Criteria

Scenarios Tested

6.11. Consistent with the upfront chapters of the ES, the assessment considers the construction (demolition and construction) phase and the operational phase of the Proposed Development. Climate change resilience is assessed principally for the operational phase, over the design life of the development, as this is when the residential occupants and building systems (the sensitive receptors) are present. The construction phase is assessed qualitatively.

The Study Area

6.12. The study area comprises the application site (0.72 hectares, bounded by Trentham Street, Ellesmere Street, Castlefield Locks, the elevated railway line and a small area of the Bridgewater Canal) and its immediate surroundings, including on-site infrastructure such as the drainage system and the receptors directly influenced by the development (principally the future residential occupants and habitable spaces). A wider regional context is considered where relevant, using the UKCP18 projections applicable to Greater Manchester.

Surveys and Data Sources

6.13. The assessment has drawn on the following surveys, assessments, data sources and consultation undertaken for the Proposed Development:

- UK Climate Projections 2018 (UKCP18) for the Greater Manchester area, under the RCP 8.5 scenario;
- The SAP calculations, EPC assessment and Approved Document Part L Compliance Report;

- The Approved Document Part O overheating assessment, undertaken using IES VE dynamic simulation software;
- The Whole Life Carbon (WLC) Assessment, the Low Carbon Heat Appraisal and the Energy Statement;
- The Climate Change Resilience Risk Assessment (CCRRA); and
- Consultation undertaken with United Utilities (in relation to water supply and surface water and foul drainage connections) and the Environment Agency (in relation to flood risk and drainage).

Source of Effect

6.14. The assessment of climate change resilience has been undertaken in accordance with the IEMA EIA Guide to Climate Change Resilience and Adaptation (2020), and the GHG/WLC assessment in accordance with the IEMA GHG Guidance (2022) and the RICS WLC methodology. The assessment combines the outputs of the technical studies listed above with the professional judgement of competent CWC engineers.

Significance Criteria

6.15. The significance of effect is a function of the sensitivity of the receptor and the magnitude of the impact. The definitions of sensitivity and magnitude, and the matrix used to determine the resulting significance of effect, are set out in the tables below. The significance of effect is also described in terms of whether it is temporary or permanent, and beneficial or adverse.

6.16. For climate change resilience, this framework is applied using the risk-based approach set out in the IEMA Resilience Guidance and the CCRRA in Appendix 6.1. For each climate hazard, the risk is established by combining the likelihood of occurrence, the exposure of the Proposed Development and the vulnerability of the affected receptors, taking account of embedded design measures. The residual risk ratings reported in the CCRRA inform the sensitivity, magnitude and significance of effect used in this Chapter.

Table 6.2: Receptor sensitivity

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Table 6.3: Magnitude of impact

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Table 6.4: Significance of effect matrix

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

6.17. For the purposes of this assessment, effects assessed as Moderate or Major (adverse or beneficial) are considered significant in EIA terms; effects assessed as Minor or Negligible are considered not significant.

6.18. In respect of greenhouse gas emissions, the IEMA GHG Guidance advises that significance is established against the principle that all GHG emissions contribute to a global cumulative effect, and that a project is judged on the extent to which it reduces emissions relative to a do-minimum compliant baseline and supports the UK's trajectory towards net zero. This basis has been applied within the WLC assessment.

Baseline Conditions

6.19. The current baseline comprises a cleared brownfield site with predominantly hardstanding surfaces and no active residential use or sensitive internal receptors. The site was previously occupied by low-rise office and industrial units. As such, there is limited existing vulnerability to climate change effects, with no receptors currently at risk of overheating or internal flooding. The prevailing baseline climate reflects the current temperature ranges, seasonal rainfall patterns and occasional extreme weather events typical of the Greater Manchester area.

6.20. In the absence of the Proposed Development, the site would be expected to remain in a similar condition, with minimal sensitivity to projected climate change. Under the Proposed Development, the introduction of residential occupants and building systems creates new receptors that are potentially sensitive to climate variables, particularly increased summer temperatures and more intense rainfall events. The baseline therefore provides the reference against which the resilience of the Proposed Development to future climate conditions is assessed.

6.21. The UKCP18 projections for Greater Manchester (RCP 8.5) indicate the following broad direction of change over the design life of the Proposed Development, against which the resilience of the development has been assessed:

- Warmer, wetter winters and hotter, drier summers;
- An increase in the frequency and intensity of heatwaves and high summer temperatures, with implications for overheating in habitable spaces;
- An increase in the intensity of short-duration rainfall events, with implications for surface water flood risk and drainage;
- Longer dry spells with potential implications for water availability; and
- A general increase in the likelihood of extreme weather events.

6.22. The site-specific hazard ratings are established within the CCRRA (Appendix 1.1) and are summarised in the assessment below. The CCRRA confirms that, with the embedded design measures in place, the residual risks are in line with typical expectations for an urban residential development of this nature.

Identification and Evaluation of Likely Significant Effects

Construction Phase

6.23. The construction phase has been assessed qualitatively. It is recognised that the frequency and intensity of extreme weather events (high winds, heavy rainfall, heatwaves and cold snaps) are increasing as the climate changes, and that this can disrupt construction activities and increase surface water run-off from the site. These risks are temporary, are well understood for developments of this type, and are managed through standard construction-phase controls secured through a Construction Environmental Management Plan (CEMP), including seasonal working practices, temporary drainage and weather monitoring. Taking account of these controls, the sensitivity of receptors during construction is Low and the magnitude Negligible to Minor, and the resulting effect is not significant.

6.24. The construction-phase greenhouse gas emissions (embodied carbon, lifecycle modules A1–A5) have been quantified within the WLCA (Appendix 6.2) and are summarised in Table 6.5. The embodied carbon is in line with RICS and LETI benchmarks for residential development and consistent with the trajectory towards net zero, and the effect is not significant.

Operational Phase

6.25. The operational phase is the primary focus of the resilience assessment, as this is when the sensitive receptors (the residential occupants and habitable spaces) and the building systems are present. The principal climate hazards considered are overheating, surface water flood risk / drainage exceedance, water availability and high winds:

- Overheating: the projected increase in summer temperatures and heatwave frequency is the most material resilience consideration for a high-density residential development of this nature. The Proposed Development achieves compliance with Approved Document Part O, as demonstrated by the Part O overheating assessment undertaken using IES VE dynamic simulation (against the CIBSE TM52/TM59 criteria) and supported by the SAP/Part L energy assessment. The assessment confirms that 100% of the assessed habitable rooms pass the relevant overheating criteria. With the embedded design measures in place, the sensitivity of occupants is Medium and the residual magnitude Minor, and the resulting effect is not significant.

- Surface water flood risk and drainage: the projected increase in short-duration rainfall intensity has been addressed through a drainage strategy that incorporates Sustainable Drainage Systems (SuDS) and is designed to accommodate the 1 in 100 year (1% annual exceedance probability) storm event including a 45% allowance for climate change, in line with Environment Agency guidance and developed in consultation with United Utilities and the Environment Agency. Flows in excess of the design event would be managed by safe overland exceedance routing away from habitable areas. With this embedded mitigation, the resulting effect is not significant.

6.26. Water availability and other hazards: the Proposed Development incorporates water-efficient fittings to manage demand during longer dry spells. Wind microclimate effects are addressed within the Wind chapter of this ES. The remaining hazards (e.g. subsidence and ground stability) are of Low sensitivity for a development of this construction type on this site, and the resulting effects are not significant.

6.27. Operational greenhouse gas emissions (lifecycle modules B1–B7, including operational energy) have been quantified within the WLCA in Appendix 6.2 and informed by the Low Carbon Heat Appraisal and the Environmental Standards Statement. The Energy Statement confirms a fabric-first approach, EPC ratings in the A–C band, the use of air source heat pumps and provision of at least 10% of predicted energy needs from low-carbon sources, in line with Manchester Core Strategy Policy EN6. The whole-life carbon results summarised in Table 6.5 demonstrate that the Proposed Development is consistent with the UK's legislated trajectory towards net zero by 2050 and performs in line with the RICS and LETI benchmarks for residential development. The resulting effect is therefore not significant.

Table 6.5: Whole Life Carbon assessment – summary of results

Metric	Proposed Development	RICS / LETI benchmark
Total whole life carbon (modules A–C)	29,325 tCO_2e	–
Whole life carbon intensity (A–C)	547 $kgCO_2e/m^2$	800 $kgCO_2e/m^2$ (LETI 2030 target
Embodied carbon (modules A1–A5)	385 $kgCO_2e/m^2$	500 $kgCO_2e/m^2$
Operational carbon (modules B1–B7)	7.74 $kgCO_2e/m^2$	–
Performance against benchmark / net zero alignment	35	RICS / LETI residential

Cumulative Effects

6.28. The approach to cumulative effects differs between climate resilience and greenhouse gas emissions, as set out below.

Construction

6.29. In respect of climate change resilience, cumulative construction effects are not significant; the resilience of the Proposed Development is a function of its own design rather than of neighbouring schemes. Construction-stage greenhouse gas emissions are addressed within the WLC assessment.

Operation

6.30. In respect of greenhouse gas emissions, the IEMA GHG Guidance recognises that GHG emissions have a global rather than a localised effect. A project-specific cumulative assessment of individual neighbouring schemes is therefore not meaningful, as there is no basis for selecting any particular scheme over another. Instead, the contribution of the Proposed Development has been contextualised against the relevant national and local (e.g. Tyndall Centre, Manchester) carbon budgets within the WLCA, which by its nature accounts for the cumulative context. On this basis the cumulative effect is not significant.

Mitigation Measures

6.31. The Proposed Development incorporates a range of embedded (designed-in) mitigation measures that have been taken into account in the assessment of effects above. In respect of greenhouse gas emissions, these follow the mitigation hierarchy set out in the IEMA GHG Guidance (avoid, reduce, substitute and, where necessary, offset):

- Avoid – the redevelopment of a previously developed (brownfield) site at high density makes efficient use of land and existing infrastructure and avoids the carbon associated with developing a greenfield site;
- Reduce – a fabric-first approach with optimised air-tightness and solar control glazing, together with energy-efficient mechanical and electrical services (MEV, high-efficiency motors and LED lighting), reduces operational energy demand and embodied carbon. Compliance with Approved Document Part O (overheating) and Part L (energy efficiency) has been demonstrated through the Part O overheating assessment and the SAP/Part L energy assessments;
- Substitute – air source heat pumps and a low carbon energy strategy substitute fossil-fuel heating, with at least 10% of predicted energy needs provided from low carbon sources (in line with Manchester Core Strategy Policy EN6);

- Offset – no carbon offsetting is currently proposed or relied upon; the Proposed Development achieves its carbon performance through design. Any residual offset requirement would be addressed through the relevant planning mechanism if required.

6.32. In respect of climate change resilience, the embedded measures additionally include a drainage strategy incorporating SuDS and climate change allowances, and water-efficient fittings. In line with the guidance, only additional mitigation beyond these embedded measures is set out below.

Construction Phase

6.33. No significant construction-phase climate effects have been identified. The standard construction-phase controls, secured through a Construction Environmental Management Plan (CEMP), are sufficient, and no further mitigation is required.

Operational Phase

6.34. The embedded mitigation described above is sufficient to address climate change resilience and greenhouse gas emissions, and no further operational mitigation is required.

Residual Effects

6.35. The residual effects, after taking account of the embedded mitigation, are summarised in the tables below. In all cases the residual effects are not significant in EIA terms.

Construction Phase

6.36. The residual effects at the construction phase are summarised below.

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Extreme weather affecting construction activities and surface water run-off	Construction site / local drainage	Standard construction controls secured through the CEMP		Negligible / Not significant – Temporary
Embodied carbon (modules A1–A5)	Global climate	Low carbon materials, efficient design and sustainable procurement (per the WLC Assessment)		Minor adverse / Not significant – Permanent

Operational Phase

6.37. The residual effects at the operational phase are summarised below.

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Overheating of habitable spaces	Residential occupants	Fabric-first design, solar control glazing and Part O compliance	Specified through procurement	Minor / Not significant – Permanent

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
		(demonstrated by the Part O assessment)		
Surface water flooding / drainage exceedance	Occupants / drainage system	Drainage with climate change allowances and SuDS	Specified through detailed drainage designs secured by condition in line with established principles.	Minor / Not significant – Permanent
Reduced water availability (dry spells)	Occupants	Water-efficient fittings	N/A	Negligible / Not significant – Permanent
Operational GHG emissions (modules B1–B7)	Global climate	Fabric-first design, ASHP, EPC A–C and low carbon energy (per the Energy Statement, WLC Assessment and Low Carbon Heat Appraisal)	Ongoing monitoring of operational usage of building.	Minor adverse / Not significant – Permanent

Monitoring

6.38. No specific climate change monitoring is required beyond the standard commissioning and operation of the building services, the verification of the as-built fabric and services performance against the design intent, and the operation of the Building Management System (BMS) where provided.

Reference List

- British Standards Institution (2011) BS EN 15978 Sustainability of construction works – Assessment of environmental performance of buildings.
- CIBSE TM59 Design methodology for the assessment of overheating risk in homes; and CIBSE Guide A.
- HM Government (2008) Climate Change Act 2008; and The Climate Change Act 2008 (2050 Target Amendment) Order 2019.
- HM Government (2021) Net Zero Strategy: Build Back Greener.
- IEMA (2020) EIA Guide to Climate Change Resilience and Adaptation.
- IEMA (2022) EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition.
- Manchester City Council (2012, as amended 2024) Manchester Core Strategy.
- Manchester City Council (2020) Manchester Climate Change Framework 2020–2025; and Climate Change Action Plan 2020–2025.
- MHCLG (August 2026) National Planning Policy Framework (NPPF); and National Planning Practice Guidance (NPPG).

- RICS (2023) Whole Life Carbon Assessment for the Built Environment, 2nd Edition.
- The Building Regulations: Approved Document L (2021, as amended 2023) and Approved Document O (2021).
- UK Climate Projections 2018 (UKCP18), Met Office.
- United Nations Framework Convention on Climate Change (2015) The Paris Agreement.

7. Daylight, Sunlight and Overshadowing

Introduction

7.1. This chapter has been produced by Proximity, and assesses the impact of the Proposed Development on the daylight and sunlight amenity of the neighbouring residential buildings in the vicinity of the Site.

7.2. The assessment has been undertaken in accordance with the provisions of the Building Research Establishment ("BRE") Guidance Note 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice', and includes the undertaking of a technical analysis. The analysis measures the effects of the Proposed Development on the amount of daylight and sunlight received by the windows and rooms of the neighbouring buildings. The results of the technical analysis exercise, as well as additional detail regarding assessment methodology, are included in the appendices, listed as follows:

- Appendix 7.1 - Daylight, Sunlight & Overshadowing - Background and Methodology
- Appendix 7.2 - BL and Proposed Massing images
- Appendix 7.3 - BL vs PR - VSC Results
- Appendix 7.4 - BL vs PR - NSL Results and Contour Plots
- Appendix 7.5 - BL vs PR - APSH Results
- Appendix 7.6 - BL vs PR - Time in Sun Plots
- Appendix 7.7 - BL vs PR+CUMULATIVE Massing images
- Appendix 7.8 - BL vs PR+CUMULATIVE - VSC Results
- Appendix 7.9 - BL vs PR+CUMULATIVE - NSL Results and Contour Plots
- Appendix 7.10 - BL vs PR+CUMULATIVE - APSH Results
- Appendix 7.11 - EXTANT Massing images
- Appendix 7.12 - BL vs PR vs EXTANT - VSC Comparison

Table 7.1 – Chapter Authors

	Lead Author	Reviewer
Name	Jerome Muir	Tom Kibblewhite
Company	Proximity	Proximity
Qualifications/Accreditations relevant to technical area inlc. IEMA	MRICS	MRICS
Years technical experience (in technical area)	9	15+
Number of EIA's delivered to date	10	10+

Assumptions and Limitations

7.3. Proximity has inspected the Site and its surroundings to identify the window provision of the neighbouring buildings that overlook the Site (to the extent that such windows are capable of being observed from the adjacent public highways). This has been supplemented with Google Earth Imagery.

7.4. The interior of the neighbouring buildings considered as part of Chapter have not been inspected. It has, therefore, been necessary to make assumptions regarding the arrangement of the neighbouring rooms. These assumptions have, where possible, been informed by information available from Manchester Council's Public Access Planning Portal, as well as other online sources available in the public domain including Land Registry plans and sales particulars.

7.5. The height between the internal floor level and the window cill in each room of the neighbouring buildings will influence the position of the working plane, which is the level at which the internal distribution of skylight is measured. The position of the working plane has been assumed.

7.6. On the basis that the neighbouring buildings have not been inspected, assumptions have also been made to their use and function. Assumptions have been primarily influenced by observations made during the Site inspection and through research of Manchester City Council's planning portal. Neighbouring buildings of residential use have also been identified by reference to Valuation Office Agency records – neighbouring buildings with a Council Tax Band being of residential use.

7.7. Where neighbouring buildings are under construction it will, where relevant, be necessary to model their future, full massing and internal arrangement from plans and elevations available from Manchester City Council's ("MCC") planning portal. The relevant planning references are set out in the Committed Development List document prepared by Deloitte.

Relevant Legislation, Policy and Guidance

Legislation

7.8. Nonapplicable.

Policy

National

7.9. The following national planning policy are relevant to this assessment:

- The National Planning Policy Framework (2026), including the relevant national decision-making policies concerning well-designed places and living conditions, has been considered in this assessment. The Framework requires development to support well-designed places and avoid unacceptable adverse effects on living conditions, including where daylight and sunlight are relevant.

Regional

7.10. The following regional planning policies are relevant to this assessment:

- Places for Everyone Joint Development Plan (2024)

Local

7.11. The following local planning policies are relevant to this assessment:

- Manchester City Council Local Development Framework, Core Strategy, July 2012

7.12. The Site is within the bounds of the City Centre, as defined by the Core Strategy, and in this regard is of an elevated density of development.

Guidance

7.13. The following Guidance is relevant to this assessment:

- Building Research Establishment (BRE) Guidance Note Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice (2022) ("the BRE Guidance")

Assessment Methodology and Significance Criteria

Scenarios Tested

7.14. The following scenarios will be tested:

- Scenario 1 (baseline as per site May 2026)
- Scenario 2 (baseline plus proposed development)
- Scenario 3 (baseline plus proposed plus cumulative)

7.15. Of the Committed Developments, only number 20 – Waterways Avenue, Old Trafford, is close enough to be material to the daylight and sunlight amenity of the buildings that are being impact appraised. The remainder are too far from the Site given their massing to have any material effect on daylight and sunlight amenity.

The Study Area

7.16. In identifying the Study Area, the BRE Guidance has been used.

7.17. The Guidance emphasises the assessment of residential accommodation, specifically habitable rooms within residential buildings. A non-residential building may be assessed if there is a reasonable expectation of daylight and sunlight, such as hospitals or schools. Commercial office buildings are not typically considered to be daylight and sunlight receptors requiring impact assessment.

7.18. The appropriate study area has been defined following a Site inspection and research to identify neighbouring buildings of residential use, with the application of professional judgement to consider which neighbouring buildings within 200m of the Site rely on the Site for the receipt of daylight and sunlight, warranting further technical appraisal.

7.19. Based on their spatial relationship with the Site and outlook towards the Proposed Development, the habitable rooms of the following neighbouring buildings are identified as daylight and sunlight receptors that would justify technical appraisal:

- Castlefield Locks, Ellesmere Street
- The Trilogy Apartments, Ellesmere Street
- Vox, Trentham Street
- 33 Ellesmere Street
- Pomona Wharf, Waterways Avenue
- Excelsior Works, Hulme Hall Road
- No.1 Cornbrook (not yet constructed. We are briefed to include this building in the Baseline Condition)
- Nos. 303-309 Chester Road
- 5 Kelso Place

7.20. Rooms within the above buildings that are understood to be of non-habitable use (based on site inspection or room layout research) are excluded from the assessment.

7.21. The yards at ground level and roof terraces associated with Castlefield Locks building to the immediate east of the Site are identified as external amenity spaces worthy of time in sun impact assessment.

7.22. For the avoidance of doubt, based on professional experience, residential buildings outside of 200m from the Site, and those within 200m but scoped out of the assessment, will not experience a material impact on daylight or sunlight amenity, based on distance from the Site and / or orientation.

Surveys and Data Sources

7.23. To facilitate the running of the technical analysis, computerised 3D massing simulations of the Site and its immediate surroundings have been constructed, in its Baseline, Proposed and Cumulative massing configurations. In building the 3D massing models, the following information, provided to us by others, has been relied upon:

- Photogrammetric model to the Site and surrounding area provided by AccuCities
- 3D autocad model of the Proposed Development prepared by Denton Corker Marshall

Source of Effect

7.24. The massing of the Proposed Development will be the source of daylight and sunlight impacts / effects of the Proposed Development.

7.25. The Proposed Development massing may result in reduced sky visibility from within habitable rooms of neighbouring buildings, and the windows that serve them. This is turn will have an effect on the daylight and sunlight amenity enjoyed by the occupants of these buildings in the proposed condition.

7.26. Impacts of daylight and sunlight amenity, where present, will therefore be permanent.

Significance Criteria

7.27. The assessment has been undertaken in accordance with the provisions of the BRE Guidance document Site Layout Planning for Daylight and Sunlight – A Guide to Good Practise.

7.28. The assessment of daylight and sunlight amenity impacts is also made with reference to national and local planning policy.

7.29. The impacts of new development on the daylight and sunlight amenity of neighbouring receptors are assessed in accordance with the BRE Guidance.

7.30. Where appropriate, a technical analysis exercise has been undertaken, and the daylight and sunlight conditions, as existing and proposed, have been assessed with reference to the following tests:

- Vertical Sky Component (“VSC”)
- The No Sky Line (“NSL”)
- Annual Probable Sunlight Hours (“APSH”) and Winter Probable Sunlight Hours ("WPSH”)
- External Amenity Space Time in Sun

7.31. In summary, the unmodified daylight and sunlight targets set out in the BRE Guidance are as follows:

Table 7.2 – BRE Targets in Guidance

Unit measured	BRE Target
VSC	27%
NSL	At least 0.8x baseline NSL
APSH	25%
WPSH	5%

7.42. Further detail on how these metrics are measured can be found in Appendix 7.1.

7.43. The BRE Guidance notes that where a window's VSC value remains equal to or greater than 0.8x (i.e. at least 80%) of the Baseline VSC value, the reduction is unlikely to be noticeable to room occupants, and the impact would therefore be negligible. The same principle also applies to APSH and WPSH.

7.44. This principle of negligible reductions applies even where a window (or room) does not achieve the numerical BRE target set out in the table above. For example, impacts on a window would be negligible even if the VSC was 15% in the Proposed Condition, if that same window achieved a VSC of only 17% in the Baseline Condition (i.e. in the Proposed Condition, the residual VSC would remain more than 0.8x of the Baseline VSC).

7.45. The BRE Guidance acknowledges that the numerical values given as targets are 'advisory', and that in different environments, such as "a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable".

7.46. It notes that different target values may be used, as well as the need for the provisions of the Guidance to be applied and interpreted flexibly, including suitable adjustment.

7.47. Given this inherent flexibility, and acknowledging the relatively dense massing of the Site as part of Manchester city centre, it is appropriate to establish some alternative targets for daylight and sunlight that are considered to be within a perceived acceptable tolerance of the unmodified target values tabulated above.

Table 7.3 – Tolerance levels for alternative targets

Unit measured	Acceptable Tolerance Alternative Target
VSC	21.6%
NSL	n/a
APSH	20%
WPSH	4%

7.48. The Acceptable Tolerance Alternative Targets noted in the table below have been established using BRE principles.

7.49. In summary, the BRE Guidance notes that retained daylight and sunlight values that are of at least 0.8x baseline value are unlikely to be noticeably different to occupants

7.50. On that basis, generic Acceptable Tolerance Alternative Targets, appropriate to the elevated density of the City Centre, are established by applying 0.8x to the BRE's targets for VSC, APSH and WPSH and shown in the table above.

7.51. These perceived acceptable tolerance values would be applicable where a window or room experiences an impact that results in a VSC, APSH or WPSH of less than 0.8x Baseline value (i.e. the reduction in daylight or sunlight would potentially be noticeable to the room's occupant), however if it retains a VSC/APSH/WPSH of more than those figures in the table above, the residual daylight or sunlight would be within a perceived acceptable tolerance of the target.

7.52. It is important to note that regardless of the values for any of the metrics above, if it remains more than 0.8x the Baseline Value then this would be a Negligible magnitude of change and therefore not significant.

7.53. For clarity, this chapter identifies those windows and rooms which:

- achieve the unmodified BRE targets for VSC, APSH and WPSH, and
- separately identifies those which do not achieve those unmodified targets, but which do achieve values that are within the perceived acceptable tolerance of them (in addition to experiencing minor, moderate or major magnitudes of change).

7.54. The significance of an environmental impact is a factor of the receptor sensitivity and the magnitude of change.

7.55. It is therefore necessary to first establish the sensitivity of a receptor, and a methodology for determining the magnitude of change.

7.56. Having identified the relevant receptors, it is necessary to consider their sensitivity to reductions in daylight and sunlight. The general methodology that Proximity has adopted for determining sensitivity to a measured magnitude of change is tabulated below.

Table 7.4 – Sensitivity of Receptors

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

7.57. The BRE Guidance emphasises the availability of daylight and sunlight to living rooms and daylight to bedrooms and family kitchens.

7.58. The BRE does not impose a hierarchy of habitable rooms, i.e., confirm whether one habitable room should receive more light than another, but in real terms, such a hierarchy does exist, and that hierarchy should be borne in mind when considering and evaluating the impact that the Proposed Development might have on the availability of light in a City Centre environment.

7.59. The above general methodology has been developed further below to establish the following window sensitivity matrix, informed in part by the BRE Guidance, and, based on the function or use of the rooms behind each of the windows that have been assessed.

Table 7.5 – Room type sensitivity

Room Use	Daylight Sensitivity	Sunlight Sensitivity
Living Room / Combined Living, Kitchen & Dining ("LKD")	High	High

Kitchen / Dining	Medium	Low
Bedrooms	Medium / Low	Low
Student Accommodation	Low	Low
Communal Kitchens	Low	Low
Circulation Space	n/a	n/a
Toilets / Bathrooms	n/a	n/a
Commercial Uses	n/a	n/a
Living Room / Combined Living, Kitchen & Dining ("LKD")	High	High

7.60. It is possible to reduce the amount of daylight and / or sunlight that a window currently receives without that reduction amounting to a material / significant or adverse impact on the existing amenity enjoyed. The following has been used as a methodology for determining the magnitude of change in evaluating the results of the technical study. Magnitudes of change are defined below.

7.61. The significance of an impact can be assessed with reference to the table below and to the BRE Guidance. Significance of impact is defined in the table below.

Table 7.6 – Significance matrix

Magnitude	Sensitivity		
	High	Medium	Low
Major	**Major Adverse/Beneficial**	**Major - Moderate Adverse/Beneficial**	**Moderate** or Minor **Adverse/Beneficial**
Moderate	**Major - Moderate Adverse/Beneficial**	**Moderate Adverse/Beneficial**	Minor Adverse/Beneficial
Minor	**Moderate** or Minor **Adverse/Beneficial**	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

7.62. Those impacts identified as Moderate or Major Adverse, highlighted above, are considered to be Significant.

7.63. Impacts that are Minor Adverse or Negligible are Not Significant

Application of the BRE Guidance in Environmental Impact Assessment

7.64. Appendix H of the BRE Guidance outlines how the guidelines within can be applied in the context of Environmental Impact Assessment.

7.65. It notes a number of factors that tend towards a minor adverse impact, including only a small number of windows are affected; loss of light is marginally outside of the guidelines; a receptor has a low-level requirement for daylight or sunlight; other reasons, such as a window standing unusually close to a boundary.

7.66. The BRE Guidance also notes factors tending towards a major adverse impact. Such factors include a large number of windows being affected; loss of light is substantially outside of the guidelines; all the windows in a particular property are affected.

7.67. Notwithstanding the above generalisation of an impact, a reduction in daylight and sunlight amenity will at all times be subject to the BRE general compliance criteria, as follows

- If the BRE targets are met in the Proposed condition, then any reduction in daylight and sunlight will not be considered significant.
- Where the BRE targets are not achieved in the Baseline condition, a retention of 0.8x baseline values in the Proposed Condition will not be considered significant. In accordance with the BRE Guidance, such a reduction is unlikely to be noticed by the room occupants.
- A 20% reduction of the measured baseline NSL value (i.e., retention of 0.8x baseline value) will not have a material impact, on the grounds that such a reduction would not be noticed by the room occupants.
- As confirmed earlier in this Chapter, it is the professional opinion of Proximity that a VSC of 21.6% is within an acceptable tolerance of the BRE targets, given the City Centre / Corridor context of the Site.
- As confirmed earlier in this Chapter, it is the professional opinion of Proximity that a 4% winter and 20% annual APSH result is within an acceptable tolerance of the BRE targets, given the City Centre / Corridor context of the Site.

7.68. Where a window or room achieves the BRE target or the Acceptable Tolerance alternative target, the impact is considered to be Not Significant.

Baseline Conditions

7.69. The Site is currently an open parcel of land. Buildings in the immediate vicinity with windows that overlook the Site directly are Vox to the west, Castlefield Locks to the east, 252 Chester Road to the south and part of Pomona Wharf to the north.

7.70. These buildings receive elevated levels of daylight and, where south facing, sunlight amenity over the Site.

7.71. The other neighbouring buildings, including Excelsior Works, The Trilogy, No.1 Cornbrook and nos. 303-309 Chester Road receive daylight and (where orientation allows) sunlight over the Site, however their access to daylight and sunlight is more limited, due to the massing of other buildings in the vicinity.

7.72. The proportion of windows and rooms which achieve the respective daylight and sunlight targets is tabulated below within the Operational Phase section of this Chapter.

Identification and Evaluation of Likely Significant Effects

Construction Phase

7.73. Since the potential daylight and sunlight effects relating to construction works will gradually increase to the potential effects identified for the completed Proposed Development, the interim construction effects have not been assessed quantitatively as it is considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight and sunlight.

7.74. During the construction phase, the daylight and sunlight effects will gradually change from the baseline condition to those impacts (where present) with the Proposed Development in place, which is described below in the operational phase

Operational Phase – Daylight Amenity

7.75. Impacts on daylight amenity of the following neighbouring receptors are considered to be Not Significant:

- Pomona Wharf
- No.1 Cornbrook
- 5 Kelso Place.

7.76. These neighbouring buildings will not experience a significant impact on daylight amenity, for one or more of the following reasons:

- The Proposed Development will not extend beyond a line drawn at 25 degrees from the lowest window. Impacts are therefore Not Significant.
- Retained VSC and NSL daylight values measured as part of the technical analysis will achieve the BRE's daylight targets; or
- Receptors will retain VSC and NSL daylight values that are at least 0.8x baseline values. Reductions are therefore unlikely to be noticed by room occupants

7.77. In the case of Pomona Wharf, a single bedroom would achieve the VSC target and experience a low magnitude of change in NSL. The impact on this room, and therefore Pomona Wharf as a whole, is Not significant. All windows and all other rooms would either:

- continue to achieve the BRE's VSC target; or
- experience negligible reductions unlikely to be noticeable to the occupants (i.e. negligible mags of change / negligible impacts on VSC and NSL)

7.78. The single bedroom noted above would experience a low (bordering on negligible) magnitude of change in NSL. The window serving this room would experience negligible reduction in VSC. On the basis that a bedroom is a low sensitivity daylight receptor, the impact on this room is minor-adverse to negligible adverse, and therefore not significant.

7.79. Overall the impact on Pomona Wharf is Not significant.

7.80. Impacts on daylight amenity that merit a more in-depth review and consideration have been identified to the following neighbouring buildings:

- Excelsior Works
- Castlefield Locks
- The Trilogy Apartments
- Vox Apartments
- 252 Chester Road / 33 Ellesmere Street
- Nos. 303-309 Chester Road

7.81. In the baseline condition, daylight amenity of these rooms is as follows:

Table 7.7 – Baseline conditions for receptors

Receptor	% windows achieves BRE VSC target (27%)	% windows below BRE VSC target (27%)
Excelsior Works	25 windows (40%)	37 windows (60%)
Castlefield Locks	108 windows (41%)	153 windows (59%)
The Trilogy (Blocks A, B & C)	342 windows (63%)	205 windows (37%)
252 Chester Road / 33 Ellesmere Street	7 windows (50%)	7 windows (50%)
Vox	271 windows (57%)	206 windows (43%)
Nos. 303-309 Chester Road	2 windows (8%)	24 windows (92%)

7.82. The impacts of the Proposed Development on the daylight amenity of these neighbouring buildings is examined in greater detail below.

Excelsior Works

7.83. 62 windows serving 52 habitable rooms have been daylight amenity impact appraised.

7.84. In the Proposed Condition, 55 windows of those appraised (89%) would either achieve the BRE target of 27%, or retain at least 0.8x the Baseline VSC value (equating to a negligible magnitude of change).

7.85. The remaining 7 windows (11%) – none of which achieve the BRE's VSC target in the Baseline Condition – would all experience low magnitudes of change in VSC.

7.86. 47 rooms of the 52 appraised (90%) would experience negligible reductions in NSL. The remaining 5 rooms comprise

- four bedrooms - which are a low sensitivity daylight receptor – which would experience low or moderate magnitudes of change.
- One LKD rooms, which experience a low magnitude of change in NSL.

7.87. Impacts on the significant majority of Excelsior Works are negligible and Not Significant.

7.88. For the remaining minority of Excelsior Works, on the basis that magnitudes of change in VSC (where present) are low, and that all rooms experiencing moderate magnitudes of change in NSL are Low sensitivity bedrooms, the impacts on these Site-facing rooms of Excelsior Works is Minor Adverse, and therefore Not Significant.

7.89. Overall, the impact of the Proposed Development on Excelsior Works is Negligible – Minor Adverse, and therefore Not Significant.

Castlefield Locks

7.90. 261 windows serving 182 habitable rooms have been daylight amenity impact appraised.

7.91. In the Proposed Condition, 81 windows of those appraised (31%) would either achieve the BRE target of 27%, or retain at least 0.8x the Baseline VSC value (equating to a negligible magnitude of change).

7.92. A further 28 windows (11%) would experience a reduction noticeable to the room occupants, but would retain VSCs of at least 21.6%, a figure that is within a perceived Acceptable Tolerance of the BRE target, given the elevated density of the City Centre environment.

7.93. 152 windows (58%) would achieve VSC values of less than 21.6%, these reductions in VSC being noticeable to the room occupants. The majority of these 159 windows (94 of 159 windows) would experience Major Magnitudes of change, to rooms of both LKD use (high sensitivity) and bedrooms use (low sensitivity). 136 rooms of the 182 appraised (75%) would experience negligible reductions in NSL. 22 rooms (12%) would experience minor magnitudes of change; 12 rooms (6%) would experience moderate magnitudes of change; and 12 rooms (6%) would experience a major magnitude of change. Of those 24 rooms experiencing major and moderate magnitudes of change, eleven are high sensitivity LKD rooms.

7.94. Overall, the impact on Castlefield Locks is considered to be Moderate to Major Adverse, and therefore Significant. Whilst the greater impacts are generally localised to a minority of rooms, these account for more than a small number of windows and rooms. In accordance with the BRE Guidance Appendix H, this means that the impact tends towards Significant rather than Not Significant.

7.95. Notwithstanding the above, there are factors outside of the Proposed Development massing which contribute to the significance of impact on this neighbouring building:

- Despite overlooking an entirely open parcel of land, meaning potentially a greater access to daylight, less than half of the windows appraised achieve the BRE target in the Baseline Condition.

- This is principally due to the design of Castlefield Locks' own flank wall neighbouring the Site, which features elevational recesses which in turn reduces sky visibility and therefore daylight amenity. The significant height of Vox (on the other side of the Site to these windows) is also a limiting factor on daylight amenity in the Baseline Condition.

7.96. The combination of no massing on the Site and the effect of the elevational recesses means that magnitudes of change are inflated, and moderate and major magnitudes of change are broadly unavoidable in redevelopment of the Site. This in turn means that Moderate and Major Adverse impacts are both more likely to occur, and are reasonably anticipated as a result of the redevelopment of the Site.

7.97. It is important to contextualise the impacts of the Proposed Development on Castlefield Locks with reference to the BRE Guidance. As noted earlier in this chapter, the numerical values given in the BRE Guidance are advisory and flexibility is permitted is assessing impacts on neighbouring buildings where the local environment merits this approach, as is the case here in the elevated density of the City Centre.

7.98. The BRE Guidance notes that an extant planning approval may be considered a suitable basis for establishing alternative daylight and sunlight benchmarks, against which the impacts of a development can be assessed.

7.99. The impacts resulting from the Extant scheme have previously been approved (notwithstanding changes to the massing and character of the wider area since the Extant scheme planning approval was granted). On this basis the effects of the Extant scheme are a suitable benchmark against which the Proposed Development can be compared and considered.

7.100. A technical analysis has therefore been undertaken to measure the impacts of the Extant Massing on daylight amenity of Castlefield Locks.

7.101. Of the 267 windows appraised, 190 windows (71%) would retain better VSCs in the Proposed Condition than they would as a result of the Extant massing.

7.102. 77 windows (29%) would retain a lower VSC than they would as a result of the Extant Permission.

7.103. In terms of Extant impacts daylight distribution, only 53 rooms (29%) of Castlefield Locks would pass the NSL test if the Extant scheme was constructed on the Site. 129 rooms (71%) would not pass the NSL test if the Extant scheme was constructed, and the majority of these (96 rooms; 53%) would experience major magnitudes of change in daylight distribution.

7.104. Overall, these results show generally the Extant Massing reduces daylight to the windows of Castlefield Locks, and results in adverse impacts on daylight amenity to a greater degree than the Proposed Development does.

The Trilogy (Blocks A, B and C)

7.105. 547 windows serving 335 habitable rooms across all three blocks of the Trilogy have been daylight amenity impact appraised.

7.106. In the Proposed Condition, 490 windows of those appraised (90%) would either achieve the BRE target of 27%, or retain at least 0.8x the Baseline VSC value (equating to a negligible magnitude of change).

7.107. A further 19 windows (3%) would experience a reduction noticeable to the room occupants, but would retain VSCs of at least 21.6%, a figure that is within a perceived Acceptable Tolerance of the BRE target, given the elevated density of the City Centre environment.

7.108. 38 windows (7%) – principally within Block A, closest the Site – would experience reductions in VSC noticeable to the room occupants, whilst achieving VSCs of less than 21.6%. Of these 38 windows:

- 22 serve bedrooms. On the basis that bedrooms are a low sensitivity receptor, the significance of impact on these rooms based on Minor and Moderate magnitudes of change – ranges from Minor Adverse to Negligible, and therefore Not Significant.

- The remaining 16 window serve LKD rooms, which are a high sensitivity daylight receptor. Magnitudes of change for these windows include minor (7 windows), Moderate (7 windows) and Major (2 windows). The majority of these widows do however retain VSC values of at least 15% in the Proposed Condition.

7.109. 316 habitable rooms (94%) would experience negligible reductions in the NSL. Of the remaining 19 rooms (6 bedrooms; 13 LKDs):

- 10 (3%) would experience a low magnitude of change

- 6 (2%) would experience a moderate magnitude of change

- 3 rooms (1%), each an LKD, would experience a major magnitude of change in the NSL.

7.110. The minority of windows and rooms of the Trilogy that would experience significant impacts typically found at lower floor levels, where they are inherently limited in their access to daylight by the adjacent mass of another block of The Trilogy, or the massing of Castlefield Locks apartments (separated from these windows by Ellesmere Street, which is the proportionally narrow relative to building heights).

7.111. Overall, the impact of the Proposed Development on The Trilogy is localised. On the basis that these account for no more than a small number of windows and rooms in the Trilogy, in accordance with the BRE Guidance this tends towards a Minor Adverse Impact, which is therefore Not Significant.

252 Chester Road / 33 Ellesmere Street

7.112. 252 Chester Road / 33 Ellesmere Street (reflecting its front and rear addresses) is occupied by the architectural salvage store at ground and first floor levels. In accordance with the BRE Guidance, these rooms of commercial use are not receptors requirement impact assessment.

7.113. The second floor is understood to be occupied by rooms of residential.

7.114. 14 windows serving 4 habitable assumed rooms have been daylight amenity impact appraised.

7.115. In the Proposed Condition, 5 windows of those appraised (36%) – which all serve the same room - would either achieve the BRE target of 27%, or retain at least 0.8x the Baseline VSC value (equating to a negligible magnitude of change). Whist this rooms is also served by two of the windows that do not achieve the VSC target, it would

experience a negligible magnitude of change in the NSL, and the impact on daylight amenity of this room is Negligible and Not Significant.

7.116. The other 7 windows would not achieve the VSC target, nor the 21.6% perceived acceptable tolerance value, and each would experience a high magnitude of change. Two of these rooms would also experience a major magnitude of change in the NSL, with one experiencing a minor magnitude of change.

7.117. Overall, the impact of the Proposed Development on 252 Chester Road / 33 Ellesmere Street is likely to be Moderate – Major Adverse (on the basis that the room uses and therefore sensitivity is unknown), and therefore Significant.

Vox, Trentham Street

7.118. 477 windows serving 390 habitable rooms have been daylight amenity impact appraised.

7.119. Vox comprises two blocks, a 'front' block (Block 1) which is on Trentham Street and overlooks the open Site directly, and a 'rear' (Block 2) placed close behind the front block. This means that in the Baseline condition approximately half of the windows and rooms are generally well daylit due to an absence of massing on the Site, and the other half are not well daylit due to a significantly restricted outlook. In the Baseline Condition, very low VSCs of 5% and under are present.

7.120. In the Proposed Condition, 344 windows of those appraised (72%) would either achieve the BRE target of 27%, or retain at least 0.8x the Baseline VSC value (equating to a negligible magnitude of change).

7.121. A further 33 windows (7%) would experience a reduction noticeable to the room occupants, but would retain VSCs of at least 21.6%, a figure that is within a perceived Acceptable Tolerance of the BRE target, given the elevated density of the City Centre environment. 13 of these would experience a moderate magnitude of change; the remainder (of these windows achieving >21.6% VSC) would experience a low magnitude of change.

7.122. 100 windows (serving 42 LKD rooms and 58 bedrooms) would achieve a VSC of less than 21.6%, and experience noticeable magnitudes of change. Of these, 77 would experience a high magnitude of change.

7.123. Considering Block 1 and Block 2 separately, there are no significant impacts to Block 2 (rear block) of Vox:

- All but five of the rooms pass the NSL test (with negligible reductions). The remaining 5 are low magnitude of change to bedrooms NSL values (therefore no more than minor adverse
- Non-negligible impacts on VSC (low or moderate magnitudes of change) are to rooms which pass the NSL test and which also have a second window which does achieve the target.

7.124. Overall, the significant impacts on Vox are concentrated on the windows and rooms of Block 1, from first floor to sixth floors. 84 of the 100 windows which experience significant impacts are located in this part of Vox. From first to fourth floor, windows which do not achieve the target predominantly experience major magnitudes of change; on fifth and sixth floors reductions in VSC (where they are left with less than 21.6%) are predominantly moderate magnitudes of change.

7.125. Overall, the majority (324 rooms; 83%) would experience negligible impacts on the NSL. Of the remaining 66 rooms:

- 13 rooms (3%) would experience low magnitudes of change.
- 6 rooms (2%) would experience low magnitudes of change.
- 47 rooms (12%) would experience low magnitudes of change (comprising 16 LKDs and 31 bedrooms)

7.126. Overall, the impact of the Proposed Development on Vox is Moderate Adverse, and therefore Significant.

7.127. Whilst the impact of the Proposed Development on daylight amenity of the majority of Vox is Negligible or Minor adverse (and therefore Not Significant), the minority of rooms experiencing significant impacts on daylight amenity are both

- More than a small number of rooms; and
- reductions in light are substantially outside of the guidelines.

7.128. As noted above, these rooms do however currently enjoy a generally unobstructed outlook and relatively high levels of daylight amenity in the Baseline condition due to the absence of massing on the Site. This does in turn inflate magnitudes of change and therefore impact significance.

7.129. It is also appropriate to contextualise the impacts of the Proposed Development on Vox with reference to the BRE Guidance. As noted earlier in this chapter, the numerical values given in the BRE Guidance are advisory and flexibility is permitted is assessing impacts on neighbouring buildings where the local environment merits this approach, as is the case here in the elevated density of the City Centre.

7.130. On the basis that Vox did not exist when the Extant scheme was approved, the assessment of Extant scheme impacts on daylight and sunlight amenity of Vox could not have been undertaken and has not previously been assessed or considered by the Council.

7.131. There is therefore no planning approved impact on Vox that is established as a benchmark for comparison.

7.132. An alternative approach set out in the BRE Guidance for setting alternative targets is with reference to a 'mirror image' assessment. This 'mirror image' approach is both a valid and common means of assessing and contextualising impacts of a development on daylight and sunlight amenity of a neighbouring building(s).

7.133. The basis of this approach is to place a 'mirror image' of the Vox massing onto the Site, to establish what the impacts of this would be on the existing Vox building,

7.134. On the basis that Vox is of significantly greater height than all of the surrounding buildings, it arguably both enjoys more than its 'fair share' of light, whilst also being a significant obstruction to the daylight and sunlight of other neighbouring buildings. The mirror image approach to assessment is then to establish what the impacts on Vox would be if the applicant opted to match the design and mass of Vox on the application Site, and what an equal, 'reciprocal' impact would look like. The impacts of the Proposed Development can then be compared, in order to understand if they are greater or lesser than the impacts that would arise from matching Vox.

7.135. The existing Vox building is 17 storeys tall, therefore the mirror image is also 17 storeys tall.

7.136. On the basis that Vox overlooks that part of the Proposed Development which is 9 storeys tall and is also longer (from north to south than this part of the Proposed Development), it is clear (without the need to undertake a technical analysis) that:

- a 17 storey 'Vox mirror image' massing on the Site would have a substantially greater impact on daylight amenity of the existing Vox rooms than the Proposed Development, due to a greater height and width.
- The impacts of the Proposed Development on Vox are therefore lesser than the mirror image impacts.
- The impacts of the Proposed Development on Vox, if considered in this context, are appropriate and balanced.

Nos. 303-309 Chester Road

7.137. These buildings are located on the south side of Chester Road, and overlook the Site via the airspace of 252 Chester Road / 33 Ellesmere Street, and Block A of the Trilogy. They are limited in daylight amenity in the Baseline Condition due to the massing of the Trilogy, as evidence by few of their windows achieving the VSC target in the Baseline condition.

7.138. 26 windows serving 8 habitable rooms (at first and second floor levels) have been daylight amenity impact appraised.

7.139. In the Proposed Condition, 14 windows of those appraised (54%) – serving four rooms – would either achieve the BRE target of 27%, or retain at least 0.8x their Baseline VSC value (equating to a negligible magnitude of change). These rooms would each pass the NSL test, experiencing negligible magnitudes of change in daylight distribution. The impact on daylight amenity of these rooms is Negligible and Not Significant.

7.140. The remaining windows serve rooms understood to be bedrooms. On the basis that

- these rooms are low sensitivity receptors;
- magnitudes of change to the VSC of these windows AND the NSL of the rooms that they serve is low
- the impacts on these rooms is minor adverse and not significant.

7.141. Overall, the impact on nos. 303-309 Chester Road is Negligible to Minor Adverse, and therefore Not Significant.

Contextualisation of impacts on daylight amenity

7.142. As set out above, the Proposed Development will result in impacts on daylight amenity of certain neighbouring receptors. Adverse impacts on daylight amenity should, however, be reasonably contemplated in the redevelopment of this Site, for the reasons outlined below.

7.143. The Site is currently free of any massing, meaning that the neighbouring buildings currently enjoy elevated daylight amenity over the Site. The effect of this is that any redevelopment of the Site to an elevated density appropriate to the wider city centre density will result in reductions in neighbouring VSC and NSL values likely to be noticeable to occupants.

7.144. Further to this, the absence of any existing massing on the Site (and elevated daylight amenity associated with this) means that magnitudes of change in VSC and NSL are inflated (compared to sites where a large, existing city centre building is part of the Baseline Condition and demolished).

7.145. The two buildings closest to the Site and with the most windows overlooking it directly are Castlefield Locks and Vox. Castlefield Locks experiences a lesser impact on daylight amenity as a result of the Proposed Development, when compared the impacts that would result from construction of the Extant scheme.

7.146. Vox would also experience a lesser impact on daylight amenity as a result of the Proposed Development than it would if its own massing was matched on the Site. In this context and with regarding to daylight amenity impacts, the Proposed Development sits more comfortably in wider area than Vox does i.e. Vox places a greater limitation on daylight amenity of the Proposed Development than the other way around.

Operational Phase – Sunlight Amenity

7.147. In accordance with the BRE Guidance, windows serving habitable rooms have only been appraised if they face within 90 degrees of due south.

7.148. Windows that are more than 90 degrees from due south (i.e., northwest, north and northeast facing) have a limited expectation of direct sunlight due to their orientation, and do therefore not merit sunlight amenity impact appraisal.

7.149. The following neighbouring buildings will experience impacts on sunlight amenity that are Not Significant:

- 252 Chester Road / 33 Ellesmere Street
- No.1 Cornbrook
- Vox Apartments

- Pomona Wharf
- 5 Kelso Place

7.150. Assessed impacts on these neighbouring buildings are Not Significant for the following reasons:

- Where buildings are located to the south of the Site, the Proposed Development will have no impact on sunlight amenity. In the UK / northern hemisphere generally, sunlight is received from the east, passing through south and setting in the west. Direct sunlight is not received from the north.
- Supplementary to the above, where site facing windows are more than 90 degrees from due south (i.e. they are north, northwest or northeast facing), the BRE Guidance notes that rooms served by such windows have limited capacity to receive direct sunlight and therefore need not been impact appraised.
- Windows that are oriented within 90 degrees of due south (i.e. south, south west or south east facing) serving habitable rooms achieve the BRE Targets for Winter and Annual Sunlight (5% and 25% respectively)
- Retained sunlight values in the Proposed Condition will be of at least 0.8x Baseline values. On that basis reductions are unlikely to be noticeable to room occupants and are therefore negligible and not significant.
- Impacts on sunlight amenity that merit a more in-depth review and consideration have been identified to the following neighbouring buildings:
    - Excelsior Works
    - Castlefield Locks

7.151. Impacts on the sunlight amenity of these neighbouring buildings is examined in greater detail below.

Excelsior Works

7.152. 52 rooms have been sunlight amenity impact appraised.

7.153. In the Proposed Condition, 42 rooms of those appraised (81%) would either:

- achieve the BRE's respective annual and winter sunlight targets of 25% and 5%; or
- retain at least 0.8x the Baseline sunlight values (equating to a negligible magnitude of change).

7.154. Impacts in the sunlight amenity of this majority of rooms is negligible and Not Significant.

7.155. Of the remaining 10 rooms, four (8%) are bedrooms which would experience impacts on annual sunlight values, but not winter sunlight values. One further bedroom experiences no impact on annual sunlight, but would experience minor magnitude of change to the winter sunlight value. These rooms are low sensitivity sunlight receptors, and therefore reductions on these rooms amount to minor adverse impacts.

7.156. The remaining 5 rooms are LKDs, which are high sensitivity sunlight receptors:

- 3 of these experience major impacts on annual sunlight but no reduction in winter sunlight. Impacts on these rooms are, overall major adverse. These three rooms do not, however, achieve the target in the Baseline Condition, and are therefore inherently limited in sunlight amenity.
- One experiences a moderate magnitude of change in annual sunlight and a major magnitude of change in winter sunlight (albeit this reduction is small in real terms – 2% reduced to 1%). As above, this room achieves neither of the sunlight targets in the Baseline condition.
- The remaining LKD room achieves the annual target, and experiencing a low magnitude of change in winter sunlight. The impact on this room is minor adverse and Not significant.

7.157. Notwithstanding localised major and moderate adverse impact, these effects are minority of the rooms appraised and this building as a whole. Overall, the impact of the Proposed Development on sunlight amenity of Excelsior Works is Minor Adverse, and therefore Not Significant.

Castlefield Locks – Sunlight to buildings

7.158. 154 rooms, served by 230 windows, have been sunlight amenity impact appraised.

7.159. In the Proposed Condition, 69 rooms of those appraised (45%) would either:

- achieve the BRE's respective annual and winter sunlight targets of 25% and 5%; or
- retain at least 0.8x the Baseline sunlight values (equating to a negligible magnitude of change).

7.160. Impacts in the sunlight amenity of these rooms is negligible and Not Significant.

7.161. The remaining 83 rooms comprise 50 bedrooms and 33 LKD rooms.

7.162. The bedrooms experience magnitudes of change ranging from minor to major, to annual sunlight, winter sunlight, or both. On the basis that these rooms are however low sensitivity sunlight receptors, the impacts on these are minor - moderate adverse, and Not significant.

7.163. Regarding the 33 LKD rooms, the majority of these experience major or moderate magnitudes of change in annual sunlight values. Impacts on these 33 rooms are moderate to major adverse, and therefore significant.

7.164. Given these significant impacts are to a minority of Castlefield Locks rooms, the impact on sunlight amenity of Castlefield Locks is Moderate adverse, and therefore Significant.

Castlefield Locks – Sunlight to external amenity areas

7.165. A total of seven external amenity spaces, comprising two ground floor level yards associated with ground floor flats, and five roof terrace areas associated with upper floor apartments are identified as external amenity spaces worthy of impact appraisal.

7.166. In the Proposed Condition, two areas (one ground floor yard and one roof terrace area) would experience major magnitudes of change and therefore major adverse impacts which are Significant. This is because the external amenity areas are small in size, and therefore they are more sensitive to any changes in loss of sunlight, with the requirement of 2 Hour of Time in Sun in 50% of the area test to be met. As one space is located on the ground floor, it would also be sensitive to any development proposal located on this Site.

7.167. In the Proposed Condition, the remaining five areas (one ground floor yard and four upper floor terraces) would experience either negligible measured reductions or no reduction with reference to the 2 Hour Time in Sun test. Notwithstanding the presence of measured reductions to some of these areas, the impacts on these spaces would be negligible, and therefore Not Significant.

Cumulative Effects

7.168. In the Cumulative Condition, the massing of the Waterways Avenue development, Old Trafford has been included (Trafford Council planning reference: 112131/FUL/23).

7.169. All other planning approved developments in the vicinity are either too far away from the identified receptors, or will not be seen due to other massing, meaning that they have no material influence on the Cumulative Assessment.

Construction

7.170. As stated above for the Proposed Condition above, since the potential daylight and sunlight effects relating to construction works will gradually increase to the potential effects identified for the completed Proposed Development, the interim construction effects in the Cumulative Condition have not been assessed quantitatively

as it is considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight and sunlight.

7.171. During the construction phase in the Cumulative Condition, the daylight and sunlight effects will gradually change from the baseline condition to those impacts (where present) with the Proposed Development in place, which is described below in the operational phase

Operation

7.172. There is no change in impact significance in the Cumulative Condition. The majority of neighbouring receptors are either too far from the massing of this Waterways Avenue development or oriented such that its massing has no effect on daylight or sunlight amenity.

7.173. There are small changes in retained VSC and APSH values in the Cumulative Condition for Castlefield Locks. These changes in technical analysis results are not significant, and do not warrant a change in the overall impacts significance.

7.174. Pomona Wharf has the potential to experience a localised impact in the cumulative condition. This impact is however considered a separate impact, resulting from the massing of the Waterways Avenue development that these windows and rooms directly overlook.

7.175. On the basis that these bedroom windows are 'side on' to the Site, the Proposed Development does not affect daylight and sunlight amenity of this room, and the impact is therefore not cumulative but rather an isolated impact resulting from Waterways Avenue development.

Mitigation Measures

7.176. No additional mitigation measures are proposed during construction or operation of the Proposed Development.

Residual Effects

Construction Phase

7.177. No additional mitigation measures are proposed during operation of the Proposed Development

7.178. During the construction phase, the daylight and sunlight effects will gradually change from the baseline condition to those impacts (where present) with the Proposed Development in place, which is described below in the operational phase.

Operational Phase

7.179. On the basis that no mitigation measures are proposed, the Residual Effects of the Proposed Development on the Daylight and Sunlight amenity of the neighbouring sensitive receptors remain as per the Operational Phase effects identified earlier in this chapter, and summarised in the table below.

Table 7.8 – Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
N/A				
Operational Phase - Daylight Amenity				
Moderate - Major Adverse Impact on Daylight Amenity	Castlefield Locks	None proposed	None proposed	Significant and Permanent

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Minor Adverse Impact on Daylight Amenity	The Trilogy Apartments	None proposed	None proposed	Not Significant and Permanent
Moderate Impact on Daylight Amenity	Vox	None proposed	None proposed	Significant and Permanent
Moderate – major Adverse Impact on Daylight Amenity	33 Ellesmere Street	None proposed	None proposed	Significant and Permanent
Negligible Impact on Daylight Amenity	Pomona Wharf	None proposed	None proposed	Not Significant and Permanent
Negligible - Minor Adverse Impact on Daylight Amenity	Excelsior Works	None proposed	None proposed	Not Significant and Permanent
Negligible Adverse Impact on Daylight Amenity	No.1 Cornbrook	None proposed	None proposed	Not Significant and Permanent
Minor Adverse Impact on Daylight Amenity	Nos. 303-309 Chester Road	None proposed	None proposed	Not Significant and Permanent
Negligible Adverse Impact on Daylight Amenity	5 Kelso Place	None proposed	None proposed	Not Significant and Permanent
Operational Phase - Sunlight Amenity				
Minor Adverse Impact on Sunlight Amenity	Castlefield Locks (rooms)	None proposed	None proposed	Not Significant and Permanent
Minor Adverse Impact on Sunlight Amenity	Castlefield Locks (5no external spaces)	None proposed	None proposed	Not Significant and Permanent
Major Adverse Impact on Sunlight Amenity	Castlefield Locks (2no. external spaces)	None proposed	None proposed	Significant and Permanent
Negligible Impact on Sunlight Amenity	The Trilogy Apartments	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	Vox	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	33 Ellesmere Street	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	Pomona Wharf	None proposed	None proposed	Not Significant and Permanent
Minor Adverse Impact on Sunlight Amenity	Excelsior Works	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	No.1 Cornbrook	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	Nos. 303-309 Chester Road	None proposed	None proposed	Not Significant and Permanent

Monitoring

7.180. None recommended / Not applicable

Reference List

7.181. This ES Chapter has been prepared in reference to the following:

- Building Research Establishment (BRE) Guidance Note Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice (2022)

8. Solar Glare

Introduction

8.1. This Chapter of the ES has been prepared by Proximity and assesses the potential for Solar Glare on the adjacent highway, railway infrastructure and Metro infrastructure from windows of the Proposed Development.

8.2. This Chapter is accompanied by the following appendices:

- Appendix 8.1 - Rail and Metro Infrastructure and Highways - Solar Glare Technical Analysis Results

Table 8.1. – Chapter Authors

	Lead Author	Reviewer
Name	Tom Kibblewhite	Mike Scanlan
Company	Proximity	Proximity
Qualifications/Accreditations relevant to technical area inc. IEMA	MRICS	MRICS
Years technical experience (in technical area)	15+	15+
Number of EIAs delivered to date	10+	10+

Assumptions and Limitations

8.3. To facilitate the running of the technical analysis, computerised 3D massing simulations of the Site and its immediate surroundings have been constructed, in its Baseline, Proposed and Cumulative massing configurations. In building the 3D massing models, the following information, provided to us by others, has been relied upon:

- 3D AutoCad model of the Proposed Development prepared by Denton Corker Marshall Architects
- Photogrammetric model to the Site and surrounding area provided by Accucities.

8.4. The results of the technical analysis for highway and railway infrastructure identify the potential for reflected sunlight to cause glare at given locations, and the times of day that glare is present. It does not measure the intensity of reflected sunlight. However, it should be assumed that where reflected sunlight is present there is potential for it to impair vision, cause disability glare, and have an impact of some significance.

8.5. The glare assessment will assume a cloudless sky and that the relevant surfaces of the Proposed Development operate as a mirror, which represent the worst-case glare scenario.

8.6. This Report and technical analysis measures glare from the Proposed Development only.

8.7. On the basis that there are an infinite number of viewpoints possible, and that is not feasible to appraise all viewpoints along a road or railway / Metro infrastructure. It will be necessary to identify (and agree through consultation) certain points at which to measure the potential for solar glare.

Relevant Legislation, Policy and Guidance

Legislation

8.8. Nonapplicable.

Policy

National Planning Policy Framework (NPPF)

8.9. The NPPF sets out the planning policies for England. A key theme of the NPPF is the promotion of sustainable development, though no specific references are made to glint or glare from photovoltaic arrays or buildings.

Guidance

8.10. The following Guidance is relevant to this assessment:

Highway and Rail Infrastructure

- Building Research Establishment (BRE) Guidance Note Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice (2022) ("the BRE Guidance")
- BRE IP3 / 87 - Solar Dazzle Reflected from Sloping Glazed Facades
- IE Report 146: 2002 – Equations for Disability Glare

8.11. Across the design guidance above, they confirm that that solar glare can occur when sunlight is reflected from a glazed façade or area of metal cladding. This can be extended to any reflective building material.

8.12. If it is considered likely that a building may cause solar glare the exact scale of the problem should be evaluated. This is done by identifying key locations such as road junctions and railway signals and working out the number of hours of the year that sunlight can be reflected to these points. BRE IP3/87 gives details.

8.13. Where solar glare would be created, the next step is to calculate the angle between the driver's line of view and the reflected sun. For building elements in a vertical plane, for a driver on a level road (or track), solar glare could be a significant issue if this angle is less than 10°. That would see glare experienced in the central vision.

8.14. If the solar glare would be experienced close to the driver's line of sight, i.e. central vision, then further assessments and/or mitigation would likely be required.

Assessment Methodology and Significance Criteria

Scenarios Tested

8.15. The following scenario has been tested:

- Scenario 2: Baseline + Proposed

8.16. Our potential for solar glare assessment of the Proposed Development assumes the following conditions.

- A cloudless sky for 365 days.
- Relevant surfaces of the Proposed Development operate as a mirror.

8.17. The above conditions represent the worst-case scenario within which the potential for solar glare is assessed.

The Study Area

Highway, Metro and Railway Infrastructure

8.18. We have reviewed Google Earth to identify likely Metro and Rail signal positions requiring assessment of glare.

8.19. Seven points for assessment have been identified along the metro, travelling from south to north towards the signals noted above.

8.20. These are identified as follows:

- Position 1: 2 meters from signals
- Position 2: 2 meters from signals
- Position 3: 2 meters from signals
- Position 4: 2 meters from signals
- Position 5: 2 meters from signals
- Position 8: 2 meters from signals
- Position 10: 2 meters from signals

8.21. Three points for assessment have been identified along the rail line, travelling from north to south towards the signals noted above.

8.22. These are identified as follows:

- Position 9: 2 meters from signals
- Position 11: 2 meters from signals
- Position 12: 2 meters from signals

8.23. Based on our previous experience solar glare has been assessed at a height of 2.75m above track bed level, equivalent to the eyeline of a tram / train driver.

8.24. Professional judgement has been used in identifying the locations that merit assessment of glare on highways, as follows:

- Position 6: 100 meters from traffic light signals
- Position 7: 20 meters from traffic light signals

8.25. Glare is measured at 1.5m from ground level, to correspond to typical height of a driver's eye level (notwithstanding the range due to car model and driver height).

8.26. The locations of these positions are illustrated on the plan included at Appendix 8.1.

Surveys and Data Sources

8.27. To facilitate the running of the technical analysis, computerised 3D massing simulations of the Site and its immediate surroundings have been constructed, in its Baseline, Proposed and Cumulative massing configurations. In building the 3D massing models, the following information, provided to us by others, has been relied upon:

- Photogrammetric model to the Site and surrounding area provided by AccuCities.
- 3D AutoCad model of the Proposed Development prepared by Denton Corker Marshall.

Source of Effect

8.28. In simple terms, solar glare (or dazzle) is reflected sunlight. There are several factors that influence whether glare will be experienced:

- The sun's position in the sky, which changes throughout both the course of the day and the seasons. For example, in the winter, sunlight hours are reduced, and the sun is lower in the sky. In the summer, sunlight hours are increased, and the sun is higher in the sky. Both will give rise to different solar glare patterns.

- The location and orientation of the Proposed Development.

- The reflective quality / characteristics of the Proposed Development. All building materials will reflect sunlight to some degree, however, a predominantly brick elevation / façade will reflect less sunlight than, say, a heavily glazed façade.

8.29. There are two types of glare problem that can occur. Discomfort glare causes visual discomfort without necessarily affecting the ability to see. Disability glare happens when a bright source of light (such as the reflected sun) impairs the vision of other objects.

8.30. The design guidance identifies that disability glare creates the more serious problem as it can affect motorists' ability to drive safely. It is especially important at locations where a driver has to make a key decision, for example approaching a road junction, traffic signal or pedestrian crossing. It can also affect train drivers, particularly if they are looking at illuminated signals.

8.31. The massing of the Proposed Development, its material and window positions have the potential to be the source of Solar Glare impacts.

Significance Criteria

Highway and Railway Infrastructure Impact Significance

8.32. Whether solar glare results in disability glare is based on where in the field of vision it is experienced.

8.33. In the absence of any targets or benchmarks that confirms what amounts to an acceptable or unacceptable level of glare, it is difficult to be fully objective on whether the Proposed Development will cause a level of glare that causes an impact of any material significance.

8.34. What can be done to evaluate the possibility of glare causing a impact of significance is to interrogate the periods of time that glare is likely to be experienced and where the glare is likely to be experienced in terms of line of sight and periphery of vision. CIE 146:2002 confirms that occurrences of solar glare at angles beyond 30° in the field of vision would be of little significance. To explain the approach:

- In theory, the more glare hours, then the increased chance that it creates a problem.

- BRE IP3/87 confirms that the worst solar dazzle problems occur when experienced in a direct line of sight – what are typically defined above as Central (<3°), and Paracentral (3° < 10°) areas of the field of vision. Such instances of glare may be considered Major Adverse.

- We would also suggest that glare experienced in the near peripheral vision (between 10° and 20°) has scope to cause a significant impact in certain contexts. Such instances of glare may be considered Moderate Adverse.

- Glare experienced in the peripheral vision (between 20° and 30°) has scope to cause minor significant impact in certain contexts. Such instances of glare may be considered Minor Adverse.

- Per the CIE Guidance, glare experienced in the mid peripheral vision and beyond (> 30° from the focal point) would be of little significance. Such instances of glare are considered Not Significant.

8.35. In summary, the significance of solar glare to Highway, Railway or Metro Infrastructure is to be assessed as follows:

Table 8.2. – Significance of Impact

Significance of Impact	Criteria for assessing impact
Major Adverse	Glare is experienced in Central (<3°), and Paracentral (3° < 10°) field of vision
Moderate Adverse	Glare is experienced in near peripheral vision (between 10° and 20°)
Minor Adverse	Glare is experienced in mid peripheral vision (between 20° and 30°)
Negligible	Either no glare experienced, or glare is present at > 30° from the focal point

Baseline Conditions

8.36. The Site is currently an open parcel of land. The Railway line and Metro lines are located directly to the west of the Site, elevated on a viaduct. There are highways and road junctions, with traffic lights, adjacent to the Site.

8.37. There are no instances of solar glare in the baseline condition.

Identification and Evaluation of Likely Significant Effects

Construction Phase

8.38. During the construction phase, the solar glare effects will gradually change from the baseline condition to those impacts (where present) with the Proposed Development in place. The potential solar glare effects are described below in the operational phase.

Operational Phase

Highway and Railway Infrastructure

8.39. Solar glare effects have been measured and are outlined below for each position.

Position 1 – Media City to Cornbrook Metro Line

8.40. Located to the south of the Proposed Development, and 2m from the Signal.

8.41. The Proposed Development will be visible to a tram driver at this point.

8.42. Glare could be experienced between 13:21hrs - 13:26hrs on 14-27 December. It would be experienced in the mid-periphery of the field of vision.

8.43. This is a fleeting incidence of glare of no more than between 1-4 minutes on any one occasion and will not be experienced in the central vision.

8.44. Accordingly, this glare should not cause any distraction to the tram driver.

8.45. Glare impacts at Position 1 are minor adverse.

Position 2 - Media City to Cornbrook Metro Line

8.46. Located to the south of the Proposed Development, and 2m from the Signals.

8.47. The Proposed Development will be visible to a tram driver at this point.

8.48. Glare could be experienced between 13:33hrs - 13:50hrs on 28 November – 12 January. It would be experienced in the near-periphery of the field of vision and sits within the 5o visor cut off zone that could be obscured by the visor.

8.49. This incidence of glare of no more than between 2-10 minutes on any one occasion and will not be experienced in the central vision.

8.50. Glare impacts at Position 2 are moderate adverse.

Position 3 - Media City to Cornbrook Metro Line

8.51. Located to the south of the Proposed Development, and 2m from the Signals.

8.52. The Proposed Development will be visible to a tram driver at this point.

8.53. Glare could be experienced between 13:32hrs - 13:52hrs on 18 November to 22 January. It would be experienced in the near-periphery of the field of vision and sits within the 5o visor cut off zone that could be obscured by the visor.

8.54. This incidence of glare of no more than between 2-13 minutes on any one occasion and will not be experienced in the central vision.

8.55. Glare impacts at Position 3 are moderate adverse.

Position 4 – Altrincham to Cornbrook Metro Line

8.56. Located to the south of the Proposed Development, and 2m from the Signals.

8.57. The Proposed Development will not be visible to a tram driver at this point.

8.58. No glare would be experienced at any point at this location.

8.59. Glare impacts at Position 4 experiences no glare and are therefore Not Significant.

Position 5 – Media City / Altrincham to Cornbrook Metro Line

8.60. Located to the immediate south of the Proposed Development.

8.61. The Proposed Development will be visible to a tram driver at this point.

8.62. Glare could be experienced between 13.26-13.48 on 09 November – 31 January. It would be experienced in the mid and outer periphery of the field of vision.

8.63. This is a fleeting incidence of glare of no more than between 1-14 minutes on any one occasion and will not be experienced in the central vision.

8.64. Glare impacts at Position 5 are minor adverse to negligible.

Position 6 – Bridgewater Way Highway

8.65. Located to the south west of the Proposed Development, facing north east.

8.66. The Proposed Development will be visible to a car driver at this point.

8.67. Glare could be experienced between 01 January – 11 March and 01 October – 31 December, between 13.50-14.30. This glare would be predominantly experienced in the outer periphery.

8.68. This is relatively brief instance of glare, of no more than 26 minutes (on the 24 - 25 January & 15 -16 November) on any one occasion and will not be experienced in the mid periphery.

8.69. Between 21 February and 20 March glare occurs at the edge of the mid periphery. As above, this is relatively brief and up to 23 minutes.

8.70. On the basis that this glare occurs in the mid and outer periphery, this glare should not cause distraction to drivers.

8.71. Glare impacts at Position 6 are minor adverse to negligible.

Position 7 – Chester Road Highway

8.72. Located to the south the Proposed Development, facing north.

8.73. The Proposed Development will be visible to a car driver at this point.

8.74. Glare could be experienced between 15.21-15.55 on 27 March - 16 April and 26 August - 15 September.

8.75. It would be experienced in the outer periphery of the field of vision.

8.76. This incidence of glare of no more than 30 minutes on any one occasion and will not be experienced in the central vision.

8.77. Accordingly, this glare should not cause any distraction to a car driver.

8.78. Glare impacts at Position 7 are negligible are therefore Not Significant.

Position 8 – Cornbrook Metro Line

8.79. Located to the west of the Proposed Development facing north, and 2m from the Signals.

8.80. The Proposed Development will not be visible to a tram driver at this point.

8.81. No glare would be experienced at any point at this location.

8.82. Glare impacts at Position 4 experiences no glare and are therefore Not Significant.

Position 9 – Rail Line South

8.83. Located to the immediate west of the Proposed Development, and facing south.

8.84. The Proposed Development will be visible to a train driver at this point.

8.85. Glare could be experienced between 15.22 and 15.48 on 20 November – 20 January. It would be experienced in the near periphery and paracentral field of vision.

8.86. The greatest duration of glare in this period would be present for 27 minutes. Between 20 November – 09 December and 01 January – 20 January glare could be experienced for a duration of 10-27 minutes, with an average of 22 minutes. Between 10 December – 31 December glare could be experienced for a duration of 3-17 minutes, with an average of 7 minutes.

8.87. Glare could also be experienced in the near and mid peripheral field of vision between 21 January – 20 February and 20 October – 19 November between 15.08 – 15.47.

8.88. The duration of glare in this period would be present for between 25 to 27 minutes.

8.89. Glare could also occur in the peripheral field of vision between 21 February – 20 March and 22 September – 19 October between 14.42 – 15.31.

8.90. On the basis that a portion of this glare will occur in the outer portion of the paracentral field of vision there is the potential that this glare could cause distraction to a train driver.

8.91. Glare impacts at Position 9 are Major adverse.

Position 10 – Rail Line South

8.92. Located to the immediate west of the Proposed Development, and facing south.

8.93. The Proposed Development will be visible to a train driver at this point.

8.94. Glare could be experienced between 15.08 and 15.47 on 21 January – 20 February. It would be experienced in the mid periphery field of vision.

8.95. The greatest duration of glare in this period would be present for 25 minutes.

8.96. Glare could also be experienced in the peripheral field of vision between 21 February – 20 March & 22 September – 19 October in the afternoon between 14.42 and 15.31. The maximum duration for glare on these dates and time is 25 minutes.

8.97. Peripheral glare could also be experienced between 21 March -27 March & 15 September – 21 September between 14.41 – 15.03 – 20 February and 20 October – 19 November between 15.08 – 15.47.

8.98. In the early morning of 25 May – 18 July peripheral glare could be experienced between 04.07-05.25 for a duration of 5-17 minutes.

8.99. On the basis that glare may occur in the mid peripheral field of the train driver's vision we do not consider that there is the potential that this glare could cause distraction to a train driver.

8.100. Glare impacts at Position 10 are minor adverse.

Position 11 – Rail Line South

8.101. Located to the north of the Proposed Development, and facing south.

8.102. The Proposed Development will be visible to a train driver at this point.

8.103. Glare could be experienced between 14.57 and 15.04 on 01 January – 20 January, 20 November – 17 December and 24-31 December. It would be experienced in the near periphery field of vision.

8.104. The greatest duration of glare in this period would be present for 2 minutes.

8.105. Glare could also be experienced in the mid peripheral field of vision between 21 January – 20 February 20 October – 19 November in the afternoon between 14.57 and 15.08. The duration for glare on these dates is between 2-7 minutes.

8.106. Peripheral glare could also be experienced between 21 February - 20 March & 22 September – 19 October between 14.27 – 14.56. The duration of glare in this period is 6-7 minutes.

8.107. On the basis that glare may occur in the near and mid peripheral field of the train driver's vision, we do not consider that there is the potential that this glare could cause distraction to a train driver.

8.108. Glare impacts at Position 11 are moderate adverse.

Position 12 – Deansgate to Cornbrook Metro Line

8.109. Located to the north of the Proposed Development, and facing south.

8.110. The Proposed Development will be visible to a tram driver at this point.

8.111. Glare could be experienced between 14.24 and 14.56 on 01 January – 05 March & 07 October – 18 December. It would be experienced in the peripheral field of vision.

8.112. The greatest duration of glare in this period would be present for 2 minutes.

8.113. On the basis that glare may occur in the peripheral field of the train driver's vision we do not consider that there is the potential that this glare could cause distraction to a tram driver.

8.114. Glare impacts at Position 12 are negligible.

Cumulative Effects

8.115. The only cumulative massing in the vicinity of the Site with the potential to cause glare is Vivere Residence and Apart Hotel, to the south of the Site.

8.116. Qualitatively, the presence of Vivere Residence and Apart Hotel is unlikely to present a cumulative glare impact. The orientation of this development is east to west with the front elevation facing south. It is unlikely that any potential glare will impact the receptors tested in this Chapter. There are west facing windows, though these appear to be recessed, limiting the potential for glare. The rear elevation windows face north and present a low risk of potential glare.

Mitigation Measures

8.117. A detailed glare assessment of the façade should be undertaken. The current assessment of the potential for glare assumes that the façade is a mirror; the assessment which forms the basis of this Chapter is a worst-case façade material. There is a need to assess the potential for solar glare resulting from the façade materials proposed in the application.

8.118. Potential glare impacts will be mitigated further during the detailed façade design stage through the assessment and selection of proposed façade materials and finishes, with the aim of reducing glare effects from Major to Moderate adverse impacts and Moderate to Minor adverse where necessary. This is made possible through the introduction and positioning of, for example, vent panels that reflect light differently than a glazed panel.

Construction Phase

8.119. No additional mitigation measures are proposed during construction of the Proposed Development.

Operational Phase

8.120. No additional mitigation measures are proposed during operation of the Proposed Development.

Residual Effects

Construction Phase

8.121. During the construction phase, the solar glare effects will gradually change from the baseline condition to those impacts (where present) with the Proposed Development in place. The potential residual solar glare effects are described below in the operational phase.

Operational Phase

8.122. On the basis that no mitigation measures are proposed, the Residual Effects of the Proposed Development on the glare receptors remain as per the Operational Phase effects identified earlier in this chapter, and summarised in the table below:

Table 8.3. – Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Operational Phase				
Minor Adverse	Position 1	None proposed	None proposed	Minor Adverse (Permanent)
Moderate Adverse	Position 2	Design	Detailed glare assessment of finishes to be used.	Minor Adverse (Permanent)
Moderate Adverse	Position 3	Design	Detailed glare assessment of finishes to be used.	Minor Adverse (Permanent)
None	Position 4	None proposed	None proposed	None (Permanent)

Moderate Adverse	Position 5	Design	Detailed glare assessment of finishes to be used.	Minor Adverse (Permanent)
Minor Adverse	Position 6	None proposed	None proposed	Minor Adverse (Permanent)
Negligible Adverse	Position 7	None proposed	None proposed	Negligible Adverse (Permanent)
None	Position 8	None proposed	None proposed	None (Permanent)
Major Adverse	Position 9	Design	Detailed glare assessment of finishes to be used.	Moderate Adverse (Permanent)
Minor Adverse	Position 10	None proposed	None proposed	Minor Adverse (Permanent)
Moderate Adverse	Position 11	Design	Detailed glare assessment of finishes to be used.	Minor Adverse (Permanent)
Negligible Adverse	Position 12	None proposed	None proposed	Negligible Adverse (Permanent)

9. Townscape and Visual Impact Assessment

Introduction

9.1. This Chapter of the Environmental Statement (ES) assesses the likely Townscape and Visual effects arising from the Proposed Development at 1 Castlefield, Ellesmere Street, Manchester. The assessment considers the likely effects upon the Site and surrounding townscape during both the construction and operational phases of development. It also identifies the embedded mitigation incorporated within the design, any additional mitigation measures where necessary, and the likely residual effects following implementation of mitigation.

9.2. The assessment has been undertaken in accordance with the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and IEMA, 2013) (GLVIA3), together with the Landscape Institute's Technical Information Note 05/17 – Townscape Character Assessment (Revised April 2018). The detailed assessment methodology, baseline analysis, viewpoint assessments and technical figures are contained within the standalone TVIA.

9.3. This chapter is supported by:

- Appendix 9.1 Townscape and Visual Impact Assessment
- Appendix 9.2 Figures
  - Figure 1 – Site Location
  - Figure 2 – Urban Grain
  - Figure 3 – Existing Building Heights
  - Figure 4 – Heritage Designations
  - Figure 5 – Planning Designations
  - Figure 6 – Transport Routes and Movement
  - Figure 7 – Topography
  - Figure 8 – Townscape Character Areas
  - Figure 9 – ZTV and Viewpoint Locations
- Appendix 9.3 – AVR Methodology
- Appendix 9.4 – AVR Document

9.4. The Townscape and Visual Impact Assessment has been prepared by re-form Landscape Architecture Limited, an independent landscape architecture practice with extensive experience in Environmental Impact Assessment, Landscape and Visual Impact Assessment, Townscape Assessment and the assessment of tall buildings throughout the United Kingdom.

Table 9.0 – Chapter Authors

	Lead Author	Reviewer
Name	Jonathan Miley	David Livesey
Company	re-form landscape	re-form landscape
Qualifications/Accreditations relevant to technical area inlc. IEMA	CMLI	CMLI
Years technical experience (in technical area)	15	15
Number of EIA's delivered to date	7	5

Assumptions and Limitations

9.5. The assessment has been prepared using the architectural, landscape and verified visual information available at the time of writing. The principal assumptions and limitations are as follows:

- The submitted architectural drawings, verified views and three-dimensional model accurately represent the Proposed Development for the purposes of assessment.
- Verified photomontages and wirelines have been prepared using recognised industry methodology and provide an accurate representation of the completed development from each assessment viewpoint.
- The Zone of Theoretical Visibility (ZTV) has been prepared using digital terrain modelling and does not account for all screening effects associated with buildings or vegetation. Site survey and professional judgement have therefore been used to confirm actual visibility.
- Site surveys were undertaken during suitable daylight conditions and good visibility. It is considered that seasonal variation would not materially alter the conclusions of the assessment.
- A study area extending approximately 750 metres from the Site has been adopted, reflecting the extent of potential townscape and visual influence associated with the Proposed Development.

9.6. It is considered that these assumptions do not materially affect the findings of the assessment and that sufficient information is available to identify and evaluate the likely significant environmental effects.

Relevant Legislation, Policy and Guidance

9.7. Full details of relevant legislation, planning policy and technical guidance are contained within the standalone TVIA. The following provides a summary of the principal documents relevant to this assessment.

National

9.8. The National Planning Policy Framework (NPPF) (August 2026) provides the principal national planning policy relevant to townscape and visual matters. The key chapters and policies include:

- Chapter 14 – Achieving well-designed places, including Policies DP1 to DP4, which promote high-quality, healthy, inclusive and sustainable places, informed by local character and context and supported by appropriate design processes.
- Chapter 19 – Conserving and enhancing the natural environment, including Policies N1 to N6, which seek to protect and enhance landscapes, biodiversity and green infrastructure and secure environmental improvements through development.

- Chapter 20 – Conserving and enhancing the historic environment, including Policies HE1 to HE10, which address the conservation of heritage assets and the assessment of development affecting their significance and settings.

Regional

9.9. The Places for Everyone Joint Development Plan (2024) establishes the strategic planning framework for Greater Manchester and supports sustainable city centre growth through high-density, well-designed development in accessible locations. Relevant policy includes:

- support for continued regeneration within Manchester City Centre;
- delivery of high-quality public realm and green infrastructure;
- promotion of sustainable movement and active travel; and
- appropriate tall buildings where they reinforce the evolving city skyline and local townscape character.

Local

9.10. Relevant local planning policy includes the Manchester Core Strategy (2012) together with saved Local Plan policies. Policies of particular relevance comprise:

- SP1 – Spatial Principles;
- EN1 – Design Principles and Strategic Character Areas;
- EN2 – Tall Buildings;
- EN3 – Heritage;
- EN9 – Green Infrastructure.

9.11. These policies seek to ensure new development responds positively to local context, contributes positively to Manchester's skyline and public realm, and safeguards the significance of heritage assets.

Local Guidance

9.12. The assessment has also had regard to relevant supplementary planning guidance and place-specific documents, including:

- Castlefield Conservation Area Appraisal and Management Plan;
- Manchester Residential Quality Guidance (2017);
- Manchester Tall Buildings SPD.

9.13. Together these documents seek to ensure new development responds positively to the distinctive industrial heritage of Castlefield whilst supporting high-quality contemporary architecture, improved connectivity and enhanced public realm.

Legislation

9.14. There is no legislation relating specifically to townscape assessment. However, the assessment has been undertaken within the context of the Town and Country Planning Act 1990 (as amended) and the Planning (Listed Buildings and Conservation Areas) Act 1990, both of which require decision makers to have regard to the preservation and enhancement of heritage assets and their settings where relevant.

Assessment Methodology and Significance Criteria

Scenarios Tested

9.15. The assessment considers the following scenarios:

- Baseline (Existing Situation);
- Construction Phase;
- Operational Phase (Completed Development);
- Cumulative Operational Scenario.

Study Area

9.16. The assessment considers the Site together with the surrounding townscape extending approximately 750 metres from the Site boundary. The study area has been informed by the Zone of Theoretical Visibility and reflects the extent of potential townscape and visual influence arising from the Proposed Development.

9.17. The study area encompasses Castlefield together with adjoining parts of Manchester City Centre and Salford, including:

- Castlefield Conservation Area;
- St John's;
- Water Street;
- Great Jackson Street;
- First Street;
- Petersfield;
- Spinningfields;
- Ordsall Riverside;
- Hulme;
- Trafford Park;
- Salford Central and Greengate.

Surveys and Data Sources

9.18. The assessment has been informed by:

- Site inspections undertaken during Spring 2026;
- Detailed photographic survey;
- Verified visualisations and photomontages prepared for fourteen representative viewpoints;
- Zone of Theoretical Visibility mapping;
- Architectural drawings and three-dimensional digital models;

- Planning policy and guidance documents;
- Historic mapping and published townscape studies.

Source of Effect

9.19. Townscape effects arise through changes to the physical characteristics of the urban environment including:

- building height and massing;
- skyline composition;
- urban grain;
- enclosure;
- public realm;
- landscape structure;
- green infrastructure.

9.20. Visual effects arise through changes experienced by people occupying publicly accessible locations or private property, including:

- alteration of existing views;
- introduction of new built form;
- changes to skyline composition;
- changes to visual focus and prominence;
- changes to the appearance of the public realm.

9.21. The assessment has been undertaken using professional judgement informed by GLVIA3, recognised best practice and the methodology set out within the standalone TVIA.

Significance Criteria

9.22. The significance of townscape and visual effects has been determined through consideration of the sensitivity of the receptor and the magnitude of change resulting from the Proposed Development.

9.23. Receptor sensitivity reflects a combination of:

- susceptibility to the type of development proposed; and
- value attached to the receptor.

9.24. Magnitude of change reflects:

- scale of change;
- geographical extent;
- duration;
- reversibility.

9.25. The significance of effects has been determined using the assessment matrix contained within the standalone TVIA and follows the methodology established by GLVIA3. Effects are identified as Major, Moderate, Minor or Negligible and classified as Beneficial, Neutral or Adverse where appropriate.

Table 9.1 Assessment of Townscape Sensitivity

		Townscape Susceptibility		
		Low	Medium	High
Landscape Value	Exceptional	High Medium	High	High
	High	Medium	High Medium	High
	Moderate	Medium Low	Medium	High Medium
	Low	Low	Medium Low	Medium
	Very Low	Low	Low	Medium Low

Table 9.2 Assessment of Visual Sensitivity

		Visual Susceptibility		
		Low	Medium	High
Value attached to view	High	Medium	High Medium	High
	Moderate	Medium Low	Medium	High Medium
	Low	Low	Medium Low	Medium

Table 9.3 Magnitude of change (Townscape) defined as.

Level	Description
High	***Total loss or substantial alteration*** *to key elements / features / characteristics of the baseline or introduction of elements considered to be* ***totally uncharacteristic*** *when set within the attributes of the receiving townscape.* The intervention is of **large physical scale that is uncharacteristic of the receiving townscape** and would impose a **totally different aesthetic and perceptual quality** to the site in comparison to the baseline conditions. The change brought about by the proposed intervention **would influence several townscape character types / areas**
Medium	***Partial loss or alteration*** *to one or more key elements/ features/ characteristics of the baseline or introduction of elements that* ***may be prominent*** *but may* ***not necessarily be considered to be substantially uncharacteristic*** *when set within the attributes of the receiving townscape.* The intervention is of a **moderate to large physical scale** and would introduce **a number of different aesthetic and perceptual qualities** to the site in comparison to the baseline conditions. The change brought about by the proposed intervention **would only influence the townscape character type/area within which the proposal lies**.
Low	***Minor loss or alteration*** *to one or more key elements/ features/ characteristics of the baseline or introduction of elements that* ***may not be uncharacteristic*** *when set within the attributes of the receiving townscape.* The intervention is of a **small or moderate scale** and would **only introduce a minor difference in aesthetic and perceptual quality** to the site in comparison to the baseline conditions. The change brought about by the proposed intervention **would be localised and at the level of the immediate townscape** setting of the site.
Negligible	***Very minor loss or alteration*** *to one or more to key elements/ features/ characteristics of the baseline or introduction of elements that are* ***not uncharacteristic*** *when set within the attributes of the receiving townscape.* The intervention is of a **small scale** and would **not introduce any discernible difference in aesthetic and perceptual quality** to the site in comparison to the baseline conditions The change brought about by the proposed intervention **would be at site level and within the intervention site itself.**

Table 9.4 Magnitude of change (Visual) defined as.

Level	Description
High	*Total loss or substantial alteration* to the baseline view or introduction of **elements considered to be totally uncharacteristi**c to view. The proposed intervention would **occupy a large and extensive proportion of the view** and would be **easily noticed** by the observer. The angle of the view and distance from the proposed intervention would result in **an obvious change to the existing view** and would **significantly change the character or quality** of the view. The proposed intervention **significantly breaks the skyline / roofscape** and is likely to be **visible across an extensive area.**
Medium	*Partial loss or alteration* to the baseline view or introduction of **elements that may be prominent but may not necessarily be considered to be substantially uncharacteristic** of the view The proposed intervention would **occupy a partial proportion of the view** and would **likely be noticed** by the observer. The angle of the view and distance from the proposed intervention would result in **a perceivable change to the existing view** that **will change the character or quality** of the view. A small proportion of the proposed **intervention breaks the skyline / roofscape** and is likely to be **visible across a relatively localised area.**
Low	*Minor loss or alteration* to the baseline view or introduction of **elements that may not be uncharacteristic** when set within the view. The proposed intervention would **occupy only a small proportion of the view / may only be glimpsed** in part and would **unlikely to be clearly noticeable** by the observer. The angle of the view and distance from the proposed intervention would result in **a Minorly perceptible change in the existing view** but this would **not affect the character or quality** of the view. The proposed intervention **does not break the skyline / roofscape** and is likely to be **visible within a confined to a very limited area**.
Negligible	*Very minor loss or alteration* to the baseline view or introduction of **elements that may not be uncharacteristic** when set within the view. The proposed intervention would **not be visible / would occupy only a Minor proportion of the view** and **not likely be noticed** by the observer. The angle of the view and distance from the proposed intervention **would result in no perceptible change in the existing view** and the **will not result in a change in character or quality of the view.** The proposed intervention **does not break the skyline / roofscape** and is likely to **be visible within the site extents only**

9.26. Table 9.5 Significance for Townscape and Visual is derived from the interaction of Sensitivity and Magnitude, as shown below. Major, and Major-Moderate are considered significant effects.

		Townscape Sensitivity		
		Low	Medium	High
Magnitude of Change	High	**Moderate**	**Moderate - Major**	**Major effect**
	Medium	**Minor - Moderate**	**Moderate**	**Moderate - Major**
	Low	**Minor**	**Minor - Moderate**	**Moderate**
	Negligible	**Negligible**	**Negligible**	**Negligible**

Nature of Effect

9.27. The nature of effect in this assessment is classified as follows:

- Major Adverse Effect: Where the proposed intervention would cause a significant deterioration in the existing view.
- Moderate Adverse Effect: Where the proposed intervention would cause a noticeable deterioration in the existing view.
- Minor Adverse Effect: Where the proposed intervention would cause a Minor deterioration in the existing view.
- Minor Beneficial Effect: Where the proposed intervention would cause a Minor improvement in the existing view.
- Moderate Beneficial Effect: Where the proposed intervention would cause a noticeable improvement in the existing view.
- Major Beneficial Effect: Where the proposed intervention would cause a significant improvement in the existing view.

9.28. The above levels of significance (Minor, Moderate, Major etc.) may, in some circumstances, result in neither beneficial or adverse change. This will result in a Neutral outcome (e.g. Moderate Neutral Effect). This is determined where the proposed intervention would complement the scale, pattern and character of the existing components within view, and no distinctly discernible positive or negative change to visual amenity is apparent.

9.29. Visual effects that are Moderate and above (i.e. Moderate, Moderate – Major and Major) are considered to be 'Significant'. All other effects are 'not significant'.

Baseline Conditions

Existing Site

9.30. The Site occupies approximately 0.72 hectares of previously developed land at Ellesmere Street, Castlefield, on the south-western edge of Manchester City Centre. The Site is currently occupied by a mix of commercial buildings, surface parking, hardstanding and areas of incidental vegetation, reflecting its former industrial and commercial use. The Site makes a limited positive contribution to the surrounding townscape and represents an opportunity for regeneration through comprehensive redevelopment.

9.31. The surrounding area is characterised by a diverse mix of historic industrial buildings, canals, railway infrastructure, contemporary residential development and commercial uses. The Site occupies a transitional

location between the historic townscape of Castlefield and the extensive programme of regeneration that has transformed the western edge of Manchester city centre over recent decades.

9.32. The Site benefits from excellent accessibility by public transport, being located adjacent to Cornbrook Metrolink Interchange and within walking distance of Deansgate Railway Station and Manchester city centre. Chester Road forms an important transport corridor immediately to the south, whilst the Bridgewater Canal and Castlefield Basin provide significant recreational and heritage assets within the surrounding townscape.

Townscape Baseline

9.33. The Site lies within a highly urbanised environment that has experienced significant change over the last twenty years through the delivery of large-scale residential-led regeneration schemes. Whilst areas of historic industrial character remain, particularly within Castlefield, the wider study area is characterised by an increasingly varied skyline comprising contemporary residential towers, commercial development and retained heritage assets.

9.34. The historic townscape of Castlefield is defined by its canals, railway viaducts, warehouses, former industrial buildings and archaeological remains associated with the Roman fort and the early development of Manchester. These features create a distinctive sense of place that contrasts with the contemporary regeneration areas surrounding the Site.

9.35. Beyond Castlefield, the character of the wider study area changes progressively to include the high-density residential neighbourhoods of Great Jackson Street, St John's, First Street and Salford Central, together with commercial districts including Water Street, Petersfield and Spinningfields. Collectively these areas form part of Manchester's established city centre where continued redevelopment has resulted in an evolving urban skyline containing numerous existing and consented tall buildings.

Townscape Character Areas

9.36. Thirteen Townscape Character Areas (TCAs) have been identified to reflect the principal variations in urban form, land use, built character and townscape quality within the study area. These comprise:

- Character Area A – Castlefield
- Character Area B – St John's
- Character Area C – Water Street
- Character Area D – Great Jackson Street
- Character Area E – First Street
- Character Area F – Petersfield
- Character Area G – Spinningfields
- Character Area H – Salford University & Cathedral
- Character Area I – Salford Mixed Use
- Character Area J – Ordsall Riverside
- Character Area K – Trafford Park
- Character Area L – Hulme
- Character Area M – Salford Central & Greengate

9.37. The assessment identifies Castlefield as the most sensitive Townscape Character Area owing to its designation as a Conservation Area, the concentration of designated heritage assets and its distinctive industrial townscape. Salford University & Cathedral is similarly assessed as being of high sensitivity due to the presence of nationally important heritage assets and mature landscape structure. The remaining character areas are generally considered to have Medium, Medium-Low or Low sensitivity, reflecting their established regeneration role, contemporary urban character and capacity to accommodate change.

Townscape Designations

9.38. There are no nationally designated landscapes within the study area. The principal townscape designation is the Castlefield Conservation Area, which immediately adjoins the Site and contains a significant concentration of designated heritage assets associated with Manchester's industrial development. The Conservation Area derives its significance from the survival of canals, viaducts, warehouses, industrial archaeology and historic streets, together with the relationship between these features and the surrounding urban landscape.

9.39. The wider study area contains numerous designated heritage assets, including Grade II and Grade II* listed buildings, scheduled monuments and locally important heritage features. These include Ordsall Hall, the Church of St George, Castlefield Basin, canal structures, railway viaducts and associated industrial buildings. The contribution of these assets to townscape character has informed both the Townscape Assessment and the Visual Assessment.

Visual Baseline

9.40. Visual receptors within the study area comprise residents, pedestrians, cyclists, recreational users, commuters travelling by rail and Metrolink, motorists and visitors to the numerous heritage attractions within Castlefield.

9.41. Existing views are generally influenced by the juxtaposition of historic industrial townscape and contemporary city centre development. The Manchester skyline is already characterised by numerous tall buildings, particularly within Deansgate Square, Great Jackson Street, Spinningfields and Salford Central. Consequently, views throughout much of the study area are experienced within an urban context that continues to evolve through ongoing regeneration.

9.42. The greatest visual sensitivity is associated with publicly accessible locations within the Castlefield Conservation Area, including Castlefield Basin, the Bridgewater Canal corridor and viewpoints associated with designated heritage assets such as Ordsall Hall and the Church of St George. These locations combine high heritage value with strong recreational and visual amenity.

9.43. Visual sensitivity generally reduces within the surrounding regeneration areas where receptors experience a dynamic urban environment containing modern development, extensive transport infrastructure and established tall buildings. These areas possess a greater capacity to accommodate additional change without fundamentally altering their defining visual characteristics.

Representative Viewpoints

9.44. Fourteen representative viewpoints were agreed through the EIA Scoping process to assess the likely visual effects of the Proposed Development. The viewpoints have been selected to represent a range of receptor types, viewing distances, heritage settings and public locations, together with views from key transport corridors.

9.45. The assessment includes fully rendered photomontages, wireline visualisations and kinetic visualisations prepared in accordance with current Landscape Institute guidance. The submitted visualisations demonstrate that the Proposed Development would not be visible from View 4 (Hullard Park), View 6 (Old Birley Street Playing Fields) or View 10 (Factory Square) and, consequently, no significant visual effects arise at these locations.

9.46. The representative viewpoints provide an appropriate and proportionate basis upon which to assess the likely visual effects of the Proposed Development and are considered to represent the range of views available across the study area.

Summary of Baseline Conditions

9.47. The baseline assessment identifies a townscape undergoing continued transition, where extensive regeneration has already introduced significant contemporary development alongside a nationally important historic environment. The Site occupies an underutilised brownfield parcel that currently makes a limited contribution to local townscape character. Whilst the immediate context includes highly sensitive heritage assets within the Castlefield Conservation Area, the wider study area demonstrates a clear capacity for carefully designed, high-quality redevelopment that responds positively to the evolving Manchester skyline. The detailed assessment of likely townscape and visual effects arising from the Proposed Development is set out in the following section.

Identification and Evaluation of Likely Significant Effects

Construction Phase

Townscape Effects

9.48. Construction of the Proposed Development would comprise site clearance, excavation, substructure works, erection of the building superstructure, external envelope installation, internal fit-out and completion of the proposed landscape and public realm works. Temporary construction activities would include the use of cranes, scaffolding, construction plant, temporary compounds, hoarding and associated construction traffic.

9.49. During the construction phase, temporary changes would occur to the character and appearance of the Site and its immediate surroundings. Construction activity would be most apparent within the immediate vicinity of the Site, particularly within Townscape Character Area A – Castlefield, where demolition, excavation and construction operations would temporarily alter the existing townscape.

9.50. Construction activities would also be perceptible from adjoining character areas including St John's, Water Street, Great Jackson Street and Ordsall Riverside. However, the influence of construction activity would diminish rapidly with increasing distance from the Site due to the established urban grain, intervening development and the temporary nature of the works.

9.51. Construction activity forms an established component of the existing baseline across Manchester city centre, where numerous regeneration projects are currently underway or have recently been completed. Consequently, temporary construction activity associated with the Proposed Development would be experienced within the context of an evolving urban environment.

9.52. Subject to the implementation of embedded construction management measures, construction phase townscape effects are anticipated to be temporary, localised and reversible. No significant residual construction phase townscape effects are predicted.

Visual Effects

9.53. Temporary visual effects would arise from demolition activities, construction plant, scaffolding, cranes, temporary lighting, construction compounds and associated vehicle movements. These elements would be visible principally from locations immediately surrounding the Site and from a limited number of representative viewpoints where direct views towards the Site are available.

9.54. Construction cranes would temporarily become prominent features within the local skyline. However, cranes are common features within Manchester city centre and are characteristic of the continuing regeneration of the surrounding area. Their presence would therefore be viewed within the context of existing construction activity.

9.55. The greatest temporary visual effects would occur from viewpoints located immediately adjacent to the Site, including Chester Road, Ellesmere Street and Cornbrook Tram Stop. Visual effects reduce progressively with increasing distance from the Site as construction activity becomes a relatively small component of the wider city skyline.

9.56. The submitted verified visualisations demonstrate that the Site is screened from a number of representative viewpoints. Consequently, no temporary visual effects would arise from these locations during construction.

9.57. Following completion of construction, all temporary effects associated with demolition, construction compounds, cranes and construction plant would cease.

Operational Phase

Townscape Effects

9.58. Upon completion, the Proposed Development would permanently regenerate an underutilised brownfield site through the delivery of a high-density residential-led development incorporating new public realm, structural tree planting, green infrastructure and improved pedestrian connections.

9.59. The principal townscape effects would occur within Townscape Character Area A – Castlefield, where the Proposed Development would introduce a landmark building at the western edge of Manchester city centre. Whilst the scale of change would be appreciable, the Site occupies a previously developed urban site within an area identified for regeneration and the Proposed Development has been designed to respond positively to the surrounding townscape context.

9.60. The redevelopment would introduce a high-quality contemporary building, together with significant improvements to the public realm through new hard and soft landscape, street tree planting, biodiversity enhancements and active ground floor frontages. These proposals would substantially improve the quality, legibility and environmental performance of the Site.

9.61. Beyond Castlefield, the Proposed Development would be experienced within the context of Manchester's established and evolving skyline. The influence of the development reduces progressively with increasing distance from the Site, with effects generally limited to Minor or Minor-Moderate significance within the surrounding Townscape Character Areas.

9.62. The assessment concludes that the Proposed Development would not materially alter the defining characteristics of the wider Townscape Character Areas beyond the immediate surroundings of the Site. Instead, the development would reinforce the existing pattern of city centre regeneration and contribute positively to the continued evolution of Manchester's western gateway.

Table 9.6 Summary of Operational Townscape Effects

Townscape Character Area	Sensitivity	Magnitude of Change	Residual Effect	Nature of Effect
A – Castlefield	High	High	Major	Neutral
B – St John's	Medium-Low	Low	Minor-Moderate	Neutral
C – Water Street	Medium-Low	Medium	Minor	Neutral
D – Great Jackson Street	Medium-Low	Low-Medium	Minor	Beneficial
E – First Street	Medium-Low	Low	Minor	Neutral
F – Petersfield	Medium-Low	Low	Minor	Neutral
G – Spinningfields	Medium	Low	Minor	Neutral
H – Salford University & Cathedral	High	Low-Medium	Minor-Moderate	Neutral
I – Salford Mixed Use	Low	Low	Negligible-Minor	Beneficial
J – Ordsall Riverside	Medium-Low	Low-Medium	Minor	Neutral

Townscape Character Area	Sensitivity	Magnitude of Change	Residual Effect	Nature of Effect
K – Trafford Park	Low	Low	Negligible	Neutral
L – Hulme	Medium	Low-Medium	Minor	Neutral
M – Salford Central & Greengate	Medium-Low	Low	Minor	Neutral

9.63. As demonstrated in Table 9.6 the most notable operational townscape effect is confined to Character Area A – Castlefield, reflecting the proximity of the Site and the sensitivity of the receiving townscape. Elsewhere, the Proposed Development is assimilated into the existing and emerging urban context, resulting in generally Minor or Negligible effects.

Visual Effects

9.64. The assessment of operational visual effects has been undertaken from a series of representative viewpoints that reflect the range of visual receptors likely to experience views of the Proposed Development. The assessment is informed by verified photomontages, wirelines and kinetic visualisations presented within Appendix 9.1 - Townscape and Visual Impact Assessment.

9.65. The greatest visual effects are experienced from viewpoints located within the immediate vicinity of the Site and from locations associated with the Castlefield Conservation Area, the Bridgewater Canal corridor and Ordsall Hall. At these locations the Proposed Development would form a prominent component of the existing view and would alter the composition of the Manchester skyline.

9.66. Moderate-Major and Major-Moderate visual effects are identified from a limited number of representative viewpoints, reflecting the scale of the Proposed Development and the sensitivity of the receiving visual receptors. These effects are principally associated with views from Castlefield and the western approaches to Manchester city centre where the Site is experienced in close proximity.

9.67. From more distant viewpoints, the Proposed Development would be viewed within the context of Manchester's established cluster of tall buildings and the wider programme of city centre regeneration. The magnitude of visual change reduces progressively with increasing distance from the Site, with the development becoming one component of the evolving skyline rather than a dominant feature.

9.68. The verified visualisations demonstrate that the Proposed Development would not be visible from a number of representative viewpoints owing to existing built form, vegetation and landform. No operational visual effects are therefore identified at these locations.

9.69. The redevelopment of the Site would also deliver enhancements to the immediate townscape through the introduction of high-quality public realm, street tree planting and green infrastructure. These improvements contribute positively to views experienced from the surrounding streets and public spaces, particularly within the immediate setting of the Site.

Table 9.7 summarises the Operational Visual Effects.

Representative Viewpoint	Sensitivity	Magnitude of Change	Residual Effect	Nature of Effect
View 1 – Castlefield Chapel / Church of St George	High	Medium	Moderate-Major	Neutral
View 1a – Metrolink (Southbound)	Low	Medium	Moderate-Minor	Neutral

Representative Viewpoint	Sensitivity	Magnitude of Change	Residual Effect	Nature of Effect
View 1b – Metrolink (Northbound)	Low	Medium	Minor-Moderate	Neutral
View 2 – Chester Road / Ellesmere Street	Medium	High	Major-Moderate	Neutral
View 2a – Rail Corridor (Eastbound)	Low	Medium	Moderate-Minor	Neutral
View 2b – Rail Corridor (Westbound)	Low	Medium	Moderate-Minor	Neutral
View 3 – Empress Conservation Area	Medium	Medium	Moderate	Neutral
View 4 – Cornbrook Metrolink	N/A	N/A	No Effect (Not Visible)	—
View 5 – Castlefield Basin	High	Medium	Moderate	Neutral
View 6 – Old Birley Street Playing Fields	N/A	N/A	No Effect (Not Visible)	—
View 7 – Bridgewater Way / Bridgewater Canal	High	Medium	Major-Moderate	Neutral
View 8 – Ordsall Hall	High	Low-Medium	Moderate-Major	Neutral
View 9 – Ordsall Park	High	Low	Minor	Neutral
View 10 – Factory Square	N/A	N/A	No Effect (Not Visible)	—
View 11 – Hulme Park	High	Low	Minor-Moderate	Neutral
View 12 – Chester Road Roundabout	Low	Medium	Minor	Neutral
View 13 – Cornbrook Tram Stop	Medium	High	Moderate	Beneficial

9.70. As summarised in Table 9.7 the most notable operational visual effects are experienced from viewpoints within the immediate setting of the Site and from locations associated with the Castlefield Conservation Area and the Bridgewater Canal corridor. Elsewhere, the Proposed Development forms part of the established Manchester skyline and the significance of visual effects reduce accordingly.

9.71. A Moderate Beneficial effect is identified at Cornbrook Tram Stop, where the redevelopment of the Site and associated public realm enhancements replace an underutilised brownfield site with a high-quality contemporary development. This represents a positive change in the quality of the townscape experienced by pedestrians, public transport users and other visual receptors.

Summary of Likely Significant Effects

9.72. The assessment concludes that the Proposed Development would result in localised townscape and visual effects, principally within the immediate vicinity of the Site and from viewpoints associated with the Castlefield Conservation Area. The redevelopment of the Site would introduce a prominent new building within the Manchester skyline; however, this would occur within the context of an established area of high-density urban development and ongoing regeneration.

9.73. Beyond the immediate surroundings of the Site, the magnitude of change reduces rapidly, with the Proposed Development being assimilated into the existing and emerging townscape of Manchester city centre. The assessment identifies no significant adverse cumulative change to the wider townscape character of the study area.

9.74. Overall, the Proposed Development would deliver the regeneration of a vacant brownfield site, significant improvements to the public realm, enhanced green infrastructure and increased townscape quality, whilst giving rise to residual townscape and visual effects that are considered acceptable within the context of the adopted planning policy framework.

Cumulative Effects

Construction Phase

9.75. The cumulative assessment has considered the potential for cumulative townscape and visual effects arising from the Proposed Development in combination with other committed developments within the study area during the construction phase.

9.76. Construction activity associated with the Proposed Development would occur within a city centre environment that continues to experience significant redevelopment. Temporary cumulative effects may arise where demolition and construction activities coincide with other committed developments, resulting in the simultaneous presence of construction plant, cranes, temporary compounds and associated construction traffic.

9.77. Construction activity forms an established component of the existing townscape character of Manchester city centre and, as such, temporary cumulative effects would be experienced within the context of ongoing regeneration. Furthermore, construction activities would be temporary and reversible and would cease upon completion of the Proposed Development.

9.78. Following implementation of standard construction management measures, no significant cumulative construction phase townscape or visual effects are predicted.

Operational Phase

9.79. The operational cumulative assessment has considered the combined influence of the Proposed Development with existing, consented and committed developments identified within the cumulative study area.

9.80. Manchester city centre has experienced significant redevelopment over recent decades, particularly within Castlefield, St John's, Great Jackson Street, First Street, Greengate and the western gateway to the city centre. These developments collectively contribute to the continuing evolution of the city skyline.

9.81. Within this context, the Proposed Development would be perceived as part of the established and emerging cluster of taller buildings rather than as an isolated feature. The Proposed Development would reinforce the prevailing pattern of regeneration and urban intensification already evident across the study area.

9.82. Whilst cumulative changes to the skyline would be evident from some representative viewpoints, the assessment concludes that the Proposed Development would not materially alter the overall character of the wider townscape beyond that already anticipated through the committed pattern of development.

9.83. No significant cumulative townscape or visual effects are therefore identified.

Mitigation and Monitoring

Embedded Mitigation

9.84. The Proposed Development has evolved through an iterative design process, with townscape and visual considerations informing the layout, scale, massing, architectural expression and landscape design from the earliest stages of design development. Consequently, many potential effects have been avoided or reduced through embedded mitigation incorporated into the Proposed Development.

9.85. During construction, temporary effects would be managed through implementation of a Construction Environmental Management Plan (CEMP), together with standard best practice construction management measures.

9.86. During operation, mitigation is embedded within the design of the Proposed Development and includes high-quality architecture, public realm improvements, structural tree planting, integrated green infrastructure, biodiversity enhancements, active ground floor frontages and high-quality hard landscape materials. These measures contribute to reducing the magnitude of townscape and visual effects whilst enhancing the quality of the surrounding public realm.

Table 9.8 Summary of Mitigation Measures and Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Measure	Post Mitigation Residual Effect – Significance	Duration
Temporary change to the character and appearance of the Site during demolition and construction.	Townscape receptors within the immediate vicinity of the Site.	Construction Environmental Management Plan (CEMP).	Good site management, temporary hoarding, dust suppression, management of compounds and plant, control of construction lighting and phased construction programme.	Moderate Adverse (Not Significant)	Temporary
Temporary changes to visual amenity resulting from construction activity, cranes and associated infrastructure.	Visual receptors surrounding the Site.	Construction Environmental Management Plan (CEMP).	Appropriate siting of cranes, screening of compounds where practicable, management of construction traffic and maintenance of pedestrian routes.	Moderate Adverse (Not Significant)	Temporary
Permanent alteration to local townscape character through redevelopment of the Site.	Townscape Character Areas.	Embedded design mitigation.	High-quality architectural design, articulated massing, public realm improvements, street tree planting, green infrastructure and high-quality material palette.	Major Neutral (Castlefield); Minor to Negligible elsewhere	Permanent
Permanent changes to views resulting from the completed development.	Representative visual receptors.	Embedded design mitigation.	Careful building massing, architectural articulation, high-quality façade design, landscape proposals and enhancement of the public realm.	Moderate-Major to Minor; generally Neutral with one Moderate Beneficial effect	Permanent

Monitoring

9.87. During construction, implementation of mitigation measures would be secured through the Construction Environmental Management Plan and monitored by the Principal Contractor throughout the construction period.

9.88. Following completion of the Proposed Development, landscape establishment and long-term management of the public realm would be secured through an appropriate Landscape Management and Maintenance Plan to ensure the successful establishment of planting and the ongoing quality of the external environment.

9.89. No additional monitoring is considered necessary in respect of operational townscape or visual effects, as the assessment concludes that the embedded mitigation incorporated within the design is sufficient to reduce effects to an acceptable level.

Residual Effects

9.90. Following implementation of the embedded mitigation measures incorporated within the Proposed Development, together with the construction management measures identified within Table 15.8, residual townscape and visual effects have been assessed for both the construction and operational phases of the development.

9.91. During the construction phase, residual effects would be temporary, localised and reversible. The implementation of a Construction Environmental Management Plan (CEMP), together with standard best practice construction management measures, would minimise temporary effects arising from demolition, construction activity, temporary compounds and crane operations. No significant residual construction phase townscape or visual effects are predicted.

9.92. During operation, the principal residual townscape effects are confined to the immediate vicinity of the Site, where the redevelopment would introduce a substantial change to the existing urban form within Townscape Character Area A – Castlefield. Whilst this represents the greatest degree of change identified within the assessment, it also reflects the regeneration of an underutilised brownfield site through the delivery of high-quality architecture, public realm and green infrastructure within an area identified for continued regeneration.

9.93. Residual visual effects are similarly concentrated within viewpoints located closest to the Site and those associated with the Castlefield Conservation Area and Bridgewater Canal corridor. Elsewhere, the Proposed Development would be experienced as part of the existing and evolving Manchester skyline and would not materially alter the wider visual character of the city.

9.94. The assessment concludes that, following implementation of embedded mitigation, no significant residual adverse townscape or visual effects are anticipated beyond those identified within the detailed assessment. Significant effects are identified at a limited number of townscape and visual receptors, principally within Castlefield and the immediate setting of the Site. The residual effects are considered acceptable when balanced against the wider regeneration, placemaking and public realm benefits delivered by the Proposed Development.

Reference List

9.95. Key references used in this chapter include

- Chartered Institute of Ecology and Environmental Management (CIEEM) and Landscape Institute (2013). Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3).
- Landscape Institute (2018). Technical Guidance Note 05/17: Townscape Character Assessment.
- Landscape Institute (2019). Technical Guidance Note 06/19: Visual Representation of Development Proposals.
- Ministry of Housing, Communities and Local Government (August 2026). National Planning Policy Framework: Plan-making and national decision-making policies.
- Places for Everyone Joint Development Plan.
- Manchester Core Strategy.
- Manchester Residential Quality Guidance.
- Castlefield Conservation Area Appraisal and Management Plan.
- Appendix 9.1: Townscape and Visual Impact Assessment (RF25-1285-02-RP-TVIA).

10. Wind Microclimate

Introduction

10.1. This Chapter of the Environmental Statement (ES) assesses the likely wind microclimate effects arising from the Proposed Development at 1 Castlefield, Ellesmere Street, Manchester. The assessment considers the likely effects upon the Site and surrounding urban environment during both the construction and operational phases of development regarding wind speeds. It also identifies the embedded mitigation incorporated within the design, any additional mitigation measures where necessary, and the likely residual effects following implementation of mitigation.

Detail	Prepared by	Reviewed by
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Company	Architectural Aerodynamics Limited (ArcAero)	Architectural Aerodynamics Limited (ArcAero)
Qualifications/Accreditations relevant to technical area inlc. IEMA	MEng (Hons) Mechanical Engineering	MEng (Hons) Aerospace Engineering
Years technical experience (in technical area)	2 years	18 years
Number of EIA's delivered to date	1	50+

Assumptions and Limitations

10.2. The primary means of the current assessment is a wind tunnel-based approach. This has adopted a discrete measurement technique, where sensors are positioned in sensitive locations and those locations that are expected by veteran practitioners (and informed by preliminary CFD modelling) to experience the most significant acceleration of winds. An approach of this nature is expected to capture worst-case conditions.

10.3. CFD modelling has been employed to conduct initial assessments of an earlier version of the scheme, and to explore the effectiveness of wind mitigation measures. The simulation does not explicitly model the turbulence of the wind. Instead, numerical methods are used to estimate the gust wind speeds.

10.4. Unless otherwise specified, the wind tunnel model included deciduous and evergreen trees in order to obtain conservative results during winter. Deciduous trees have been modelled in bare winter format.

Relevant Legislation, Policy and Guidance

Legislation

10.5. There are no legislative policies relating to the assessment of environmental wind flows in the built environment.

Policy

National Planning Policy Framework

10.6. The National Planning Policy Framework (NPPF) was updated in August 2026, replacing the December 2024 Framework. It contains no national planning policies directly related to wind microclimate issues. However, the

benefits of a high-quality built environment continue to be emphasised as stated in the objective of Chapter 14 (Achieving well-designed places):

> '…to promote high quality, healthy, inclusive and sustainable places, through setting clear expectations about design outcomes and the use of relevant tools and processes.'

10.7. Policy DP3 (Key principles for well-designed places) sets out the principles which development proposals should reflect. Those relevant to the wind microclimate are:

Paragraph 2(a) — Liveability:

> '…support healthy, mixed, vibrant and integrated communities, which will function well over the lifetime of the development…'

Paragraph 2(f) — Public Space:

> '…include spaces that are safe, secure, inclusive, and accessible for all ages and abilities … and which facilitate and encourage social interaction, play and healthy lifestyles (for example by providing … a variety of recreational spaces and places to meet…)…'

10.8. Whilst wind microclimate is not addressed expressly, the creation of places which function well over the lifetime of the development, whose layout, orientation and massing respond to environmental conditions and which are safe and accessible for all ages and abilities, requires that the wind environment within and around the Site is suitable for its intended uses.

Manchester's Local Development Framework, Core Strategy Development Plan

10.9. Manchester's Local Development Framework, Core Strategy Development Plan Document, Policy EN 2 relates to Tall Buildings. Paragraph 12.4 supporting this states "Tall buildings by their very nature can dominate the street scene and be highly visible over long distances. They can also have an impact on the local micro-climatic conditions, for example, by creating wind tunnels. It is for these reasons that it is considered particularly important that they are designed to the highest quality, both in terms of appearance and their impact on the functioning of surrounding space."

Guidance

National Planning Practice Guidance

10.10. The NPPG states under 'Consider form' that, "Some forms pose specific design challenges, for example how taller buildings meet the ground and how they affect local wind and sunlight patterns should be carefully considered."

10.11. The NPPG states under 'Consider scale' that "Account should be taken of local climatic conditions, including daylight and sunlight, wind, temperature and frost pockets."

10.12. Paragraph 41 of the National Design Guidance states that a new development, "enhances positive qualities and improves negative ones. Some features are physical, including: environment – including landscape and visual impact, microclimate, orientation, flood risk, noise, air and water quality."

10.13. Paragraph 71 of the National Design Guidance states that "Proposals for tall buildings (and other buildings with a significantly larger scale or bulk than their surroundings) require special consideration. This includes their location and siting; relationship to context; impact on local character, views and sight lines; composition - how they meet the ground and the sky; and environmental impacts, such as sunlight, daylight, overshadowing and wind. These need to be resolved satisfactorily in relation to the context and local character."

Assessment Methodology and Significance Criteria

Scenarios Tested

10.14. A physical model of the existing buildings within a 435-metre radius from the centre of the Site was constructed. The building proposals that comprise the Proposed Development and cumulative surrounding developments were also constructed, and the following scenarios were modelled in a wind tunnel:

- Scenario 1: Existing Baseline (Site as it is today)
- Scenario 2: Proposed Development within Existing Surrounds
- Scenario 3: Proposed Development within Cumulative Surrounds
- Scenario 4: Proposed Development within Cumulative Surrounds with Mitigation Measures
- Scenario 5: Proposed Development within Existing Surrounds with Mitigation Measures

The Study Area

10.15. The study considers all wind effects up to 435m radius from the Proposed Development and contains all features which are likely to affect the wind flow at the Site. This distance is considered sufficient to capture all wind effects on Site, as well as those effects on the surrounding area

Surveys and Data Sources

10.16. Wind environment studies require that wind speed data obtained from a measurement station be transposed to the site of interest. The measurement station of choice for the assessment is that at Manchester Airport.

10.17. The wind speed history, provided by weather organisations such as the UK Met Office or the National Oceanic & Atmospheric Administration, is reformatted into the number of observations of wind speeds within each of several wind speed ranges, for each wind direction and for each month of the year. The months are grouped into seasons and a Weibull distribution is fitted to the wind speed distribution for each wind direction, for each season. The resulting weather centre wind data is transposed to open country terrain at sea-level, accounting for upwind terrain. The open country wind data is then transposed to reference height at the Site.

10.18. Full details on the derivation of the site wind climate and its modelling are provided in Appendix 10.1.

Source of Effect

10.19. Potentially adverse wind effects impacting the safety and comfort of the pedestrian in and around the Proposed Development which may be caused by interaction of the wind with the Proposed Development, but not necessarily, be limited to:

- Downdrafts
- Funnelling / channelling of winds
- Corner accelerations
- Significant exposure to prevailing winds

Assessment Criteria

10.20. The industry standard criteria for wind microclimate assessments are commonly referred to in the UK as the Lawson criteria after one of their main authors. As with most other leading practitioners, ArcAero use the 'LDDC' (London Docklands Development Corporation) variant of the Lawson Criteria.

10.21. The LDDC variant applies a single percentage probability of exceedance of a range of wind speeds and associates different wind speeds to different types of usage. This offers a relatively simple and practical manner for the assessment of wind comfort and safety.

10.22. A wind speed of 15 m/s occurring once per year is rated as unsuitable, in terms of safety, with the potential to de-stabilise the less able members of the public including the elderly, cyclists and children.

10.23. The LDDC variant of the Lawson criteria prescribes that wind conditions are suitable for a given activity when the threshold is exceeded no more than 5% of the time. The value of 5% has been established as giving a reasonable allowance for extreme and relatively infrequent winds that are tolerable within each category.

10.24. Where certain activities are year-round, such as walking, entrance use or for waiting areas, comfort ratings are required to be met in all seasons. For more seasonal activities, such as outdoor recreation or for sitting spaces, the assessment focuses on relevant seasons where the expectation will exist for conditions to be suitable. The LDDC comfort threshold wind speed values are presented in Table 10.1.

Table 10.1 - Lawson Comfort Criteria

Threshold Wind Speed [m/s]	Comfort Rating / Activity		Qualifying Comments
4	C4	Long-term sitting	Reading a newspaper and eating and drinking.
6	C3	Short-term standing / sitting	Appropriate for bus stops, window shopping and building entrances.
8	C2	Strolling	General areas of walking and sightseeing.
10	C1	Walking	Local areas around tall buildings where people are not likely to linger.

Significance Criteria

10.25. During construction, receptors are defined to be pedestrians and cyclists on the road around the Site and construction workers within the Site. During construction, sensitivity to wind is typically reduced. All receptors are considered to be medium sensitivity to the local wind microclimate conditions and are given an equal weighting.

10.26. For the scenario for the Proposed Development in place, receptors are defined to be persons on foot, seated or travelling by bicycle within the Proposed Development and surrounding areas. All receptors are equally sensitive to the presence or absence of an acceptable wind microclimate. An unacceptable microclimate exists when either an exceedance of the safety criteria exists, or when the comfort criteria is not met for the existing / planned use at a receptor. All receptors are considered to be highly sensitive to the local wind microclimate conditions and are given an equal weighting.

10.27. Effect magnitude is defined by the severity of the deviation from the standards set out by the Lawson criteria. Exceedances of the safety criteria are deemed to be the most critical, given their potential effect on pedestrians' wellbeing, i.e. they may be unduly exposed to the potential for harm. Such effects are thus deemed to have a high impact magnitude. Where the comfort criteria are not met, i.e. where the conditions are too windy for a particular receptor to be sufficiently comfortable for existing or planned pedestrian uses and thus inconvenient but not unsafe, such effects are deemed to be of medium impact magnitude. Where the comfort criteria are marginally exceeded, to the extent that the exceedance is expected to be perceptible, but tolerable, such effects are deemed to be of low impact magnitude.

10.28. On this basis, therefore, exceedances of the safety criteria are considered to be of major magnitude, while exceedances of the comfort criteria are considered to be of moderate or minor magnitude. Where the Proposed

Development is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change, this will be considered negligible.

10.29. Major and moderate effects are considered to be significant in EIA terms. Minor effects, as noted above being tolerable, are not considered to be significant.

10.30. The following are the significance criteria used to assess likely wind conditions as a result of the introduction of the Proposed Development:

- Major Beneficial: Any effect on wind conditions which is expected to improve pedestrian safety, namely an improvement in conditions from being considered unsafe to being considered safe.
- Moderate Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to suitable for planned activities.
- Minor Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to marginal / tolerable for planned activities, or from marginal/tolerable to suitable for planned activities.
- Negligible: Any effect that does not alter the suitability of existing wind conditions with respect to planned activities.
- Minor Adverse: Any effect on wind conditions which worsens pedestrian comfort from suitable to marginal / tolerable for planned activities, or from marginal/tolerable to unsuitable for planned activities.
- Moderate Adverse: Any effect on wind conditions that worsens pedestrian comfort from suitable to unsuitable for planned activities.
- Major Adverse: Any effect on wind conditions adversely affecting pedestrian safety, namely a deterioration in conditions from being considered safe to being considered unsafe.

Sensitivity

Table 10.2 Summary of Sensitive Receptors

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Magnitude

Table 10.3 Magnitude of Impact Description

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.

Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Table 10.4 Matrix to support determining the level of effect

Magnitude	Sensitivity		
	High	**Medium**	**Low**
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate or Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate or Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

Baseline Conditions

10.31. The 1 Castlefield development is bounded by a railway to the north, the Castlefield Locks Apartment to the east, Ellesmere Street to the south, and the Vox Apartments to the west.

10.32. The results for the existing baseline scenario are presented graphically within Figure 4.1 and Figure 4.2 for worst-seasonal and summer conditions, respectively, within Appendix 10.1.

10.33. Wind conditions within and around the existing site satisfy the criteria for pedestrian safety.

10.34. Wind conditions within the Site and immediate surrounding areas are generally suitable for existing use, with exceptions located at the following off-site areas, and are therefore considered to be pre-existing:

- Dinton Street (location 9)
- Near the Vox Apartment (locations 81, 89 and 91)
- Thoroughfares south of the Site (locations 98 and 104)
- At the entrance of Pomona Wharf (location 118)

Identification and Evaluation of Likely Significant Effects

Construction Phase

10.35. During the demolition and construction works, there would be potential for wind to blow into and across open areas of the Site with the potential to inconvenience site workers and passers-by. Prior to the introduction of on-site mitigation measures, any temporarily elevated wind conditions within the site would be experienced only by able-bodied professionals who are able to tolerate these speeds, and who would typically be engaged in less sensitive activities. Additionally, there would be appropriate health and safety measures implemented (through a Construction Environmental Management Plan (CEMP)) to ensure that the construction workers are adequately protected.

Operational Phase

Scenario 2: Proposed Development within Existing Surrounds

10.36. The results for the Proposed Development within Existing Surrounds scenario are presented graphically within Figure 4.3 and Figure 4.4 to Figure 4.5 for worst-seasonal and summer conditions, respectively, within Appendix 10.1.

Safety

10.37. With the introduction of the Proposed Development within existing surrounds, most locations within the Site in existing surrounds scenario satisfy the safety criteria, with exceptions found at the following areas:

- The pathway near Block A (locations 16)
- The parking space to the east of the Site (location 31)
- Northwest corner of the rooftop terrace of Block B (location 310)
- The southern corner of Vox Apartment (locations 89)

10.38. These represent major adverse effects which are significant.

Comfort

10.39. With the introduction of the Proposed Development, throughfares within the Site are generally suitable for their intended uses. Exceptions occur:

- To the southwest of Block A (locations 12, 16, and 29).

10.40. Exceedances at these locations represent moderate adverse effects which are significant.

10.41. Wind conditions at entrances within the Site are expected to be generally suitable for short-term sitting or better throughout the year, with exceptions located at:

- Block A southwest and courtyard entrances (locations 13 and 58)
- Block B southeast entrances (locations 36 and 44).

10.42. Exceedances at these locations represent moderate adverse effects which are significant.

10.43. The recreational spaces within the Site are generally suitable for intended use during summer, with exceptions being:

- Courtyard between Blocks A and B (locations 49, 54, and 56)
- Block A level 1 podium (location 201)

- Block B level 7 terrace (locations 302, 309, 310, and 312)

- The outdoor seating areas near Block A (locations 57 and 61) exceed the conditions for long-term sitting / standing throughout the year.

10.44. Within the surrounding area, wind conditions are generally suitable for their intended uses. Exceptions occur at the following areas:

- Thoroughfares to the east of the Vox Apartments (location 76 and 77), where wind conditions are unsuitable for strolling during the winter. These represent moderate adverse effects which are significant.

10.45. Several off-site exceedances present within the Baseline scenario (locations 81, 89, 91, 98, 104 and 118) remain within this scenario. This represents a negligible effect of the Proposed Development.

Cumulative Effects

10.46. Table 10.5 below shows cumulative developments which have been included within the baseline assessment.

Table 10.5 - Cumulative Developments considered within the Existing Baseline with cumulative developments and Proposed Development

Development Name	Planning Reference
No. 1 Cornbrook	139133/FO/2024

Operation

Scenario 3: Proposed Development within Cumulative Surrounds

10.47. The results for the Proposed Development within Cumulative Surrounds scenario are presented graphically within Figure 4.6 and Figure 4.7 to Figure 4.8 for worst-seasonal and summer conditions, respectively, within Appendix 10.1.

Safety

10.48. With the introduction of the Proposed Development within cumulative surrounds, the exceedances from the existing surrounds scenario remain, with few additional exceedances occur in:

- The pathway near Block A (locations 16)

- The parking space to the east of the Site (location 31)

- Along the thoroughfare between the proposed Block B and the Vox Apartment (location 77)

- Near the corners of the No.1 Cornbrook development (locations 91 and 93).

- Northwest corner of the rooftop terrace of Block B (location 310)

10.49. These represent pre-mitigation major adverse effects, which are significant and require mitigation.

Comfort

10.50. With the introduction of cumulative surrounds, thoroughfares within the Site are generally suitable for strolling or better throughout the year, exceptions occur at:

- The pathway south of Block A leading into the courtyard (location 16).

- Eastern corner of Block A (location 29).
- A pathway between Block A and Block B leading into the courtyard (location 63).

10.51. Exceedances at these locations represent moderate adverse effects which are significant.

10.52. The wind conditions at entrances within the Site generally meet the comfort criteria for short-term sitting / standing. Exceptions occur:

- Block A southwest entrance (location 13).
- Block B entrances facing southeast (locations 36 and 44).
- Block A courtyard entrance (location 58).

10.53. Exceedances at these locations represent moderate adverse effects which are significant.

10.54. Wind conditions at recreational spaces within the Site are generally suitable for short-term sitting / standing in summer. Exceptions occur at:

- The courtyard between Block A and B (locations 54 and 56).
- Block B terrace (locations 302, 309, 310, and 312).

10.55. These exceedances represent moderate adverse effects which are significant.

10.56. The wind conditions at an outdoor seating area near the southeast façade of Block A (location 57) do not meet the comfort criteria for long-term sitting / standing during summer. Elsewhere, the outdoor seating areas remain suitable for their intended uses.

10.57. The wind conditions at the immediate surrounds are expected to be generally suitable for strolling or better throughout the year. Exceptions occur:

- The thoroughfares surrounding the No. 1 Cornbrook (locations 1, 92 and 93)
- Thoroughfares near the northeast façade of the Vox apartment building (locations 77, 84 and 85)

10.58. These exceedances represent moderate adverse effects which are significant.

10.59. Several off-site exceedances present within the Baseline scenario (locations 81, 91, 98, 104 and 118) remain within this scenario. This represents a negligible effect of the Proposed Development.

10.60. An existing Site within cumulative surrounds scenario was tested using CFD simulation to further investigate the exceedances around No.1 Cornbrook. The result indicates these exceedances were already present without the Proposed Development in place. Hence, these exceedances are determined to be pre-existing and not attributable to the Proposed Development.

10.61. The wind conditions within the Site have deteriorated following the introduction of cumulative surrounds. As such, mitigation measures were developed with cumulative surrounds in place.

Mitigation Measures

Construction Phase

10.62. No mitigation measures are required during the demolition or construction

Operational Phase

10.63. The Proposed Development has been assessed with and without additional wind mitigation measures via wind tunnel testing. The additional mitigation measures are shown in Figure 2.2 and Figure 2.3 in Appendix 11.1. The wind mitigation measures introduced at the ground level are as follows:

- Evergreen trees from 4 to 6 metres in height, in place of deciduous trees of equal heights.
- An alteration to the canopy at the southwest entrance of Block A, as well as an additional 50% solid screen extending to the roof of the canopy at the northern end.
- Additional 6m tall deciduous tree near the southwest entrance of Block A.
- Porous screen at the southwest entrance of Block A, 2.5 metres wide, 2 metres tall, 50% solid
- Porous screens in the courtyard, 8 metres wide, 2 metres tall, 50% solid
- Porous screen along the western façade of Block B, 2 metres wide, 2 metres tall, 50% solid

10.64. The wind mitigation measures introduced at the elevated levels are as follows:

- Additional porous screen towards the eastern end of the pergola at the level 1 podium of Block A, 1.3 metres wide, 3 metres tall, 50% solid
- Porous screens on the level 7 terrace of Block B, 0.8 metres wide, 2 metres tall, 50% solid

Residual Effects

Construction Phase

10.65. There is generally a negligible effect of the Development during construction and that effect is not significant.

Operational Phase

Scenario 4: Proposed Development within Cumulative Surrounds with Mitigation Measures

10.66. The results for Proposed Development within Cumulative Surrounds with mitigation scenario are presented graphically within Figure 4.9 and Figure 4.10 to Figure 4.11 for worst-seasonal and summer conditions, respectively, within Appendix 10.1.

Safety

10.67. Following the introduction of the mitigation measures within the Proposed Development within Cumulative Surrounds scenario, the safety criteria are met throughout the study area. This represents a negligible residual effect and is therefore not significant.

Comfort

10.68. The wind conditions within the Site have improved with the mitigation measures in place and are largely in compliance with the comfort criteria. A few exceedances still remain:

- In the Block B courtyard (locations 54 and 56), where minor exceedances of short-term sitting / standing conditions occur during the summer (meeting the threshold wind speed ~93% of the time) and thus represent minor adverse residual effects that are not significant.
- Outdoor seating areas near Block A (locations 57 and 59), where minor exceedances of long-term sitting / standing conditions occur during the summer (meeting the threshold wind speed ~94% of the time) and thus represent minor adverse residual effects that are not significant.

- Block B entrances (locations 36 and 44), where minor exceedances of short-term sitting / standing conditions occur during the winter (meeting the threshold wind speed ~93% of the time) and thus represent minor adverse residual effects that are not significant.

- Block B terrace (locations 309 and 312), where minor exceedances of short-term sitting / standing conditions occur during the summer (meeting the threshold wind speed ~93% of the time) and thus represent minor adverse residual effects that are not significant.

10.69. Thoroughfares near the Vox apartment (locations 84 and 85), where minor exceedances of strolling conditions occur during the winter (meeting the threshold wind speed ~94% of the time) and thus represent minor adverse residual effects that are not significant.

10.70. Several off-site exceedances (locations 1, 81, 91, 92, 93, 98, 104 and 118) which are determined to be pre-existing and therefore represent negligible effects of the Proposed Development.

Scenario 5: Proposed Development within Existing Surrounds with Mitigation Measures

10.71. The results for Proposed Development within Cumulative Surrounds with mitigation scenario are presented graphically within Figure 4.12 and Figure 4.13 to Figure 4.14 for worst-seasonal and summer conditions, respectively, within Appendix 10.1.

10.72. With the introduction of mitigation measures within the Proposed Development within Existing Surrounds, conditions remain similar to the cumulative surrounds' scenario with mitigation measures in place, hence the conclusions of which are equally applicable to the existing surrounds scenario.

Table 10.6 – Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
Negligible effects	All	None	N/A	Negligible effects
Operational Phase				
Exceedance of comfort criteria	Recreational spaces in courtyard between Block A and B	Additional evergreen trees from 4 to 6 metres in height, in place of deciduous trees of equal heights. 2 metre tall, 8 metre wide 50% solid screen. Extension of planter. 2 metre tall, 1.8 metre wide 50% solid screen.	Details submitted as part of this planning submission	Minor adverse, permanent

Exceedance of comfort criteria	Outdoor seatings at the courtyard	Additional 4m tall evergreen trees in place of 4m deciduous trees.	Details submitted as part of this planning submission	Minor adverse, permanent
Exceedance of comfort criteria	Block B southeast entrances	None	N/A	Minor adverse, permanent
Exceedance of comfort criteria	Block B terrace	Porous screens, 0.8 metres wide, 2 metres tall, 50% solid	Details submitted as part of this planning submission	Minor adverse, permanent
Exceedance of comfort criteria	Thoroughfares to the east of Vox Apartments	Porous screen, 2 metres wide, 2 metres tall, 50% solid placed at the western façade of Block B.	Details submitted as part of this planning submission	Minor adverse, permanent

Monitoring

10.73. No monitoring of the wind microclimate is recommended.

Reference List

10.74. This ES Chapter has been prepared in reference to the following:

Lawson, T.V. The determination of the wind environment of a building complex before construction. Bristol : University of Bristol, Department of Aeronautical Engineering, 1990.

11. Human Health

Introduction

11.1. This Chapter of the ES has been prepared by Enfusion and assesses the likely Human Health impacts of the Proposed Development upon the Site and surrounding area. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.

Table 11.1: Qualifications and experience of organisation and consultant

	Lead Author
Name	Barbara Carroll
Company	Enfusion Ltd
Qualifications/Accreditations relevant to technical area incl. IEMA	BSc MSc CEnv FISEP
Years technical experience (in technical area)	>25 years; Co-author of The EIA Handbook: a practical guide for planners, developers & communities (third edition, 2019) CIP Books (cip-books.com)
Number of EIA's delivered to date	>50 (various inputs - specialist, review, coordination)

Assumptions and Limitations

11.2. This Human Health (HH) Chapter considers the findings relevant to human health of each technical impact assessment scoped into the Environmental Statement – Heritage (Chapter 9); Townscape & Visual Impact (Chapter 13); Climate Change (Chapter 6); Wind (Chapter 12); Solar Glare (Chapter 8); Socio Economics (Chapter 10); and Daylight, Sunlight & Overshadowing (Chapter 7). As such, any key assumptions or limitations associated with each technical impact assessment are addressed within the individual chapters. The overall approach for collating, assessing, and reporting impacts on human health and wellbeing is considered to be appropriate and proportionate such that there are no limitations. The assessment, set out in this ES Chapter, is desk-based and with professional judgment using published information.

Relevant Legislation, Policy and Guidance

Legislation

11.3. N/A

Policy

National

National Planning Policy Framework (NPPF, August 2026)

11.4. The NPPF sets out the Government's policies for plan-making and for making decisions on development proposals in England. The August 2026 NPPF replaces the previous version published in December 2024 and introduces a revised structure comprising plan-making policies and national decision-making policies.

The NPPF recognises the relationship between the planning system and human health through its overarching objective of achieving sustainable development. Paragraph 17 identifies economic, social and environmental objectives that are interdependent and should be pursued in mutually supportive ways. The social objective is to support strong, vibrant and healthy communities by providing for present and future housing needs and fostering

well-designed, beautiful and safe places, with accessible community facilities, public service infrastructure and open spaces that support communities' health, social and cultural well-being.

11.5. Chapter 16, Promoting Healthy Communities, comprises Policies HC1 to HC8. These policies address the planning and delivery of healthy communities, community facilities and public service infrastructure, education provision, public safety, open space, opportunities for sport, physical activity, play and recreation, and the protection of valued community facilities and spaces.

11.6. Other NPPF policies relevant to the wider determinants of health include Chapter 14, Achieving Well-Designed Places, including Policies DP1 to DP4; Chapter 15, Promoting Sustainable Transport, including Policies TR1 to TR8; and Chapter 17, Pollution, Public Protection and Security, including Policies P1 to P6. Together, these policies address matters including inclusive and accessible design, opportunities for walking, wheeling and cycling, access to services and facilities, public safety, amenity, pollution and the creation of safe and healthy living conditions.

11.7. The NPPF has been taken into account in identifying and assessing the potential effects of the Proposed Development on the relevant determinants of human health.

Fit for the Future: 10 Year Health Plan for England (updated 2025)

11.8. The NHS will be reinvented through three radical shifts: hospital to community; analogue to digital; and sickness to prevention. It will be designed to tackle inequalities in both access and outcomes. The new Neighbourhood Health Service will bring care into local communities, convene professionals into patient-centred teams and end fragmentation.

Fair Society, Healthy Lives (Marmot Review 2010, and 2020)

11.9. The review sets out a framework for action under two policy goals: to create an enabling society that maximises individual and community potential; and to ensure social justice, health and sustainability are at the heart of all policies. There are six policy objectives:

- giving every child the best start in life
- enabling all children, young people and adults to maximize their capabilities and have control over their lives
- creating fair employment and good work for all
- ensuring a healthy standard of living for all
- creating and developing sustainable places and communities
- strengthening the role and impact of ill-health prevention

11.10. The Marmot Review 10 Years On found that over the last decade health inequalities have widened overall. The more deprived the area, the shorter the life expectancy.

Sub-Regional

Greater Manchester Places for Everyone (Joint Development Plan JDP, adopted March 2024)

11.11. The Vision for Greater Manchester (GM) includes to make Greater Manchester as "a place where people live healthy lives"; and Strategic Objectives include No 10 "Promote the health and wellbeing of communities:

- Ensure new development is properly served by health care services that meet the needs of communities
- Improve access to healthy food options for all communities
- Reduce the health impacts of air pollution through accessibility of sustainable travel such as public transport, cycling and walking

- Maximise the health benefits of access to the natural environment and green spaces;

- Coordinate with and support the delivery of local and Greater Manchester wide health strategies

11.12. The overall Strategy and many of the policies in the plan support improvements in health and wellbeing, and reductions in health inequalities, such as by "promoting a successful economy; increasing supply of high quality and affordable homes; enabling people to adopt healthier lifestyles; and reducing risks to human health". The JDP recognises that addressing health inequalities will require a diverse range of coordinated measures. The JDP supports improvements in health and wellbeing including through promoting a successful economy, enabling people to adopt healthier lifestyles, and reducing the risks to human health.

11.13. Policy JP-P6 Health – To help tackle health inequality new development will be required, as far as practicable, to:

A. Maximise its positive contribution to health and wellbeing, whilst avoiding any potential negative impacts of new development;

B. Support healthy lifestyles, including through the use of active design principles making physical activity an easy, practical and attractive choice; and

C. Be supported by a Health Impact Assessment for all developments which require to be screened for an Environmental Impact Assessment…

11.14. The Policy supporting text advises that as well as being of great importance in its own right, "health also has a significant impact on the ability of people to enjoy the immense range of opportunities across Greater Manchester and to make a positive economic contribution". The text recognises that improvements in health require a range of coordinated measures, many of which are beyond the scope of the GMJDP. The JDP supports improvements in health and wellbeing, and reductions in health inequalities throughout its policies and proposals, such as by:

- Promoting a successful economy

- Increasing the supply of high quality and affordable homes

- Enabling people to adopt healthier lifestyles, including through development of a high-quality green infrastructure; encouraging provision of wide range of recreation and sports facilities; food growing opportunities; and increasing the proportion of trips made by walking and cycling

- Reducing the risks to human health, including flood risk; reducing air pollution; providing cooling and shading to combat high temperatures; promoting high levels of fire safety; and designing places to minimise opportunities for crime, terrorism, and anti-social behaviour

11.15. The policy supporting text does not suggest any particular kind of HIA but rather advises that HIAs "should aim to enhance the positive aspects of a proposal while avoiding or minimising any negative impacts, with particular emphasis on disadvantaged sections of communities that may be affected". The policy supporting text does not suggest any particular kind of HIA but rather advises that HIAs "should aim to enhance the positive aspects of a proposal while avoiding or minimising any negative impacts, with particular emphasis on disadvantaged sections of communities that may be affected."

Greater Manchester Integrated Care Partnership Strategy: Improving Health and Care in Greater Manchester 2023-2028

11.16. The Strategy for a population health system acknowledges the importance of four key pillars of health improvement – wider determinants of health, behaviour and lifestyles, integrated public services, and place-based/person centred approaches.

Local

Manchester City Council (MCC) Core Strategy 2012-2027 (adopted 2012)

11.17. MCC's Core Strategy is the key document in Manchester's Local Development Plan. It is founded on a Vision to 2027 that includes "an increased and sustainable healthy population…". Policies relevant to health are as follows:

- Policy SP1 Spatial Principles includes requirement that development should make a positive contribution to neighbourhoods including "making a positive contribution to the health, safety and wellbeing of residents'
- Policy EC1 Employment and Economic Growth in Manchester requires development proposals to make the best possible use of a site in terms of efficient use of space and including application of best practice in security design.
- Policy EN4 seeks to reduce CO2 emission and reduce fuel poverty by enabling low and zero carbon development.
- Policy EN8 Adaptation to Climate Change includes requirements to minimise flood risk and reduce urban overheating.
- Policy EN9 Green Infrastructure provides guidance on provision of new, and improvements to, the quality and accessibility of existing green infrastructure assets.
- Policies EN10 and EN11 safeguard and create new open space, sport and recreation facilities.
- Health is further protected through Policies EN14 Flood Risk, EN16 Air Quality, EN17 Water Quality, and EN18 Contaminated Land & Ground Stability
- Policy T1 Sustainable Transport requires "delivery of a sustainable, high quality, integrated transport system to encourage modal shift away from car travel… and to prepare for carbon free modes of transport".
- Policy T2 will actively manage the pattern of development to ensure that there are accessible areas of opportunity and need.
- Policy T3 supports proposals that contribute to an economically and environmentally sustainable transport network through strategic integration of strategic transport projects. Progression towards sustainable transport will promote healthier living and well-being.
- Policy DM1 Development Management requires that all development should have regard to specific issues including "Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation"; Accessibility: buildings and neighbourhoods fully accessible to disabled people, access to new development by sustainable transport modes"; "Community safety & crime prevention"; and "Design for Health.

Our Manchester Strategy 2025-35

11.18. The Strategy sets out the future envisaged for the city and the priorities were reset following wide consultation: Our People; Our Neighbourhoods; Our City. Theme One Our People comprises five priorities including "to support people to be happy, healthy and active from childhood and throughout their lives."

Manchester's Building Back Fairer (Marmot) Framework (2022-2027)

11.19. This plan recognises that poor quality health is harmful to physical and mental inequalities and widens health inequalities. Unaffordable housing contributes to poverty and can lead to homelessness. It further recognises that homelessness often results from a combination of events. Eight themes are identified to tackle health inequalities, including cutting employment and creating good jobs; improving housing and creating safe, warm and affordable homes; and improving our environment and surroundings in the areas where we live, transport and tackling climate change.

Other Relevant Policy & Strategy

Manchester City Council Population Health Plan (2018-2027)

11.20. The plan focuses on getting results in five crucial aspects of life:

- The first 1,000 days of a child's life
- Work and its positive impact on health
- Making social connections and changes that matter
- An age-friendly Manchester
- Action on preventable early deaths

11.21. The plan recognises the wider determinants of health such as having a good quality job is vital to protecting and improving health and wellbeing. The conditions we are born into, and those we live, work and grow old in, are largely responsible for the health gap between richest and poorest in society. Better housing can help prevent physical illness and reduce stress, and a good physical environment encourages a more active life, and can reduce social isolation improving mental health and wellbeing.

Guidance

Public Health England (PHE) Spatial Planning for Health (2017)

11.22. This report provides evidence of links between spatial planning and health, focusing on five key built environment topics – neighbourhood design, housing, healthier food, natural and sustainable environment, and transport.

Public Health England (PHE) Health Impact Assessment in Spatial Planning (2020)

11.23. This document provides a guide for local authority public health and planning teams setting out process and practice with regard to the wider determinants of health and wellbeing for plan-making and the planning application process. It identifies eight categories of health and wellbeing outcomes in planning: reduce health inequalities; improve mental health and wellbeing; improve diet and weight; improve musculoskeletal health; improve respiratory health; improve cardiovascular health; protect environmental health; and provide access to health and care infrastructure and services. The guide is mostly associated with the plan-making and associated strategic environmental assessment processes. It does include an annex on integrating HIA in EIA and this does confirm the importance of a proportionate and justified approach."

Institute of Environmental Management and Assessment (IEMA, now ISEP) Effective Scoping of Human Health in EIA; Determining Significance for Human Health in EIA (November 2022)

11.24. Provides a framework that supports a proportionate approach that can apply to all scales and sectors of EIA. It confirms that a wider determinants approach should be taken by EIA scoping. An EIA health chapter is required when other EIA technical topics have been scoped in to assess likely significant effects on human receptors, or there is a likely significant change for the health of a group of individuals due to the proposed project and in a wider determinant of health not covered by other technical EIA topics.

Assessment Methodology and Significance Criteria

Scenarios Tested

- Scenario 1: Existing Baseline (existing Site, as of May 2026)
- Scenario 2: Existing Baseline + Proposed Development
- Scenario 3: Existing Baseline + Proposed Development + Cumulative

The Study Area

11.25. The geographical scope is determined by receptor groups that are likely to be significantly affected by the Proposed Development. The scope of the Human Health Chapter is in part dependent upon the study areas and potential receptors identified in the other technical assessments (townscape & visual impact TVIA, heritage, air quality, climate change, solar glare, socioeconomics, traffic & transport, daylight, sunlight & overshadowing, wind microclimate, and noise & vibration). Thus, the study area comprises the Site with local surrounds and the wider study area of Manchester City and Greater Manchester – as applicable to each of the factors relevant to human health and wellbeing for the proposed project. The Site is located within the north-western edge of Hulme Ward.

Surveys and Data Sources

11.26. Data sources informing the assessment draws upon local health and wellbeing information and priorities, such as those set out in the Manchester Intelligence Hub, and as reported through Public Health England and the Office for National Statistics (ONS). The key baseline from relevant technical studies undertaken for the EIA, and other planning support studies, is considered, including risks and benefits to health/wellbeing such as from climate change, daylight & sunlight/overshadowing, air quality, noise, townscape & visual impact, heritage, and socioeconomics.

11.27. Further information on environmental sensitivity that might affect human health and wellbeing has been taken from Defra Magic Mapping, and potential sensitive receptors such as schools and care homes have been identified through Google mapping. It has not been necessary for this assessment to undertake primary research or surveys and this desk-based approach using published information and professional judgment provides an appropriate level of detail to demonstrate that the requirements of The EIA Regulations – and Policy JP-P6 Health have been addressed.

Source of Effect

11.28. Health Impact Assessment (HIA) and health in EIA are separate processes, and there is no standard methodology for assessing health in EIA. The coverage of health in EIA need not be so comprehensive as the HIA that is used to inform detailed project design, but guidance documents for good practice in HIA can inform EIA practice in relation to human health and well-being. It is important that health in EIA is proportionate, balanced, and relevant. The approach here is proportionate - based on consultation responses, professional experience, and assessment of impacts against relevant baseline information. This is a Human Health assessment as part of an EIA; it is not a HIA.

11.29. Shaping Neighbourhoods: For Local Health and Global Sustainability (2003, 2010 & 2021) sets out the complexities of planning for health due to the multiple determinants and the need for cross-sectoral understanding and collaboration. This guide established a health map demonstrating the linkages between the global ecosystem, the natural and built environments, the local economy with communities, people, and their lifestyles. It explains the likely interactions between different sectors and seeks a common language for spatial planning and public health practitioners.

11.30. The complexities of investigating health impacts are recognised by Public Health England (PHE) and the Wider Determinants of Health tool is an ongoing project that provides resources for categories of factors that affect health, as follows: built and natural environment; work and the labour market; vulnerability; income; crime; education.

11.31. The London Healthy Urban Development Unit (HUDU) 'Healthy Urban Planning Checklist' (2017) provides a useful checklist that was developed for London but is applicable to development proposals in urban city centres elsewhere in the UK. The checklist aims to promote healthy urban planning by ensuring that the health and wellbeing implications of local plans and major planning applications are consistently taken into account, through providing a set of themes and planning issues that can be used to assess development proposals. It can be used to help screen possible health impacts for a health impact assessment. Changes in certain determinants caused by development projects may affect the health and wellbeing of existing and new residents. The checklist is divided into four themes – healthy housing; active travel; healthy environment; and vibrant neighbourhoods. This HUDU checklist recognises that health and wellbeing can be affected by multiple determinants as shown in Figure 12.1.

11.32. The HUDU has further developed the checklist into a rapid HIA tool (London HUDU, 2019) that uses existing evidence to quickly assess the impacts of a development plan or proposal and recommend measures to address any negative impacts and maximise benefits. The tool is based on eleven topics or broad determinants of health and wellbeing focused on the built environment and issues influenced by planning decisions.

11.33. For the purposes of this Human Health (HH) assessment, we have applied the HUDU checklist and eleven topics to the Proposed Development in order to help determine the scope of the assessment by identifying the relevant topics and sources of effects. Applicable criteria/questions for each of the scoped topics were considered at the assessment stage in order to assess potential health impacts and the need for any mitigation or enhancement. Existing information and evidence were used, and impact assessment undertaken using professional judgment.

11.34. Housing/Building design and affordability are key factors – provision of good quality residential development is known to have positive effects on health and wellbeing. The HH considers the findings from the EIA chapters on TVIA and heritage – such interactions with building design can be positive factors in supporting both individual and community wellbeing.

11.35. Access to health and social care services and other social infrastructure is directly important for health. The Proposed Development comprises residential spaces, alongside ground floor commercial uses. It is assumed that residents will be registered with and access health and social care services in proximity to the Site. This health assessment also considers the proximity and accessibility of gyms, leisure centres, sports/recreational and cultural facilities nearby since such activities are important contributors to health and wellbeing. Searches were made through web-based sources and using Google Maps to measure approximate distances by walking and/or public transport from the centre of the development area to the facility. The walkable zone was defined as a distance of about 1 mile from the site and equivalent to about 10-20 minutes' walk.

11.36. Access to open space and nature is a key factor. The proximity of open spaces and walking/cycling routes is investigated since access to open space and healthy modes of transport strongly contributes to healthier lifestyles and wellbeing. Factors such as: 'Does the proposal provide links between open and natural spaces and the public realm?'; 'Are the open spaces safe and accessible?'; and, 'Does the proposal set out how any new space will be managed and maintained?' are key considerations.

11.37. Air quality, noise and neighbourhood amenity are important factors for health and wellbeing. It was identified at the EIA scoping stage that air quality and noise would not have likely significant effects and this is noted in the HH chapter.

11.38. Accessibility and active travel is well established as a major factor in health and wellbeing. Likely effects from traffic and transport are not considered to be significant enough for these topics to be scoped into the EIA. The Proposed Development is approximately 1.1 mile from the Manchester City Centre which is richly served by a range of sustainable transport modes.

11.39. Crime reduction and community safety is a key factor in health and wellbeing for communities and this HH considers those elements of the Proposed Development that contribute to safety.

11.40. Access to healthy food is another direct factor in health, such as accessibility to a range of retail and smaller food shops, including for affordability. Provision of allotments and encouragement of community gardens for food is not often within the scope or viability of proposed development projects.

11.41. Access to work and training is known to strongly affect health and wellbeing. Whilst provision of training is beyond the scope of the Proposed Development, the provision of new commercial space is considered within this HH chapter.

11.42. Social cohesion and inclusive design are key factors for health and wellbeing. This HH chapter considers the implications of the design and project proposals in this respect for the new communities; it also considers connectivity with the nearby existing residents, workers, communities and visitors.

11.43. Minimising use of resources – does the proposal make best use of existing land? Does the proposal encourage recycling, including building materials? Does the proposal incorporate sustainable design and construction techniques?

11.44. Climate change is an increasingly vital factor in considering environmental sustainability and a healthy environment – and consequently, health and wellbeing for people and communities. Does the proposal ensure that buildings and public spaces are designed to respond to winter and summer temperatures? This is a concern for tall buildings and city locations including availability of daylight and sunlight, risk of wind and/or solar glare - such risks were considered to be of likely significance and scoped into the EIA. This HH considers the findings from the EIA chapters on climate change. Risks to HH associated with water resources, flooding, ground contamination, and waste were identified as not significant for the EIA and these findings are noted within this HH.

11.45. Overall, the HH chapter aims to consider impacts associated with the construction and the occupational phases. It considers embedded mitigation provided through the design of the project – such as layout, together with specific mitigation for potential negative effects – such as the commitment to a Construction Environmental Management Plan (CEMP) to control and minimise any effects associated with nuisance noise and dust.

11.46. The HH chapter aims to identify any sensitive receptors, such as nearby schools and care homes. The complexities of investigating health impacts are appreciated, including the multifunctionalities and interconnectedness of factors. Therefore, the key findings are then considered within the relevant aspects of the HUDU four themes for healthy urban living - Healthy Building; Active Travel; Healthy Environment; and Vibrant Neighbourhoods.

Significance Criteria

11.47. The recent IEMA guidance (November 2022) suggests categories and wider determinants of health, and those relevant to the Proposed Development were identified, as follows:

Table 11.2 EIA Wider Determinants of Health

Category	Wider Determinants of Health
Health related behaviours	Physical activity; diet & nutrition
Social environment	Buildings; relocation; open space, leisure & play; transport modes & access; community safety; community identity & resilience; social participation, interaction & support
Economic environment	Employment & income
Bio-physical environment	Climate change mitigation & adaptation; air quality ; land quality ; noise & vibration; radiation
Institutional & built environment	Health & social care facilities; built environment; wider societal infrastructure & resources

11.48. The guide also sets out a generic human health magnitude criteria and significance criteria, as follows:

Table 11.3 Human Health Magnitude Criteria

Category	Indicative Criteria (narrative based on professional judgment for magnitude change of population or sub-population
High	high exposure or scale; long-term duration; continuous frequency; severity predominantly related to mortality or changes in morbidity (physical or mental health) for very severe illness/ injury outcomes; majority of population affected; permanent change; substantial service quality implications

Category	Indicative Criteria (narrative based on professional judgment for magnitude change of population or sub-population
Medium	low exposure or medium scale; medium-term duration; frequent events; severity predominantly related to moderate changes in morbidity or major change in quality-of-life; large minority of population affected; gradual reversal; small service quality implications
Low	very low exposure or small scale; short-term duration; occasional events; severity predominantly related to minor change in morbidity or moderate change in quality-of-life; small minority of population affected; rapid reversal; slight service quality implications
Negligible	negligible exposure or scale; very short-term duration; one-off frequency; severity predominantly relates to a minor change in quality-of-life; very few people affected; immediate reversal once activity complete; no service quality implication

Table 11.4 Human Health Significance Matrix

		Sensitivity			
Magnitude		High	Medium	Low	Very Low
	High	Major	Major/Moderate	Moderate/Minor	Minor/Negligible
	Medium	Major/Moderate	Moderate	Minor	Minor/Negligible
	Low	Moderate/Minor	Minor	Minor	Negligible

11.49. Therefore, a significant effect is reported in this assessment where, based on professional judgment, the Proposed Development is likely to contribute to a material change in health outcomes associated with the health issue being assessed and, in determining this, the following questions have been considered:

- Have significant effects been identified in other assessments undertaken as part of the EIA that are linked to human health (i.e. are environmental or health standards threatened)?
- Are vulnerable groups affected?
- Is the effect reversible or irreversible?
- Does the effect occur over the short (less than one year), medium (one to five years) or long (over five years) term?
- Is the effect permanent or temporary?
- Does it increase or decrease with time?
- Is the effect at an individual, community or population level?
- Are mitigating measures available and is it reasonable to require these?

11.50. Effects that are described as 'minor' or 'negligible' are determined to be 'Not Significant' and effects that are described as 'moderate' or 'major' are determined to be 'Significant'. This takes into account the sensitivities of receptors (high, moderate, low) and as set out previously in Table 2.3 in the EIA Methodology (Chapter 2). The criteria and categories of significance applied in this human health impact assessment are, as follows:

- Major Adverse/Beneficial – important considerations at local or district scale; if adverse, are potential concerns to the project and may become key factors in the decision-making process; changes due to the project have a substantial effect on ability to deliver current health policy and/or ability to narrow health inequalities; changes due to the project could result in a regulatory or statutory threshold being crossed

- Moderate Adverse/Beneficial – modest important local effects that, if adverse, may be key issues for decision-making; changes due to the project have an influential effect on ability to deliver current health policy and/or ability to narrow health inequalities; changes due to the project could result in a regulatory or statutory threshold being approached

- Minor Adverse/Beneficial – Slight, short, or highly localised effects that, if adverse, are unlikely to be important in the decision-making process; changes due to the project have a marginal effect on ability to deliver current health policy and/or ability to narrow health inequalities

- Negligible – no appreciable effects on health factors

11.51. Standardised sectoral thresholds and significance criteria have been used for each of the relevant technical factors that contribute to health and well-being, according to recognised guidance, standards, and assessment methods for townscape & visual impact; heritage; air quality; climate change; wind; solar glare; socioeconomics; traffic & transport; daylight, sunlight & overshadowing; and noise & vibration. Then, the overall likely significant effects on human health have been determined in a qualitative way using professional judgment, and taking onto account the relevant elements of the IEMA themes for healthy urban living – social environment and health-related behaviour; economic environment; bio-physical environment; and institutional and built environment.

Baseline Conditions

11.52. Population & Life Expectancies: According to OHID local authority profiles for Manchester and the 3 year period 2021-2023, life expectancy at birth for males is 75.2 years and 79.6 years for females. This compares for males with 77.5 (NW Region) and 79.1 (England); and for females with 81.6 (NW Region) and 83.1 (England). Under 75 mortality rate from all causes (2022) is 510.4 per 100,000 people, and this compares to 408.1 (North West Region) and 341.6 (England). For these life factors, Manchester residents remain in the worst 25th percentile for the range in English authorities, with no significant change in trend in recent years. Healthy life expectancy at birth for males is 51.8-61.5 in the worst to 25th percentile for England with a best of 69.7 years. Healthy life expectancy at birth for females is 52.6-61.9 in the 25th to 75th percentile for England with a best of 70.8 years.

11.53. For behavioural risk factors, the percentage of physically active adults in Manchester is 64.7% which compares with 65.5% (North West Region) and 67.4% (England). Adults (aged 18 plus) classified as overweight or obese is 60.5% compared with 66.7% (North West Region) and 64.5% (England with a range of 42.6-77.2%). As regards child health, Year 6 prevalence of obesity (10-11 years) for period 2022-23 is 27.0%, compared to 23.3% (North West Region) and 22.1 (England with a range from 13.3% best to 31.0% worst). Hip fractures in people aged 65 and over is in the worst to 25th percentile at 648 for Manchester, compared with 578 (North West Region) and 547 (England with range 370 to 744). Inequality in life expectancy at birth (2021-2023) for males is 8.8 and for females is 6.8 years. This compares with 12.6 (NW Region) and 10.5 (England) for males, and 10.2 (NW Region) and 8.3 (England for females; this is above average with Manchester data being in the 50-75th percentile towards best. With regard to wider determinants of health, homelessness in Manchester is in the worst quartile (2023-24 data) at 26.6 and compares with 14.9 for the North West and 13.4 (range 12.0-170.5) for England.

11.54. There are some 20,950 people living in Hulme Ward according to the ONS Census population estimates (2022) and as reported in the Manchester Intelligence Hub. The working age population is 17,887 with only 652 people aged 65+ and 11.5% children under 16 years. The high percentage of working age population is similar to the adjacent Deansgate Ward and reflects the demographic of city centre living and working. According to ONS Midyear population estimates, there are approximately 23,300 people living in Hulme Ward with the proportion of working

age (16-64 years) residents in the study area is 86%, which is significantly higher than across Manchester (71%), Greater Manchester (64%) and England (63%).

11.55. Health & Inequalities: The Manchester State of the City Report (2024) reports on progress with various matters including reducing health inequalities and self-reported wellbeing. It reports that people with higher levels of wellbeing have lower rates of illness, recover more quickly (and for longer), and generally have better physical and mental health. Individuals in Manchester have overall poorer scores on self-reported life satisfaction than England as a whole. In 2022/23, 7.2% of adults in Manchester had a low life-satisfaction score compared with 5.6% of adults across England as a whole – a difference of 1.6 percentage points.

11.56. Physical inactivity is the fourth-leading risk factor for global mortality. Data from the Sport England Active Lives Adult Survey for 2022/3 shows that the proportion of adults aged 19 and over in Manchester classed as 'inactive' has fallen slightly from 26.5% in 2019/20 to 25.7% in 2022-23. The proportion of adults across England as a whole classed as 'inactive' has changed over the same time period (from 27.1% in 2019/20 to 26.0% in 2022-23).

11.57. The English Index of Multiple Deprivation (IMD) is a measure of relative deprivation for small areas or neighbourhoods (Lower-layer Super Output Areas LSOAs based on the 2011 Census) where 1 is the most deprived area and 32,844 is the least deprived. The IMD is compiled from 7 domains of deprivation – income; employment; education, skills, training; health & disability; crime; barriers to housing & services; living environment. According to OHID, the IMD score (2019) for Manchester is 40.0 which compares to 28.1 (North West Region) and 21.7 (England with a range from 5.8 to the worst at 45.0), and is in the worst to 25th percentile. The IMD Score (2019) for the Hulme Ward is 30.6 which is in the lowest of the range for Wards in Manchester – from 62.7 (most deprived) to 15.5 (least deprived) and comparable to the adjacent Deansgate Ward.

11.58. The Manchester State of the City Report (2024) recognises that the health of Manchester has been amongst the poorest in England with noticeable differences between the most and least disadvantaged areas, and reducing health inequalities is a key objective for the City. Homelessness remains a challenge, and safety remains a key concern for residents.

11.59. Housing: In 2021, there were 7,881 households in the Hulme ward. Of these, 19% were owner occupied, lower than the Manchester (37%), Greater Manchester (58%), England (61%), and North West (62%) averages. Private renting accounted for 45% of households in Hulme and social renting made up 36% in Hulme, higher than Manchester (29%), Greater Manchester (21%), the North West (18%) and England (17%).

11.60. Health Services & Other Social Infrastructure: There is a range of services and community facilities within close proximity (10-20 minute walk, a 1 mile radius) of the site. There are 4 GP practices located within approximately one mile walking distance of the site. Based on the most recent data, these practices are operating at an average of 1,827 patients per full-time equivalent (FTE) GP, comparable to the Healthy Urban Development Unit Benchmark of 1,800 patients per FTE GP. The nearest practice, Cornbrook (the city practice location), has a patient-to-GP ratio of 1,65. There are no dental practices located within 1 mile of the Site but 18 dental practices within 1-2 miles. Hospitals are located to the south-east and around 2 miles distance – with good sustainable transport possibilities. There are no care/retirement/nursing homes within the vicinity of the Site. There are several community centres within 1 mile of the Site.

11.61. Education: There are several nursery schools/early years childcare providers within 1 mile of the Site. There are 10 primary schools located within 1-mile walking distance from the Site. The latest roll and capacity data indicate that these schools are operating at a 11% surplus of places. There are seven secondary schools located within a 2-mile walking distance of the Site.

11.62. The Site is located close to the Manchester City Centre where there is a rich variety of cultural, health & wellbeing services and facilities available. This includes museums and art galleries, theatres and cinemas, cafes/bars and restaurants. There are various gyms/sports centres within a 1 mile radius of the Site, including some with swimming pools.

11.63. Crime: The total reported street crimes for 2018 in the Hulme Ward was 4,182, less than adjacent Wards in the city centre, within the range from 1,343 – 16,552 reported within Manchester.

11.64. Employment & Economy: According to the Manchester Intelligence Hub, the total number of people in employment within the Hulme Ward was 41,000 (2022), with the adjacent Deansgate Ward at 102,000, and reflecting the city centre employment focus. As of 2023, Gross Value Added (GVA) across Manchester stood at approximately £35.8bn, equivalent to 35% of Greater Manchester's overall output. Output grew by 53% between 2018 and 2023, a growth rate significantly higher than Greater Manchester, 39%; North West, 34%; England, 28%.

11.65. Open Space & Nature: There are a number of open/amenity spaces in proximity to the Site (around 1 mile) including Ordsall Park, Hullard Park, St George's and Barrack Parks. There are a range of facilities across these parks and green spaces, including sports facilities and some include dedicated play space for children of different ages. Within 1 mile, there is walking and cycling access to wider networks of open/green space, for example, the Bridgewater Canal, the River Irwell, the Rochdale Canal and Ashton Canal towpaths, and beyond – such as the Beeway cycle and walking routes, the Manchester Green Trail, the Bridgewater Way, and the GM Ringway.

11.66. Townscape & Visual Impact: The Site is located within the established Castlefield/St George's area and it occupies previously developed land at Ellesmere Street. The Site is currently occupied by a mix of commercial buildings, surface parking, hardstanding and areas of incidental vegetation, reflecting its former industrial and commercial use. The Site makes a limited positive contribution to the surrounding townscape and represents an opportunity for regeneration through comprehensive redevelopment. The surrounding area is characterised by a diverse mix of historic industrial buildings, canals, railway infrastructure, contemporary residential development and commercial uses.

11.67. There are no nationally designated landscapes within the study area. The principal townscape designation is the Castlefield Conservation Area, which immediately adjoins the Site and contains a significant concentration of designated heritage assets associated with Manchester's industrial development. The wider study area contains numerous designated heritage assets, including Grade II and Grade II* listed buildings, scheduled monuments and locally important heritage features.

11.68. Thirteen Townscape Character Areas (TCAs) (A-M) have been identified to reflect the principal variations in urban form, land use, built character and townscape quality within the study area. Castlefield and Salford University/Cathedral TCAs were identified as highly sensitive whilst other TCAs ranged from medium to low sensitivity.

11.69. Visual receptors within the study area comprise residents, pedestrians, cyclists, recreational users, commuters travelling by rail and Metrolink, motorists and visitors to the numerous heritage attractions within Castlefield. Existing views are generally influenced by the juxtaposition of historic industrial townscape and contemporary city centre development. Fourteen representative viewpoints were agreed through the EIA Scoping process to assess the likely visual effects of the Proposed Development.

11.70. Built Heritage: There are no heritage assets that are afforded statutory protection; it is currently vacant and has no built heritage significance. A study area of 500m has been defined for the heritage assessment. Within the study area, there is 14 Listed Buildings, 10 Non-designated Heritage Assets and two Conservation Areas, in addition to two heritage assets considered outside of the study area. Of these, 10 heritage assets have been scoped into the EIA.

11.71. Daylight, Sunlight & Overshadowing: The Site is currently an open parcel of land. Buildings in the immediate vicinity with windows that overlook the Site directly are Vox to the west, Castlefield Locks to the east, 252 Chester Road to the south and part of Pomona Wharf to the north. These buildings receive elevated levels of daylight and, where south facing, sunlight amenity over the Site. Other neighbouring buildings receive more limited daylight and sunlight due to the massing of other buildings in the vicinity.

11.72. Climate Change: Greenhouse gas (GHG) emissions occur constantly and widely as a result of human and natural activity. The current baseline comprises a cleared brownfield site with predominantly hardstanding surfaces and no active residential use or sensitive internal receptors. The prevailing baseline climate reflects the current temperature ranges, seasonal rainfall patterns and occasional extreme weather typical of the Greater Manchester area.

11.73. Wind: Baseline studies considered worst case seasonal and summer conditions. Wind conditions within and around the existing site satisfy the criteria for pedestrian safety. Wind conditions within the Site and immediate

surrounding areas are generally suitable for existing use, with exceptions located at the following off-site areas, and are therefore considered to be pre-existing – Dinton Street, Near Vox Apartment, thoroughfares south of the Site, and entrance to Pomona Wharf.

11.74. **Solar Glare:** The Site is currently an open parcel of land. The Railway line and Metro lines are located directly to the west of the Site, elevated on a viaduct. There are highways and road junctions, with traffic lights, adjacent to the Site. There are no instances of solar glare in the baseline condition. Seven points for assessment of glare at signal positions were identified along the Metro travelling from south to north. Three points for assessment of glare along the rail line were identified travelling towards the signals.

Identification and Evaluation of Likely Significant Effects

Construction Phase

11.75. **Employment & Economy:** During the construction phase a variety of jobs would be supported – on and off Site – temporary, short term and effects are Moderate Beneficial which is Significant.

11.76. **Townscape & Visual Impact**: During the construction phase, sources of townscape and visual effects include site set up and compound, boundary fencing, site clearance, groundworks, access, and contractor parking, plant and equipment – and the effects will be visible especially within the immediate vicinity of the Site. Measures to control construction impacts will be incorporated into a Construction Environmental Management Plan (CEMP). Construction phase townscape temporary impacts are predicted to be Moderate Adverse (Not Significant).

11.77. **Built Heritage**: During the construction stage there will be a visible change to the setting of the identified heritage assets due to temporary structures and facilities to deliver the scheme that will visibly change from week to week. Temporary effects on the settings of Built Heritage were found to range from Minor Adverse to Negligible which are Not Significant.

11.78. **Daylight, Sunlight & Overshadowing**: Daylight and sunlight effects will gradually change from negligible to that described in the operational phase of the Proposed Development.

11.79. **Climate Change**: There are GHG emissions associated with the material extraction, transportation and manufacturing of construction products; also, GHG emissions associated with delivery of materials to the Site and the on-site installation process. The embodied carbon is in line with benchmarks for residential development and consistent with the trajectory towards net zero such that effects on the global climate are Minor Adverse (Not Significant). Extreme weather affecting construction activities is considered to be Negligible.

11.80. **Wind**: There is the potential for wind effects into and across the open areas of the Site to inconvenience workers and passers-by, and risks would be mitigated through the CEMP with residual effects Negligible.

11.81. **Solar Glare**: During the construction phase, the solar glare effects will gradually change from the baseline condition to those impacts (where present) with the Proposed Development in place.

Operational Phase

11.82. **Housing**: The Proposed Development will deliver 593 new homes with an indicative mix of 1-4 bedroom homes representing 17% of Manchester's annual housing delivery target as set out in the PfE Joint Development Plan and giving rise to a permanent, Moderate Beneficial effect (Significant) at the district level.

11.83. **Employment & Economy**: On-site residential uses and associated household expenditure have the potential to support additional employment. The existing Site is currently vacant, therefore all jobs supported by the Proposed Development are net additional to local employment levels – Negligible effects (Not Significant). The on-site employment has the potential to support the LIA and district economy through GVA effects and through household spending - Negligible effects (Not Significant). The uplift in council tax revenue through the increased number of households could be in the order of £1.1 million per annum – Minor Beneficial (Not Significant).

11.84. **Crime:** There is likely to be less risk of crime since there will be new occupied residential buildings with ground floor commercial and community uses, security measures, including secure cycle parking – Minor Beneficial (Not Significant).

11.85. **Health Services & Other Social Infrastructure**: The Proposed Development is expected to yield a population of just over 1,500 persons and assuming that all these residents would be additional (and not already registered with GPs in the study area), this would lead to an increase in the number of registered patients per FTE GP from 1,827 to 1,876 (+2.7%) with effects Minor Adverse (Not Significant).

11.86. **Education**: Presented as a worst-case, the addition of 221 pupils to the primary school roll within the study area (1 mile walking distance) would lead to a surplus in pupil places against capacity (3,703 places or 5% surplus with effects Minor Adverse (Not Significant). The addition of 108 pupils to the secondary school roll within the study area would lead to the maintenance of surplus capacity (3%) but below the recommended margin to maintain flexibility with effects Minor Adverse (Not Significant).

11.87. **Open Space, Recreation & Amenity**: An uplift in the population may increase demand and usage of nearby open space and recreation facilities. However, it is assessed that the magnitude of change associated with the Proposed Development will give rise to effects that are Negligible (Not Significant).

11.88. **Townscape & Visual Impact:** During operation, mitigation is embedded within the design of the Proposed Development and includes high-quality architecture, public realm improvements, structural tree planting, integrated green infrastructure, biodiversity enhancements, active ground floor frontages and high-quality hard landscape materials. These measures contribute to reducing the magnitude of townscape and visual effects whilst enhancing the quality of the surrounding public realm. Residual effects on Townscape Character Areas are Major Neutral at Castlefield and Minor to Negligible elsewhere – all Not Significant. Residual effects on views resulting from the completed development range from Moderate-Major to Minor Adverse, generally Neutral and with one Moderate Beneficial – Not Significant.

11.89. **Built Heritage**: The operational stage will not directly impact the identified heritage assets but will result in a change to their setting (indirect impact) and potentially their significance as a result. Effects on the settings of heritage assets were found to range from Minor Adverse to Negligible which are Not Significant.

11.90. **Daylight, Sunlight & Overshadowing**: Daylight amenity effects upon the surrounding properties range from Negligible at 4 receptors (Pomona Wharf, Excelsior Works, No 1 Cornbrook, 5 Kelso Place), Minor Adverse (Not Significant) at 2 receptors, Moderate Adverse (Significant) at 1 receptor (vox), and Moderate-Major Adverse at 2 receptors (Castlefield Locks, 33 Ellesmere St). Sunlight amenity effects upon the surrounding properties are Negligible for 7 receptors, Minor Adverse (Not Significant) at Excelsior Works and Castlefield Locks (rooms), and Major Adverse (Significant) for Castlefield Locks (external spaces).

11.91. **Climate Change**: There will be some greenhouse gas emissions associated with embodied carbon and operational energy emissions. These have been reduced through embedded design such that greenhouse gas emissions and climate change resilience has been addressed with residual effects Not Significant (overheating of habitable spaces - Minor Adverse; surface water flooding - Minor Adverse; Reduced water availability - Negligible; GHG emissions - Minor Adverse).

11.92. **Wind**: With mitigation through cumulative surrounds for the Proposed Development, the safety criteria are met throughout the study area and residual effects are Negligible. Wind conditions are largely in compliance with the comfort criteria but a few exceedances at several locations (Block B terrace, southeast entrance, courtyard seating & recreational spaces) were found to be Minor Adverse which is Not Significant.

11.93. **Solar Glare**: For the 12 positions along the Metro and rail line investigated, reflected sunlight effects were determined as Major Adverse (1), Moderate Adverse (4), Minor Adverse (3), Negligible (2), and None (2).

Cumulative Effects

11.94. There are no significant cumulative effects associated with Human Health.

Mitigation Measures

11.95. No additional mitigation measures are proposed during construction or operation of the Proposed Development.

Residual Effects

11.96. During the construction phase, effects on wind and TVIA will be mitigated through the CEMP. Post-mitigation residual effects are summarised in the table 11.5, as follows:

Table 11.5 – Post-Mitigation Residual Effects during Construction and Operation

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
Employment & Economy	Workers	N/A	N/A	Moderate Beneficial (Significant)
TVIA	Nearby residents & visitors		CEMP	Moderate Adverse (Not Significant)
Built Heritage	Setting of heritage assets	N/A	N/A	Negligible to Minor Adverse Not Significant)
Climate Change	Global climate	N/A	N/A	Minor Adverse (Not Significant)
Climate Change	Workers	N/A	N/A	Negligible
Wind	Workers, passers-by		CEMP	Negligible
Solar Glare	Nearby residents & visitors			
Operational Phase				
Housing	New Residents	N/A	N/A	Moderate Beneficial (Significant)
Employment	Workers	N/A	N/A	Minor Beneficial (Not Significant)
Economy LA revenue	LA income	N/A	N/A	Minor Beneficial (Not Significant)
Health & Social Infrastructure	New & nearby Residents	N/A	N/A	Minor Adverse (Not Significant)
Education – early years, primary, secondary	New & nearby Residents	N/A	N/A	Negligible
Open Space & Amenity	New & nearby Residents	N/A	N/A	Negligible
Crime	New, nearby Residents & visitors	N/A	N/A	Minor Beneficial (Not Significant)
TVIA – Local Townscape Character	New, nearby Residents & visitors	N/A	N/A	Major Neutral (Castlefield); Minor to Negligible elsewhere
TVIA - views	New, nearby Residents & visitors	N/A	N/A	Moderate-Major to Minor; generally Neutral with one Moderate Beneficial effect
Built Heritage	Settings of heritage assets	N/A	N/A	Negligible to Minor Adverse Not Significant)
Daylight Amenity	Nearby residents – Castlefield Locks, 33 Ellesmere St	N/A	N/A	Moderate- Major Adverse (Significant)

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Daylight Amenity	Vox	N/A	N/A	Moderate Adverse (Significant)
Daylight Amenity	Trilogy, 303-309 Chester Rd,	N/A	N/A	Minor Adverse (Not Significant)
Daylight Amenity	Pomona, Excelsior, No 1 Cornbrook, 5 Kelso Pl	N/A	N/A	Negligible
Sunlight Amenity	Castlefield Locks (external spaces)	N/A	N/A	Major Adverse (Significant)
Sunlight Amenity	Castlefield Locks (rooms), Excelsior	N/A	N/A	Minor Adverse (Not Significant)
Sunlight Amenity	Other nearby receptors	N/A	N/A	Negligible
Climate Change – overheating, flooding, water availability	New & nearby residents	N/A	N/A	Minor Adverse – Negligible (Not Significant)
Climate change - GHGs	Global climate	N/A	N/A	Minor Adverse (Not Significant)
Wind	New & nearby residents safety	N/A	N/A	Negligible
Wind	Residents comfort	Evergreen trees, canopy, porous screens,	Details as part of planning submission	Minor Adverse (Not Significant)
Solar Glare	Receptors (x12 points) at signals on Metro & rail lines	N/A	N/A	Major Adverse (1), Moderate Adverse (4), Minor Adverse (3), Negligible (2), and None (2)

Monitoring

11.97. No further monitoring required.

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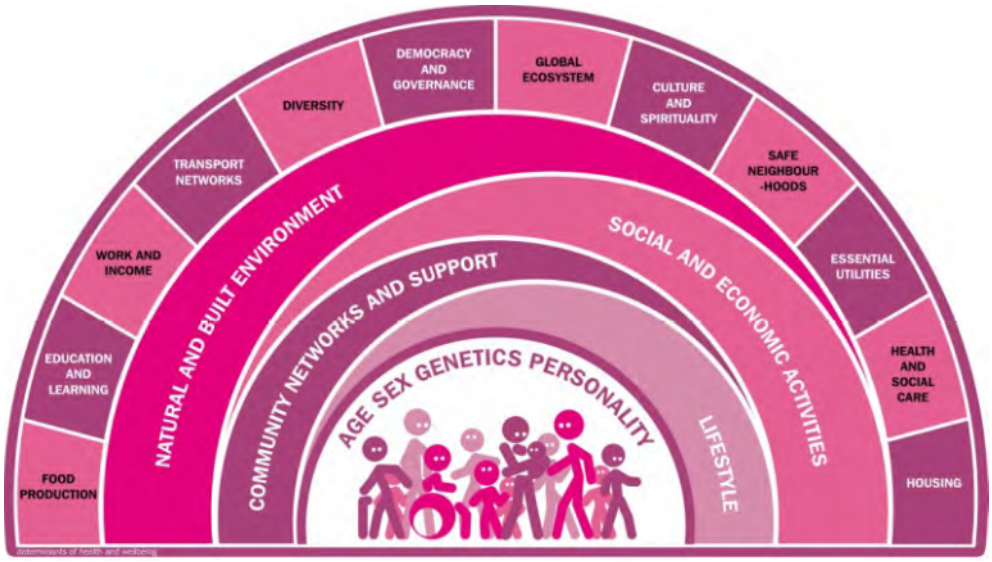


	Figure:	**11.1**		
	Title:	The Determinants of Health and Wellbeing (London HUDU, developed from Barton & Grant 2007		
	Project:	**No 1 Castlefield, Manchester**		
	Date:	**July 2026**	**Scale:**	**NTS**

12. Socio-Economic

12.1. This Chapter of the ES has been prepared by GC Insight and assesses the likely Socio-Economic impacts of the Proposed Development upon the EIA Site and surrounding area during the construction and operational phases. This Chapter also describes the methods used to assess these impacts, the existing baseline conditions, the proposed mitigation measures required to prevent, reduce or offset any significant negative impacts and the likely residual impacts after these methods have been adopted.

12.2. This Chapter has been prepared and reviewed by:

Table 12.1 Chapter Authors

	Lead Author	Reviewer
Name	Ines Mackenzie-Hardy	Kirsten Powell
Company	GC Insight	GC Insight
Qualifications/Accreditations relevant to technical area incl. IEMA	BA (Hons) Politics, Philosophy and Economics	BA (Hons) Geography, member of the Institute of Economic Development
Years technical experience (in technical area)	2.5	25
Number of EIA's delivered to date	3	25+

Assumptions and Limitations

12.3. There are no specific significance criteria relating to the assessment of socio-economic effects. Therefore, the assessment is made against a benchmark of current socio-economic baseline conditions prevailing at and within relevant study areas, using professional judgement and best available information, and considered accurate at the time of writing.

12.4. The assessment of effects is carried out against the socio-economic baseline conditions as defined by publicly available data sources that, as with any data set, are subject to change. Data sources include:

- ONS Annual Population Survey
- ONS Business Register and Employment Survey
- ONS Regional gross value added (balanced) by industry
- NHS General Practice Workforce Survey
- ONS Census
- DfE School Capacity
- ONS Family Spending Workbook

12.5. The assessment of effects assumes that the Proposed Development:

a) would be constructed in accordance with the planning permission applied for; and

b) be fully occupied following completion.

Relevant Legislation, Policy and Guidance

Legislation

12.6. There is no relevant legislation in relation to the assessment of socio-economic effects.

Policy

National

12.7. The National Planning Policy Framework (NPPF) sets out the government's policies for plan making and for making decisions on development proposals in England. A revised NPPF was launched by the Government in August 2026 which, among other things, supports an increased focus on securing growth.

12.8. Paragraph 17 states that the planning system has three overarching objectives to support sustainable development, which are interdependent and need to be pursued in mutually supportive ways:

- An economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
- A social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
- An environmental objective – to support efforts to mitigate and adapt to climate change, including moving to a low carbon economy; and to protect and enhance our natural, built and historic environment, including making effective use of land, improving biodiversity, using natural resources prudently, and minimising waste and pollution.

12.9. Section 6 states that the intention is to support the delivery of a substantial increase in the supply of homes, while recognising the size, type and tenure of housing required by different groups, with plans required to support this.

Regional

12.10. Places for Everyone is the long-term plan for the delivery of jobs, new homes and sustainable growth across nine of Greater Manchester's districts[1]. The Places for Everyone (PfE) Joint Development Plan took effect and became part of the statutory development plan for each of the nine districts in March 2024. The plan sets out a strategic policy framework for the districts to meet their local housing and employment needs by identifying land and infrastructure. 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.

12.11. There is a strong focus in PfE on directing new housing towards previously developed sites within existing urban areas. This will help to re-purpose existing derelict and underutilised sites, as well as reducing the need to release greenfield and Green Belt land for development. Previously developed sites are often in relatively sustainable locations, close to facilities and served by existing infrastructure, and hence their reuse for housing can support wider objectives. Policy JP-H 4 'Density of New Housing' will ensure that efficient use is made of such sites, particularly in more accessible locations, further reducing the need for additional land release.

12.12. Policy JP-H1 (Scale, Distribution and Phasing of New Housing Development) sets out the housing delivery targets for each of the nine districts across the period 2022-2039. For Manchester, the delivery target to 2039 is 60,061, averaging 3,533 new homes per annum.

[1] Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan

12.13. **The Greater Manchester Housing Strategy (2019)** remains the latest formally adopted GM-wide housing strategy. It identifies the provision of safe, decent and affordable housing with homes to fit the needs of current and future citizens as its priority. Using brownfield sites for housing is a vital part of the Places for Everyone strategy.

12.14. **Greater Manchester Strategy 2025–2035: Together We Are Greater Manchester (2025)** indicates the approach of the city region to housing provision (with a target of 75,000 new houses by 2030) with ambition to not only increase housing stock, but also making housing more affordable and inclusive. It indicates the role that regenerating brownfield land should play in achieving this ambition. The strategy links the provision of more affordable housing with decreasing health inequalities and increasing economic growth across the region.

Local

12.15. The **Manchester Core Strategy (2012)** outlines the overall strategic direction for planning for Manchester over the plan period from 2012 to 2027 and aligns with national policies. The policies of the Core Strategy establish where major development and other forms of investment should be located to be sustainable, meet local needs and take full advantage of opportunities. A key spatial principle of the Core Strategy is that the regional centre of Manchester will be the focus for economic and commercial development, retail, leisure and cultural activity, alongside high-quality city living.

12.16. The **Manchester Core Strategy Addendum 2024** aligns housing policy with the **Places for Everyone** plan, following its adoption in 2024. This incorporates a shift from a city-focused to a Greater Manchester-wide housing strategy. Key changes include revised housing targets, more flexible density guidelines and stronger affordable housing policies to support sustainable, inclusive growth.

12.17. The **Manchester Housing Strategy (2022)** noted that the city has experienced rapid population growth and although more homes are being built in the city centre than at any time since the 2008 economic downturn there is a continued demand for new homes. The Strategy commits to building 32,000 new homes by 2032, 10,000 of which will be affordable homes and 3,000 within the city centre. The Strategy also states a commitment to deliver at least 80% of all homes built by 2032 on brownfield sites, located close to public transport.

12.18. Manchester's Economic Strategy **'Investing In Success' (2023)** states that although 22,350 new homes were built between 2011 and 2021, Manchester's economic success has made it a popular place to live, putting immense pressure on the housing market. The cost of housing has increased significantly faster than average wages, citing a substantial rise (+243%) in the median house price in Manchester over a 20-year period. Investing in Success also alludes to the housing affordability challenges that renters face, noting a large rental value differential between city centre and non-city centre locations. The strategy notes that although the housing strategy has committed to building 32,000 new homes by 2032, there is also a need for the rest of Greater Manchester to build housing in more 'better connected' locations to meet future demand and meet their priority of achieving inclusive economic growth.

Guidance

12.19. The site is not covered by a Strategic Regeneration Framework, which typically provides the key source of guidance for development in the city centre and city centre fringe.

Assessment Methodology and Significance Criteria

Scenarios Tested

12.20. This Chapter considers the following scenarios:

- Scenario 1: baseline as per site May 2026
- Scenario 2: baseline plus proposed development
- Scenario 3: baseline plus proposed development plus cumulative development

12.21. Scenario 1 represents the existing baseline and so this is addressed in 'Baseline Conditions' helping to inform the sensitivity of socio-economic receptors. For the purposes of clarity, only baseline developments that fall within the relevant study area for the identified receptor are considered within the baseline (for example, when calculating the

impact of baseline developments on the Hulme ward population, only baseline developments located within the Hulme Ward are considered). Appendix 2.1 are considered relevant in the assessment of socio-economic effects and are considered when assessing the sensitivity of socio-economic receptors.

12.22. Scenario 2 is addressed within the 'Identification and Evaluation of Likely Significant Effects' section. Scenario 3 is addressed within the 'Cumulative Effects' section. All cumulative developments detailed in Appendix 2.1 are within the scope of the latter scenario, falling within 1km of the Site.

The Study Area

12.23. The anticipated effects of the Proposed Development and relevant receptors are set out in more detail in Table 12.2. The likely effects influence the geography over which the study area is considered. The effects of the Proposed Development are considered across the following geographies:

- Local level – the definition of the local study area/impact area can vary depending on the effect being assessed and any associated need to use bespoke catchments and/ or administrative spatial scales as set out within relevant local and regional policies. For some receptors, there is a need to consider small, bespoke catchments, relating to national guidance (e.g. statutory walking distances set out by the Department for Education) or relevant local policies. In other cases, the ward in which the site falls (Hulme – See Figure 12.2) is considered.

- District – Manchester City Council (MCC) is identified as the administrative area in which the Proposed Development is located and the area in which housing and employment targets are set. For some receptors, the appropriate study area is the district level.

- Sub-regional – Greater Manchester is predominantly considered when assessing temporary construction employment effects of the Proposed Development. For some receptors, the appropriate study area is the sub-regional level.

12.24. The geography applied to the assessment of each receptor is outlined in Table 12.2.

Table 12.2: Geographical study areas

Effect	Receptor	Study Area(s)	Justification
Change in temporary employment during the construction stage	Individuals seeking construction employment	Sub-regional (Greater Manchester)	Construction labour is likely to be drawn from a wide geography across Greater Manchester.
Provision of new housing	Local Housing Supply	District (MCC)	Housing targets are set at the district level.
Change in direct operational employment	Individuals seeking employment	District (MCC)	Employment/economy targets are set at district level.
Contribution to economic performance (through uplift in household spend and GVA)	The local economy	District (MCC)	Considering site location, household spend is likely to be captured predominantly in Manchester City Centre. Employment/economy targets are set at district level.

Effect	Receptor	Study Area(s)	Justification
Change in annual fiscal contributions	Manchester City Council revenue	District (MCC)	Revenue from council tax is collected at a local authority level. Business rates revenue is collected nationally with a proportion retained by the local authority. Currently, 100% of business rates growth from a 2013/14 baseline is retained by Greater Manchester local authorities under the trailblazer devolution deal.
Additional demand for early years, primary and secondary school places	Education facilities	Local Level (1-mile walking radius for primary schools; 2-mile walking radius for secondary schools)	1 mile is used to approximate a reasonable maximum walking distance for children of primary school age. 2 miles is used to approximate a reasonable maximum walking distance for children of secondary school age.
Additional demand for healthcare facilities (GP services and dentists)	Primary healthcare facilities	Local Level (1-mile walking radius)	Based on Healthy Urban Development Unit (HUDU) guidance indicating that impact on GP capacity should be assessed within a one mile catchment from any Proposed Development.
Effect on capacity of open space and play space	Users of open space and play space	Local Level (1-mile walking radius)	A 1 mile radius reflects the areas of open and amenity space and leisure facilities that residents of the Proposed Development would typically use on a day-to-day basis.

12.25. In addition, national level data is included within the baseline assessment, where relevant, to provide context and to help determine the sensitivity of baseline conditions in other geographies.

Surveys and Data Sources

12.26. This assessment relies on data provided by publicly available data sources, including:

- ONS Annual Population Survey
- ONS Business Register and Employment Survey
- ONS Regional gross value added (balanced) by industry
- NHS General Practice Workforce Survey
- ONS Census
- DfE School Capacity
- ONS Family Spending Workbook

Source of Effect

12.27. Table 12.3 sets out the assessment methodology for each of the identified effects. The approach is based on recognised practice for the assessment of socio-economic effects and the application of professional judgement.

Table 12.3: Assessment Methodology for Effects

Effect	Assessment Methodology
Change in temporary employment during the construction stage	To estimate the impact of temporary employment supported as a result of the construction activity, the turnover per employee within the construction industry at the regional (North West) level is applied to forecast construction costs associated with the Proposed Development and then divided by the expected duration of the construction works (in number of years) to provide the average number of construction workers per annum. It is acknowledged that whilst some construction workers may live locally, and their expenditure on household goods and services would also support employment in local businesses, it is also likely that construction workers will be drawn from within the wider region, depending on the roles available and contractors selected. On this basis, an estimate of the induced effects supported by the construction activity cannot be accurately quantified and therefore is not assessed.
Provision of new housing	The effect on housing delivery is calculated based on the targets set out in the adopted PfE Joint Development Plan 2022-2039 and cognisant of MCC's housing delivery targets as set out in the current Manchester Housing Strategy 2022-2032, considering factors such as the quantity, tenure and mix of proposed housing.
Change in direct operational employment	The change in on-site employment supported by the residential uses has been estimated using figures provided by specialist residential management consultants, covering roles from management to security and cleaning. Furthermore, the delivery of an onsite retail/flexible commercial unit will provide employment opportunities. Employment density benchmarks from the Homes and Communities Agency (HCA) are used to estimate the overall (gross) number of full-time equivalent (FTE) jobs that will be supported by this type of floorspace and are applied to the Net Internal Area (NIA) for the uses proposed on site.
Contribution to economic performance (through uplift in household spend and GVA)	Economic impact will be generated as a result of the direct, indirect and induced jobs supported by the Proposed Development in the form of Gross Value Added (GVA). This is calculated by applying GVA per FTE job benchmarks for Manchester to the estimated employment impacts and relevant job sectors generated by the Proposed Development. Furthermore, economic impact will be generated as a result of resident spend off-site, which will in turn will support off-site employment, also captured in the form of GVA.
Change in annual fiscal contributions in the form of council tax contributions	A weighted average council tax charge of £1,804 per annum is applied to the number of new homes proposed. The weighted average is derived based on the 2026/27 MCC Council Tax band charges and the estimated proportion of homes in each band.
Additional demand for early years, primary and secondary school places	The pupil yield from new development can be estimated using benchmarks provided at the local authority level using data from the Department for Education (DfE Pupil Yield Data Dashboard). Current school roll and capacity data provided by the DfE Get Information About Schools service is used to estimate existing capacity levels within the local impact area. The impact of additional pupils derived from the Proposed Development is then quantified against this baseline.
Additional demand for healthcare facilities (GP services and dentists)	The population yield of the completed and operational Proposed Development is estimated based on unit size, assuming that each dwelling will accommodate one additional person to the number of bedrooms (eg 1 bed, 2 persons, 2 bed, 3 persons etc) then applying this rule to the proposed size mix yields an estimated population – see further justification in the Identification and Evaluation of Likely Significant Effects section). The additional patient population is treated as a worst-case scenario, assuming that all residents are not already registered with GPs in the local area. An adjusted patient to FTE GP ratio is calculated and compared with the Healthy Urban Development Unit (HUDU).
Effect on capacity of open space and play space	The effect is assessed qualitatively, using professional judgement, taking account of the extent and nature of proposed provision and compared to the existing baseline within the local impact area.

Significance Criteria

12.28. The sensitivity of each receptor, outlined in Table 12.4, is evaluated as being high, medium, low, or negligible based on a review of the baseline position of each receptor, and where relevant, its performance against other benchmark areas. Where relevant, the importance of the receptor in local and regional policy terms is also considered in defining its sensitivity.

Table 12.4. Receptor sensitivity

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

12.29. The magnitude of impact experienced by each receptor is determined by considering the change from (future) baseline conditions, both before and (if required) after mitigation. The criteria used for the assessment of the magnitude of socio-economic impacts (both beneficial and adverse) are outlined in Table 12.5.

Table 12.5 Significance matrix

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

12.30. The nature of the effect is defined as either:

- Beneficial – an advantageous effect on the impact area; or
- Adverse – detrimental effect on the impact area; or
- Neutral – neither beneficial nor adverse effect.

12.31. The significance of the effect is based on the matrix set out in Table 12.6. Effects assessed as moderate or major are considered significant in EIA terms. The matrix provides flexibility in assessing the significance of effects and allows for the application of professional judgment, where necessary, to determine whether an effect that straddles the minor-moderate threshold is assessed as being significant or not significant.

Table 12.6 Magnitude of impact

Magnitude	Sensitivity		
	High	Medium	Low
Major	**Major Adverse/Beneficial**	**Major - Moderate Adverse/Beneficial**	**Moderate** or Minor **Adverse/Beneficial**
Moderate	**Major - Moderate Adverse/Beneficial**	**Moderate Adverse/Beneficial**	Minor Adverse/Beneficial
Minor	**Moderate** or Minor **Adverse/Beneficial**	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

Baseline Conditions

Scenario 1 (baseline as per site May 2026)

Population and Labour Market

12.32. Population data indicated that there are approximately 23,300 people living in Hulme ward according to the ONS Midyear Population Estimates for Small Geographies.

12.33. It is assumed that the population effects of residential developments identified within the existing baseline (Scenario 1), that also fall within the study area (ward), are not captured within the 2021-based figures presented above. Assuming all residents would be new to the area (worst case scenario) then the baseline development could uplift the study area baseline population from approximately 23,300 to around 24,800[2].

12.34. The proportion of working age (16-64 years) residents in the study area is 86%, which is significantly higher than across Manchester (71%), Greater Manchester (64%) and England (63%).

12.35. As of May 2026, 4.5% of working age residents (910 people) across Hulme were claiming Universal Credit or Jobseekers Allowance which is a rate lower than Manchester (6.1%) and Greater Manchester (4.9%) but higher than the North West (4.2%) and England (4.1%).

Housing

12.36. In 2021, there were 7,881 households in the Hulme ward. Of these, 19% were owner occupied, lower than the Manchester (37%), Greater Manchester (58%), England (61%), and North West (62%) averages. Private renting accounted for 45% of households in Hulme, higher than Manchester (32%), Greater Manchester (21%), England (20%), and the North West (19%) and social renting made up 36% in Hulme, higher than Manchester (29%), Greater Manchester (21%), the North West (18%) and England (17%).

12.37. In 2025, the ratio of median house price to median gross annual residence-based earnings was 6.82 in Manchester, 5.90 in the North West, and 7.64 in England. The five-year average for Manchester was 7.71, compared to 6.31 in the North West and 8.31 in England.

12.38. In 2024-25, almost 3,700 new homes were built in Manchester – c. 3,300 market and c500 affordable. Within the first three years of Manchester's 10 year Housing Strategy (2022-2032), the total number of homes delivered was 8,789 (24.4% of the 36,000 target), including 1,529 affordable homes (15.3% of the 10,000 target).[3] Relative to the

[2] This assumes an average household size in the Hulme ward of 2.5, derived from the 2021 Census.
[3] Manchester Housing Strategy 2022-2032 Annual Monitoring Report 2024254.pdf

PfE housing targets, the 2024-25 housing delivery represented over 100% of the 3,533 annual delivery target and 6.1% of the overall target to 2039.

Employment

12.39. The latest available employment data from the Business Register and Employment Survey indicates that total employment within the Hulme ward in Manchester was around 9,775 in 2024, accounting for around 2% of Manchester's total employment (457,400).

12.40. Given the lag in employment data through the Business Register and Employment Survey, it has been assumed that the employment effects of baseline developments (Scenario 1) are not included within the figures presented above. The employment generated by baseline developments (Scenario 1) that fall within the Manchester local authority area has the potential to increase total district level employment to around 457,700.[4]

12.41. In terms of the employment structure, 36% of employment within Hulme ward is within the 'Education' sector which is significantly higher than the Greater Manchester average (8%). The second largest sector by employment in Hulme, Information and Communication, constitutes 15% of all employment and has a higher share compared to Greater Manchester and nationally (both 4%). Compared to the national share of employment, Hulme ward is well represented in both Education and Information and Communication (location quotients of 4.29 and 3.28 respectively). Other well represented sectors in terms of employment include Property (location quotient of 2.30) and Arts, Entertainment and Recreation (location quotient of 1.38).

12.42. At the Greater Manchester level, the construction sector supports approximately 72,000 jobs. Due to significant uncertainty in both the levels of capital investment and build period for the identified baseline developments (Scenario 1) the associated construction employment effects cannot be estimated. It is therefore assumed that the figure presented above represents the existing baseline position.

Economic Output (GVA)

12.43. As of 2023, Gross Value Added (GVA) across Manchester stood at approximately £35.8bn, equivalent to 35% of Greater Manchester's overall output. Output grew by 53% between 2018 and 2023, a growth rate significantly higher than across benchmark areas (Greater Manchester, 39%; North West, 34%; England, 28%).

12.44. Productivity, calculated as GVA per full-time equivalent (FTE) worker, in Manchester stood at c.£99,000 in 2026. Productivity is higher than in comparator areas – c.£87,000 for Greater Manchester, c.£86,000 for the North West and c.£96,000 across England.

12.45. Sectoral analysis of GVA output in 2023 can be undertaken at local authority level, where 43% of GVA was generated by office-based service sector jobs, including those in Information and Communication (£2.5bn), Financial and Insurance (£5.3bn), Professional, Scientific and Technical (£5.1bn) and Administrative and Support Service activities (£2.5bn) sectors. The average GVA per FTE figures for retail, accommodation and food services and arts, entertainment and recreation sectors combined in Manchester was lower than the all-sector productivity average (c.£70,000 vs c.£99,000).

12.46. As of 2023, GVA output for the construction sector across Greater Manchester stood at £6.4 bn and GVA per FTE worker (uprated to 2026 prices) in the construction sector stood at c.£107,000 – above the all-sector productivity average.

Local Authority Revenue

12.47. Given current macroeconomic conditions, cost of living challenges and the local authority funding landscape, the delivery of essential Council services nationwide continues to present a challenge. In this context, local authority revenue plays an important role in the delivery of essential local services.

[4] High level assessment considering the quantum of employment-generating development across all baseline developments, the application of appropriate employment densities and the application of a general allowance for displacement (50%).

12.48. The MCC budget for 2026/27 includes £655m in business rates revenue and £268m in council tax revenue to fund just over 88% of MCC's council services[5]. This includes providing essential services for children, adult social care and public health.

12.49. Since 2017, the Greater Manchester authorities have been part of a 100% business rates retention pilot scheme meaning that MCC retains the growth it receives in its business rates base.

12.50. Non-domestic business rates collected by the Valuation Office Agency (VOA) in 2025 showed an average rateable value per square metre of £113 for all sectors across Manchester, rising to £184 for office uses and £147 for retail uses.

Table 12.7 GP Business Rates: Average rateable value (£) per square meter

	All	Retail	Office	Other
Manchester	113	147	184	105

Source: Valuation Office Agency, 2023

Healthcare

12.51. There are 4 GP practices located within approximately one mile walking distance of the site. Based on the most recent data, these practices are operating at an average of 1,827 patients per full-time equivalent (FTE) GP, comparable to the Healthy Urban Development Unit Benchmark of 1,800 patients per FTE GP. The nearest practice, Cornbrook (the city practice location), has a patient-to-GP ratio of 1,654.

12.52. The recently opened New Jackson Medical Centre is located within this one mile radius and is now fully operational helping to boost local primary care capacity. Whilst three GPs practices are located at the centre, an average patient-to-GP ratio is estimated as 1:2,422.

Table 12.8 GP Provision

GP Provision	GPs within 1 mile of Site average	Greater Manchester ICB average
No. of GP practices	4	82
No. of GP FTEs	33	485
Registered Patients	60,554	751,268
Patients per FTE GP	1,827	1,549

12.53. Regarding dental services, there are no practices located within 1-mile walking distance of the site, with the closest being Brooks Dental Bar located just over 1-mile walking distance from the site. Whilst there is limited provision within a 1-mile walking distance, within a 2-mile walking distance there are 18 dental practices.

Education

12.54. There are 10 primary schools located within 1-mile walking distance from the Site. The latest roll and capacity data indicate that these schools are operating at a 11% surplus of places (426 pupil places). This is above the Department for Education's 2% operating margin factored into its Basic Need funding calculations to help support parental choice, churn in the pupil population, and the general manageability of the system (Department for Education, 2023). This is also a marginally higher level of surplus capacity compared to all Manchester City Council primary schools (10%).

Table 12.9 Primary School Provision

Name of Primary School	Walking distance from Site (approx.)	School capacity	Pupils on Roll	Surplus/Deficit
Old Trafford Community Academy	0.4 miles	380	330	50

[5] Service budgets for 2026/27 | Our budget 2026/27 | Manchester City Council

Name of Primary School	Walking distance from Site (approx.)	School capacity	Pupils on Roll	Surplus/Deficit
Crown Street Primary School	0.4 miles	210	26	184
St Wilfrid's RC Primary School	0.5 miles	630	628	2
St Alphonsus RC Primary School	0.5 miles	210	182	28
Primrose Hill Primary School and Children's Centre	0.6 miles	420	340	80
St Joseph's RC Primary School	0.7 miles	420	407	13
Rolls Crescent Primary School	0.7 miles	420	340	80
St Philip's CofE Primary School (Salford)	0.8 miles	315	303	12
St Philip's Church of England Primary School (Manchester)	0.8 miles	315	303	12
Seymour Park Community Primary School	0.9 miles	588	623	-35
Total		3,908	3,482	426

12.55. Within 1 mile walking there are 5 nursery / early years childcare providers. The latest Manchester Childcare Sufficiency Assessment (2024) indicates that the Hulme ward has abundant childcare provision across the board and that oversupply in the ward could play a role in alleviating shortfalls in neighbouring areas like Deansgate and Piccadilly.

12.56. Secondary school place planning areas for Manchester are not known. In the absence of these, the analysis below presented the capacity data for schools with a reasonable walking distance, before presenting the aggregate picture at a district level, for context.

12.57. There are seven secondary schools located within a 2-mile walking distance of the Site. These consist of schools located within Manchester and Salford districts. The latest roll and capacity data indicated that these schools are operating at a 5% surplus of school places (218 school places), which is lower than the average for all Manchester City Council Secondary Schools (9%). This site in line with the widely recognised margin of 5% surplus school places, which helps to ensure schools can operate effectively.

Table 12.10 Secondary School Provision

Name of Secondary School	Walking distance from Site	School Capacity	Pupils on Roll	Surplus/Deficit
Oasis Academy MediaCityUK	0.8 miles	1022	1011	11
Trinity CofE High School	1.1 miles	270	168	102
AldridgeUTC@MediaCityUK	1.3 miles	420	412	8
Stretford High School	1.5 miles	419	426	-7
Manchester Academy	1.5 miles	210	210	0
The Albion Academy	1.8 miles	270	168	102
William Hulme's Grammar School	1.8 miles	1495	1493	2
Total		4,106	3,888	218

Open/Amenity Space and Play Space

12.58. Based upon a review of OS Greenspace data and information from Manchester City Council, there are 8 parks and green spaces within 1 mile walking distance of the Site. There are a range of facilities across these parks and green

spaces, including sports facilities (e.g. football pitches at Hulme Park). Four local parks and green space include dedicated play space for children of different ages.

Table 12.11 Open Space Provision

Park/Green Space	Walking distance from Site	Type	Other Facilities
Hulme Park	0.8 miles	Public Park or Garden	Children play area, football pitch, skate park
Castlefield Urban Heritage Park	0.8 miles	Public Park or Garden	-
Hullard Park	0.8 miles	Public Park or Garden	Bowling green, children play area
Seymour Park	0.9 miles	Public Park or Garden	Children play area, football pitch, basketball court, outdoor gym
Merlin's Park	1 mile	Public Park or Garden	Basket ball court
Ordsall Park	1 mile	Public Park or Garden	Children's play area, outdoor gym, bowling green and football pitches
St John's Gardens	1 mile	Public Park or Garden	-

12.59. The current Green and Blue Infrastructure Strategy for Manchester, originally approved in 2015 and refreshed through the 2021–25 Implementation Plan update, responds to commitments made in the city's Local Plan and Climate Change Action Plan and demonstrates the Council's continued commitment to enhancing green and blue spaces. Work is now progressing on an updated Green and Blue Infrastructure Strategy to cover the next ten years. The draft strategy is expected to be subject to consultation later in 2026, with a final version anticipated in spring 2027. Alongside this, the CyanLines initiative was launched in September 2025 with the ambition to develop a network of over 100 miles of 'CyanLines' routes over ten years, starting with the city centres of Manchester and Salford, delivering a greener, healthier and more climate-resilient city.

Receptor Sensitivity

Table 12.12 Receptor Sensitivity

Receptor	Sensitivity	Study Area	Justification
Individuals seeking construction employment	Medium	Sub-regional (Greater Manchester)	A proportion of the temporary construction employment created as a result of construction activity could be expected to be filled by unemployed people (both skilled and unskilled) from across Greater Manchester. The claimant rate for Greater Manchester is higher than the regional and national averages.
Local (district) housing supply	Medium	District (MCC)	The ratio of house prices to average earnings (affordability ratio) is higher in Manchester (6.82) than the regional average, albeit lower than the national average. Housing delivery performance recently in Manchester has been on target, with nearly one quarter of the 10-year Housing Strategy (2022-2032) target delivered in the first three years.

Receptor	Sensitivity	Study Area	Justification
Individuals seeking employment	Medium	District (MCC)	Local employment growth will contribute to overall district level economic growth. In Manchester, the claimant rate is higher than regional and national rates.
The local economy	Medium	District (MCC)	Local employment growth will contribute to overall district level economic growth. Direct employment will result in GVA effects across the local economy.
Manchester City Council revenue	High	District (MCC)	Local authority revenue is essential in the delivery of local services. Council tax collection will help to deliver increased local authority revenue, supporting local services.
Primary healthcare facilities	Medium	1 mile from the Site (walking distance)	The current ratio of registered patients per FTE GP is comparable to benchmarked levels (1,827 against a benchmark of 1:1,800).
Early years and primary education facilities	Low	1 mile from the Site (walking distance)	There is surplus capacity (11%) for primary schools located within a 1 mile walking distance. The latest childcare sufficiency assessment indicates that there is more than sufficient childcare provision for 3-4 year olds within the Hulme ward.
Secondary education facilities	Medium	2 miles from the Site (walking distance)	There is 5% surplus of capacity at secondary schools located within two miles walking distance of the Site. Whilst this at the level required to maintain operational flexibility and parental choice, additional students may bring this surplus below the widely recognised requirement for 5% surplus places.
Users of open space and play space	Medium	1 mile from the Site	There is a reasonable level of provision close to the Site, with commitments made by MCC to improve green space provision across the city.

Identification and Evaluation of Likely Significant Effects

Scenario 2 (baseline plus proposed development)

Construction Phase

12.60. The construction of the Proposed Development will support on-site and off-site employment opportunities within the construction sector.

12.61. The level of investment over the construction period (approximately 3 years) would support an average labour requirement of approximately 240 FTEs per annum. This has been estimated having regard to the average construction industry turnover per FTE using data from the Business Register and Employment Survey and Annual Business Survey at the regional (North West) level.

12.62. The construction of the Proposed Development is expected to support a broad range of job types and occupations, both on-site and off-site (including both direct and indirect / supply chain employment). On-site roles may include highly skilled professions (such as site surveyors) as well as lower skilled supply chain jobs (such as labourers). Off-site activity could support various jobs within the supply chain, such as suppliers of building materials and architects.

12.63. The construction sector is relatively geographically mobile which suggests that while some construction workers may be local residents, whose spending on household goods and services would benefit local businesses, it is also likely that construction workers could be drawn from within the wider region, depending on the roles available and

contractors selected. Due to this uncertainty, it is not possible to accurately estimate the indirect and induced effects on the Greater Manchester economy resulting from the construction activity, and therefore the induced effects are not assessed.

12.64. A local labour agreement will be secured, if approved, via a planning condition, prior to the commencement of development. This will provide a mechanism by which local (Manchester) residents will be prioritised for job opportunities both at the construction and operational stages.

12.65. The construction sector currently supports around 64,800 FTE jobs across Greater Manchester. The estimated annual construction jobs supported during the period of works represents 0.4% of all sub-regional employment in the construction sector. Given the small percentage, construction activity is not expected to result in a noticeable change in the baseline conditions at the sub-regional level, and as such, the magnitude of the impact is assessed to be negligible.

12.66. With the sensitivity of the receptor assessed as medium, this would give rise to a direct, temporary, short term and negligible (not significant) effect.

Operational Phase

Housing

12.67. The Proposed Development will deliver 592 new homes with an indicative mix comprising 33% 1 bedroom, 61% 2 bedroom, 5% 3 bedroom and 2% 4 bedroom homes.

12.68. The provision of 592 homes represents 17% of Manchester's annual housing delivery target as set out in the PfE Joint Development Plan. Relative to the number of homes delivered in 2024/25 (3,684) this is 16%. Within this context and the strategic / policy context, this level of housing provision is assessed as a moderate magnitude of change.

12.69. When assessed against a medium sensitivity receptor this would give rise to a permanent, moderate beneficial effect (significant) at the district level.

Employment

12.70. On-site residential uses and associated household expenditure have the potential to support additional employment. The existing Site is currently vacant, therefore all jobs supported by the Proposed Development are net additional to local employment levels.

12.71. On-site building services jobs associated with the Proposed Development will make a small positive contribution to district-level employment. Current estimates, provided by the appointed residential management consultants suggest the residential aspect of the Proposed Development could support between 19 and 20 FTE roles, including managerial, security, maintenance and cleaning roles. Furthermore, the delivery of an onsite retail/flexible commercial unit will provide employment opportunities. Employment density benchmarks from the Homes and Communities Agency (HCA) are used to estimate the overall (gross) number of FTE jobs that will be supported as 5. Although indirect and induced multiplier jobs have not been quantified, the Proposed Development is expected to generate supply chain impacts through operational spending and induced impacts through local expenditure by those onsite jobs.

12.72. For the purposes of estimating the levels of expenditure likely to be generated by residents living within the Proposed Development, it is assumed that the accommodation will operate at full occupancy levels. ONS family spending data provide insight into household spending patterns at the regional (North West) level. It is estimated that the annual spend on retail goods and services (excluding housing costs) is c.£15,500 (adjusted to current prices). Applying these assumptions to the total number of households to be accommodated by the Proposed Development generates an annual expenditure of £9.2 million. Making an allowance for spend retention within the district (based upon an analysis of data presented within MCC's most recent available Retail Study) it is estimated that £4.5 million could be retained within Manchester.

12.73. The regional (North West) turnover per FTE worker in the retail sector is estimated at c.£251,300 (2026 prices). The level of spending is therefore expected to support 38 FTE jobs directly. In combination with direct, on-Site employment presented above, the Proposed Development could support in the order of 52-63 FTE jobs.

12.74. This level of employment generation represents a negligible magnitude of change with reference to total employment levels at the LIA and district level. Against a medium sensitivity receptor this would give rise to a direct, long term and negligible (not significant) effect at the LIA and district level.

Local Economy

12.75. The on-site employment has the potential to support the LIA and district economy through GVA effects and through household spending.

12.76. Through the application of a GVA per job benchmark (Manchester level) for relevant sectors (Accommodation & food services and Retail) to the level employment identified above (57-58 FTEs), this could support a GVA uplift of c.£4.0m per annum. Combined with the increase in household spend reported above, this level of growth represents a negligible magnitude of change with reference to total levels of economic output/size of the economy at the district level.

12.77. With the sensitivity of the receptor (individuals seeking employment) identified as medium, this would give rise to a direct, long term and negligible (not significant) effect.

Local Authority Revenue

12.78. Through the application of the weighted average council tax charge for properties for the 2026/27 financial year (c.£1,800) to the number of households that the Proposed Development will bring forward, this could lead to an uplift in council tax revenue in the order of £1.1 million per annum. This represents 0.4% of the total council tax revenue earmarked in the 2026/67 council budget financial year (£268m).

12.79. The effect of local authority revenue is considered to represent a minor magnitude of change. With the sensitivity of the receptor identified as high, this would give rise to a direct, long term and minor beneficial (not significant) effect.

Healthcare

12.80. The Proposed Development is expected to yield a population of just over 1,500 persons. This is estimated using an average household size in the Hulme ward of 2.5, derived from 2021 Census data. Alternatively, if it is assumed that each dwelling will accommodate one additional person to the number of bedrooms (eg 1 bed, 2 persons, 2 bed, 3 persons etc) then applying this rule to the proposed size mix yields an estimated population of just over 1,600. A population yield of 1,600 is therefore used as a worst-case scenario.

12.81. Assuming all these residents would be additional (and not already registered with GPs in the study area), this would lead to an increase in the number of registered patients per FTE GP from 1,827 to 1,876 (+2.7%).

12.82. It cannot be estimated the extent to which this increase in population is attributable to people already living in the area and therefore already registered with services. This level of percentage increase is considered to be extremely unlikely and therefore represents a worst-case position.

12.83. Within this context, the magnitude of change is assessed as minor. With the sensitivity of the receptor identified as medium, this would lead to a direct, long-term and minor adverse (not significant) effect.

Early years and primary education

12.84. The pupil yield from new development can be estimated using benchmarks provided at the local authority level using data from the Department for Education (DfE Pupil Yield Data Dashboard). At a Manchester level, 0.14 primary aged pupils are generated per resident. The yield is significantly lower when considering flats alone (0.02). As a worst-case scenario, the all-home benchmark is applied. Applying this benchmark to the total number of homes leads to the generation of 221 primary aged pupils. Again, this is presented as a worst-case scenario since it is highly unlikely that all residents will be new to the area or that the all property type benchmark will apply to an apartment led development.

12.85. Presented as a worst-case, the addition of 221 pupils to the primary school roll within the study area (1 mile walking distance) would lead to a surplus in pupil places against capacity (3,703 places or 5% surplus).

12.86. Through the application of a local authority benchmark (0.03), the early years pupil yield from the Proposed Development is 54 (worst-case). The latest Manchester Childcare Sufficiency Assessment (2024) indicates that the Hulme ward has more than sufficient childcare provision for 3–4-year-olds; given this and the small yield from the

Proposed Development it is considered that this level of increased demand could be accommodated by existing provision.

12.87. In assessing the magnitude of change, it should be noted that the application of district-wide pupil yield benchmarks will likely overestimate the number of school-aged children that a development providing mostly one- and two-bedroom apartments (93% of proposed units) will generate. Notwithstanding this, Manchester city centre and areas immediately surrounding it have experienced strong levels of population growth, driven predominantly by growth in young people attracted to living centrally, close to the variety of employment opportunities that Manchester increasingly offers. Whilst this demographic cohort typically would not lead to high levels of demand for pupil places, the continued attractiveness of the city centre as a place to live and work and ongoing residential growth is expected to result in additional demand for early years and later primary school places as more residents choose to remain in the area when starting a family.

12.88. Within this context, the magnitude of change with respect to primary and early years education is assessed as being minor. With the sensitivity of the receptor assessed as low, the Proposed Development would give rise to a direct, long-term and minor adverse (not significant) effects.

Secondary education

12.89. At a Manchester level, 0.07 secondary aged pupils are generated per resident (DfE Pupil Yield Data Dashboard). The yield is significantly lower when considering flats alone (0.01). As above, the all-house type benchmark is used as a worst case. Applying this benchmark to the total number of homes leads to the generation of 108 secondary aged pupils. Again, this is presented as a worst-case scenario since it is highly unlikely that all residents will be new to the area or that the all-house type benchmark would apply.

12.90. The addition of 108 pupils to the secondary school roll within the study area would lead to the maintenance of surplus capacity (3%), but this would bring the local area below the recommended margin to maintain operational flexibility and parental choice.

12.91. Considering this represented the worst-case scenario, the magnitude of change is assessed as minor. With the sensitivity of the receptor assessed as medium, the Proposed Development would give rise to a direct, long-term and minor adverse (not significant) effect.

Open space

12.92. An uplift in the resident population will increase demand and usage of nearby open and green spaces and children's play spaces. The Proposed Development includes supporting amenity space, landscaping and other associated works which will enhance the living conditions of residents of the Proposed Development and help to meet demand for open space on site.

12.93. There is an established network of parks and green spaces within a 1-mile walking distance of the Site, including Hulme Park, Castlefield Urban Heritage Park, Hullard Park, Seymour Park, Merlin's Park, Ordsall Park and St John's Gardens. These spaces provide a range of recreational opportunities, including children's play areas, sports pitches, outdoor gyms, basketball courts, bowling greens and informal amenity space. In addition, Manchester City Council's continued commitment to improving green and blue infrastructure, including through the emerging Green and Blue Infrastructure Strategy and the Cyan Lines initiative, indicates that the local area is well placed to accommodate day-to-day demand for open, amenity and play space arising from the Proposed Development.

12.94. On balance it is assessed that the magnitude of change associated with the open/amenity space and play space provision is negligible. With the sensitivity of the receptor assessed as medium, the Proposed Development would give rise to a direct, long term and negligible (not significant) effect.

Cumulative Effects

Scenario 3 (baseline plus proposed development plus cumulative developments)

12.95. Schemes included in the assessment of cumulative effects are detailed in Appendix 2.1.

Construction

12.96. Construction values for cumulative developments are not available to inform the assessment of Socio-Economic effects. A qualitative assessment is, however, included in Table 12.13.

Operation

12.97. Within the discipline of Socio-Economics, all cumulative developments identified have the potential to interact with the Proposed Development and are considered here.

12.98. Collectively, the cumulative developments have the potential to deliver:

- c.5,600 new homes;
- c.360 hotel room;
- c.118,700 sq m office floorspace; and
- c.35,200 sq m of flexible commercial floorspace (e.g. retail, food and beverage etc).

12.99. The assessment of cumulative effects adopts a similar approach to the main assessment presented above. Given the breadth of cumulative developments identified, it is considered that a proportionate approach is to adopt a consistent approach to assessment across different socio-economic effects. The assessment is necessarily approximate to provide a sense of the scale of impact relative to the baseline position alongside the Proposed Development. Table 12.13 considers the cumulative effects of the Proposed Development alongside cumulative developments (Scenario 3). It is assumed that any mitigation required to meet the needs arising from cumulative developments will be subject to negotiations for each scheme to provide adequate on/off site provision and/or financial contributions.

Table 12.13 Receptor Sensitivity

Effect	Comment	Magnitude of change	Assessment of Significance
Construction Phase			
Temporary Construction Employment	Given the scale of development across all cumulative developments identified alongside the Proposed Development, although not quantified, it is reasonable to assume that this would lead to a substantial increase in the requirement for construction labour at the sub-regional (Greater Manchester) level. This has the potential to generate increased demand for labour as well as substantial levels of opportunity within the construction sector. Given the anticipated scale of construction activity across the cumulative developments (alongside the baseline), in comparison with the overall level of construction activity across Greater Manchester, the magnitude of impact is assessed as moderate.	Moderate	Direct, short term, Moderate Beneficial (significant)
Operational Phase			
Employment and the Local Economy	An estimated c.3,300 net additional jobs that could be generated by baseline and cumulative developments represents 0.7% of the total employment at the District level. This represents a minor magnitude of change.	Minor	Direct, long term, Minor Beneficial (not significant)

Effect	Comment	Magnitude of change	Assessment of Significance
Local authority revenue	The local authority revenue generated by all cumulative developments cannot be estimated accurately and in a proportionate way. However, given the quantum of new commercial floorspace and new homes to be delivered through cumulative developments, it is likely that this would lead to a sizeable uplift in local authority revenue through business rates and council tax income. This is likely to represent a moderate magnitude of change.	Moderate	Direct, long term, Moderate Beneficial (significant)
Primary Healthcare Facilities	Alongside the Proposed Development, cumulative developments located within the study area (within 1-mile walking distance of the site) could lead to a large population increase locally (c.6,100). This is a worst-case assumption using the ward average household size. Assuming that none of these residents are already registered at practices within the local area, this would lead to an increase in the patient population in the LIA to c.66,700. Considering, the adjusted patient to FTE GP ratio would increase from 1,800 to 2,012 (+10%). This level of provision is above the recommended target level (1,800). On a medium sensitivity receptor, applying professional judgement, this is considered to be a minor adverse effect and significant in EIA terms.	Minor	Direct, long term, Minor Adverse (not significant)
Primary and early years education	Alongside the Proposed Development, applying relevant pupil yields to the estimated increase in households, the cumulative developments could lead to c.830 primary school age children and 202 early years children. These are considered to be extreme worst cases and given the type of residential development coming forward in the local area the demand for early years and primary education facilities is not expected to be high. Under the worst-case pupil yield scenario level, against the same level of provision would lead to an overall shortage in pupil places in the LIA (c.830 place shortage or 21%). For the purposes of this assessment, however, it has been assumed that each population-yielding development will mitigate its own impacts. On this basis, the magnitude of change is considered to be negligible.	Negligible	Direct, long term, Negligible (not significant)

Effect	Comment	Magnitude of change	Assessment of Significance
Secondary education	Alongside the Proposed Development, applying relevant pupil yields to the estimated population increase, the cumulative developments could lead to c.405 secondary school age children. This is considered to be an extreme worst case and given the type of residential development coming forward in the local area the demand for secondary education facilities is not expected to be high. For the purposes of this assessment, it has been assumed that each population-yielding development will mitigate its own impacts. On this basis, the magnitude of change is considered to be negligible.	Negligible	Direct, long term, Negligible (not significant)
Open/amenity space and Play space	Viewed as a collective, the extent of potential additional public realm and amenity space provision as part of the cumulative schemes is not quantified but most if not all schemes will provide internal and external amenity space in addition to new areas of public realm that will enhance liveability and the connectivity between public spaces. For the purposes of this assessment, it is assumed that each population-yielding cumulative development will provide amenity space to meet the needs of each scheme's residents. The extent to which play space features within cumulative developments has not been assessed. On this basis, the magnitude of change is considered to be negligible.	Negligible	Direct, long term, Negligible (not significant)

Mitigation Measures

Construction Phase

12.100. No significant adverse effects are identified during the construction phase.

Operational Phase

12.101. No significant adverse effects are identified during the operational phase.

Residual Effects

Construction Phase

Table 12.14: Residual Effects of Construction Phase

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Change in temporary employment during the construction stage	Individuals seeking construction employment	N/A	N/A	Temporary, short term and negligible (not significant)

Operational Phase

Table 12.15: Residual Effects of Operational Phase

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Change in housing provision	Local (district) housing supply	N/A	N/A	Permanent, long term, moderate beneficial (significant)
Change in direct operational employment	Individuals seeking employment	N/A	N/A	Permanent, negligible (not significant)
Change in economic performance (GVA)	Local economy	N/A	N/A	Permanent, negligible (not significant)
Change in annual fiscal contributions	Contribution to local authority fiscal income	N/A	N/A	Permanent, minor beneficial (not significant)
Change in demand for healthcare facilities (GP services and dentists) as a result of the uplift in population	Primary healthcare facilities	N/A	N/A	Permanent, minor adverse (not significant)
Change in demand for early years and primary school places arising from the uplift in population	Early years and primary education facilities	N/A	N/A	Permanent, minor adverse (not significant)
Change in demand for secondary school places arising from the uplift in population	Secondary education facilities	N/A	N/A	Permanent, minor adverse (not significant)
Change in demand for the use of the existing open space and amenity space and children's play space within close proximity to the Site.	Users of open space and play space	N/A	N/A	Permanent, negligible (not significant)

Monitoring

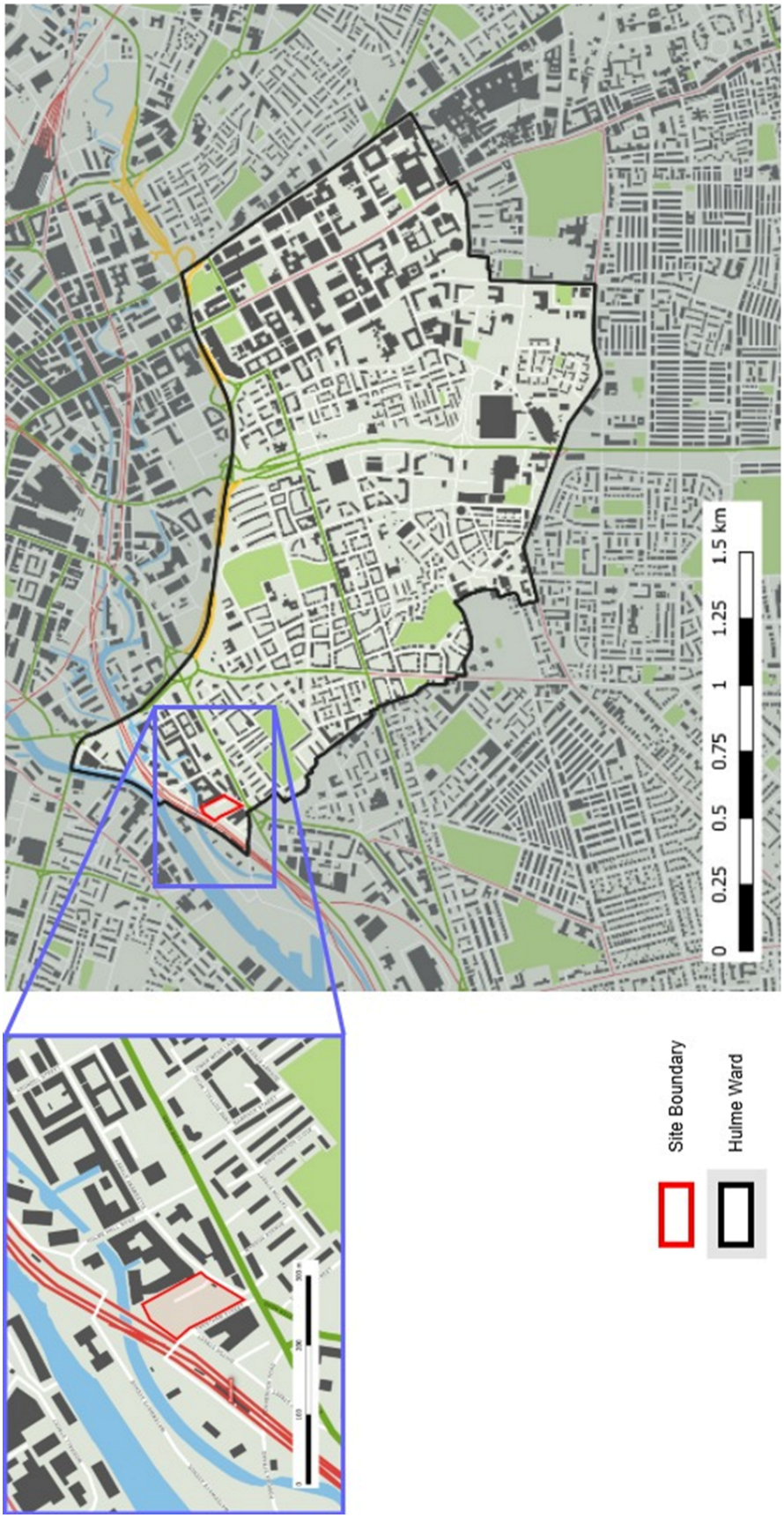
12.102. No monitoring is recommended during the construction or operational phase.

Reference List

12.103. This ES chapter has been prepared in reference to the following list of data sources:

- Department for Education (2025) Get Information About Schools
- Department for Education (2025) Pupil Yield Dashboard
- Greater Manchester (2024) Places for Everyone
- Homes and Communities Agency (2015) Employment Density Guide
- Homes and Communities Agency (2014) Additionality Guide
- Manchester City Council (2022) Manchester Blue and Green Infrastructure Strategy
- Manchester City Council (2022) Housing Strategy
- Manchester Core Strategy (2012)
- Manchester Core Strategy Addendum (2024)
- 'Investing In Success' Manchester Economic Strategy (2023)
- National Planning Policy Framework (2024)
- NHS General Practice Workforce Survey (2026(
- Office for National Statistics (2023) Business Register and Employment Survey
- ONS Annual Population Survey (2025)
- ONS Business Register and Employment Survey (2024)
- ONS Census (2021)
- ONS Family Spending Workbook (2025)
- ONS Regional gross value added (balanced) by industry: local authorities by ITL1 region (2023)
- ONS Annual Business Survey (2023)
- Places for Everyone Plan, GMCA, (2024)
- Valuation Office Agency (2025) Non-domestic Rating Lists

Figure 12.1: Local Impact Area and Site Location



13. Heritage

Introduction

13.1. This Chapter presents an assessment of the likely significant effects of the Development on built heritage (above ground) assets within the site. The assessment considers the likely effects on the Site during the construction and operational phases of development.

13.2. The assessment was undertaken by Natalie Poundall, Archaeological Consultant at Civic, and reviewed by Katie Fletcher, Director. Author and reviewer details:

	Lead Author	Reviewer
Name	Natalie Poundall	Katie Fletcher
Company	Civic	Civic
Qualifications/Accreditations relevant to technical area inlc. IEMA	BA, MA	BA
Years technical experience (in technical area)	5	10
Number of EIA's delivered to date	10	20

Assumptions and Limitations

13.3. In undertaking the heritage assessment of the application site and the wider surrounding area, there are a number of limitations and assumptions that may affect the outputs from the work. These include:

- The data obtained is third party data and therefore the assessment relating to each heritage asset is reliant on the accuracy of this data.

13.4. These assumptions and limitations are typical for a built heritage assessment and are not expected to affect the validity of the outcome of the assessment.

Relevant Legislation, Policy and Guidance

Legislation

- Planning (Listed Buildings and Conservation Areas) Act 1990

Policy

National

- National Planning Policy Framework 2026

Local

- Manchester's Core Strategy 2012
- Places for Everyone Joint Development Plan 2024
- Draft Manchester Local Plan 2025

Guidance

- CiFA. (2020). Standard and guidance: desk-based assessment.
- Historic England. (2008). Conservation Principles. Policies and Guidance.
- Historic England (2015). Historic Environment Good Practice Advice in Planning. Note 2: Decision-Taking in the Historic Environment.
- Historic England. (2015). Managing Significance in Decision-Taking in the Historic Environment.
- Historic England. (2017). The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (2 ed.).
- Historic England. (2019). Statements of Heritage Significance: Analysing Significance in Heritage Assets (Historic England Note 12). Historic England.
- Historic England. (2020). Historic Environment Good Practice Advice in Planning: 4 Enabling Development and Heritage Assets.
- ICOMOS. (2011). Guidance on Heritage Impact Assessments for Cultural World Heritage Properties. Online resource: International Council on Monuments and Sites.
- Castlefield Conservation Area Online Management Plan
- Empress Conservation Area Regeneration Plan 2025

Assessment Methodology and Significance Criteria

Scenarios Tested

13.5. The following scenarios have been considered:

- Scenario 2 (baseline plus proposed development)
- Scenario 3 (baseline plus proposed plus cumulative)

The Study Area

13.6. A study area of 500m has been defined for the assessment based on professional judgement and in consultation with the Strategic Planning and Project Lead at Manchester City Council. The study area provides a focus for the assessment but is not considered to be prescriptive.

13.7. Due to the proposed height and scale of the proposals, two nearby Conservation Areas were included within the assessment. In addition, two heritage assets outside of the study area were also considered for robustness. Within the study area, there are 14 Listed Buildings, 10 Non-designated Heritage Assets and two Conservation Areas.

Surveys and Data Sources

13.8. The following surveys and data sources used to the prepare the assessment include:

- Heritage Assessment, completed on 3rd June 2026
- Site and study area walkover carried out in May 2026
- Analysis of historic maps and produced historical background to provide some context for the Site
- The Historic England online ‘Search the List’ function for listed buildings. List descriptions were downloaded and reviewed to aid initial understanding of significance of the assets

- Manchester City Council and Trafford Council's websites were reviewed to identify Conservation Areas, and any associated Council descriptive materials or appraisals were reviewed, including the Conservation Area Appraisals

Source of Effect

13.9. The assessment of effect has been undertaken using professional judgement and best practice guidance.

Significance Criteria

13.10. The sensitivity of a receptor has been determined based on professional judgment and an assessment of its heritage significance (utilising Historic England guidance). The assessment has considered the contribution of the setting to the overall significance of the asset and its capacity to accommodate change without loss of significance.

13.11. The magnitude of impact has been determined based on the scale and extent of the change to the asset, and the effect on heritage significance.

13.12. The significance of effects on built heritage has been assessed by considering both the sensitivity of the receptor and the magnitude of change arising from the Proposed Development. The nature (adverse, beneficial or neutral) and permanence (permanent, temporary or reversible) of the effect has also been considered.

Table 13.1 – Sensitivity of receptor

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Table 13.2 – Magnitude of impact

Magnitude of Impact	Criteria for Assessing Effect
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Table 13.3 – Significance of effect

Magnitude	Sensitivity		
	High	Medium	Low
Major	**Major Adverse/Beneficial**	**Major - Moderate Adverse/Beneficial**	**Moderate** or Minor **Adverse/Beneficial**
Moderate	**Major - Moderate Adverse/Beneficial**	**Moderate Adverse/Beneficial**	Minor Adverse/Beneficial

Magnitude	Sensitivity		
	High	Medium	Low
Minor	**Moderate** or Minor **Adverse/Beneficial**	Minor Adverse/Beneficial	Minor Adverse/Beneficial - Negligible
Negligible	Negligible	Negligible	Negligible

Baseline Conditions

13.13. There are no heritage assets that are afforded statutory protection, such as Scheduled Monuments, Listed Buildings, or any Registered Parks and Gardens within the Site and it does not fall within a Conservation Area. Furthermore, the Site is currently vacant and has no built heritage significance.

13.14. The character of the Site was historically rural and industrial, comprising undeveloped land until the late 19th century when Cornbrook Brewery and a Globe Works (later Spice Mill) were built. The buildings were extended in the 20th century and remained in use until the late 20th century, when they were demolished and offices were constructed within the Site. The offices have recently been demolished, and the Site is currently vacant.

13.15. The Site is located within an urban setting situated amongst residential-led regeneration within Castlefield, comprising mid-rise and tall flat blocks. Transport infrastructure is a predominant feature in the immediate setting, with the railway, Metrolink and Bridgewater Canal immediately north.

13.16. A study area of 500m has been defined for the heritage assessment. Within the study area, there is 14 Listed Buildings, 10 Non-designated Heritage Assets and two Conservation Areas, in addition to two heritage assets considered outside of the study area. Of these, 10 heritage assets have been scoped into this EIA chapter.

13.17. In total, two nearby Conservation Areas were included within the assessment. The proposed development is unlikely to alter the setting of the Conservation Areas as the immediate setting of Castlefield Conservation Area includes high-rise development, whilst the setting of Empress Conservation Area has been altered and compromised by modern development. The proposed development will not form part of any key views of the Conservation Area but may be visible in long-reaching views within and looking out of the Conservation Area.

13.18. An assessment of significance is detailed in the table below, which uses recognised criteria to assess the heritage sensitivity of designated and non-designated heritage assets which may be affected by the proposed development and have been scoped into the EIA.

Table 13.4 – Sensitivity of Receptors

Receptor	Designation	Description	Sensitivity
Railway Bridge Over Canal	Grade II Listed Building NHLE - 1283078	The bridge was constructed in the mid-19th century to carry the South Junction Railway over the Bridgewater Canal onwards the Manchester Central Railway Station (now the Manchester Central Convention Complex) and has retained the same use. The arched bridge is constructed in cast-iron and may be associated with a series of predominantly arched, cast-iron bridges by Edward Taylor Bellhouse, William Baker and William Cubitt that cross various streets, as well as the Rochdale Canal and the Bridgewater Canal. The asset has a historical functional relationship with the nearby canal and railway.	Medium
Former Turville Public House	Grade II Listed Building NHLE – 1283069	A former public house built around 1830, constructed with red brick with sandstone dressings and a slate roof. The building is unusual and distinctive, constructed in an Italianate style and in a triangular shape and on an angled site. The historic setting of the building has largely been lost.	Medium
Former Albert Mill	Grade II Listed Building NHLE – 1200817	A cotton mill built in 1869, later extended and altered and used as a warehouse. The four-storey mill is red brick with sandstone	Medium

Receptor	Designation	Description	Sensitivity
		dressings and a datestone is inscribed on the central upstand of the coped parapet. The Non-designated Talbot Mill is in the immediate setting. Much of the rest of the historic setting of the mill has been lost due to modern development.	
Church of St George	Grade II Listed Building NHLE – 1208640	A church constructed in 1826-8 by Francis Goodwin and restored in 1884 by J. S Crowther. The church is constructed in a Gothick Perpendicular style of sandstone ashlar with slate roofs. The Church is in the Castlefield Conservation Area and has group value with the Grade II Listed Churchyard Walls, Gate Piers and Gates that surround the church and form the immediate setting. The rest of the historic setting of the church has largely been lost due to modern development.	Medium
Churchyard Walls, Gate Piers, and Gates at Church of St George	Grade II Listed Building NHLE - 1197789	The churchyard walls, gate piers and gates associated with the Grade II* Listed Church of St George, likely contemporary with the church, constructed *c.* 1826-8 by Francis Goodwin. The walls and gates are in the Castlefield Conservation Area and has group value with the Grade II Listed Church of St George. The historic setting of the assets has largely been lost due to modern development.	Medium
Talbot Mill	Non-designated Heritage Asset	A *c.*1855 brick built five-storey spinning mill. A second mill and warehouse were constructed in the late 19th century. The several integrated buildings were built around a courtyard. Talbot Mill retains much historic fabric and is a well-preserved example of a mid-19th-century textile mill. The building was recently in poor condition and only partly occupied and is currently being restored for residential use. The Grade II Listed Albert Mill is in the immediate setting. Much of the rest of the historic setting of the mill has been lost due to modern development.	Low
Cornbrook Bridge	Non-designated Heritage Asset	A single-span road bridge crossing the Bridgewater Canal, probably 18th-century in date. The bridge was an important crossing point at the canal for the Cornbrook Chemical Works and comprises primarily sandstone with a segmental brick arch lining the bridge hole. The bridge has a historical functional relationship with the canal, but most of the surrounding historic setting has been mostly lost.	Low
Castlefield	Conservation Area	The character of the Conservation Area reflects the development of the area during the industrial period, with a focus on transport. The focus is also on the site of the former Roman fort, from which it derives its name. the built environment in the area is varied, comprising a multi-level environment with warehouses, the canal, railways and viaducts. A Conservation Area Appraisal has not been produced for the Conservation Area and Manchester City Council has not identified any key views.	High
Empress	Conservation Area	The character and historic interest of the Conservation Area derive from the industrial boom of the area in the 19th century, spurred by the development of the canal infrastructure. Several landmark buildings survive in the area, although the visual and physical links between the Conservation Area and the wider setting are limited due to modern development.	High

Identification and Evaluation of Likely Significant Effects

Construction Phase

13.19. During the construction stage there will be a visible change to the setting of the identified heritage assets due to temporary structures and facilities to deliver the scheme that will visibly change from week to week. While the

construction stage will not directly impact the identified heritage assets, it will result in a change to their setting and potentially their significance as a result. These impacts may be from construction infrastructure, lighting, traffic movements, noise and dust and will be temporary.

13.20. The effects are considered to lessen the further the distance from the Site due to intervening development. The most noticeable change to the setting of the identified heritage assets during this phase will be within the immediate vicinity of the Site. The construction phase may affect access to the nearby Grade II Listed Former Turville Public House, located on the opposite side of Ellesmere Street. However, this is considered to be a temporary effect.

13.21. Where a change to setting is perceived, it will be temporary and will result in a 'negligible' impact on the significance of the identified assets overall. Furthermore, the construction will take place within a dense city context where construction activities are part of the existing baseline environment.

Table 13.5 – Nature of Effect

Likely Significant Effect	Receptor	Sensitivity	Magnitude of Change
Change in setting and therefore significance of heritage assets	Railway Bridge Over Canal	Medium	Minor - Temporary
	Former Turville Public House	Medium	Minor - Temporary
	Former Albert Mill	Medium	Minor - Temporary
	Church of St George	Medium	Minor - Temporary
	Churchyard Walls, Gate Piers, and Gates at Church of St George	Medium	Minor - Temporary
	Talbot Mill	Low	Minor – Temporary
	Cornbrook Bridge	Low	Minor - Temporary
	Castlefield Conservation Area	Medium	Minor – Temporary
	Empress Conservation Area	Medium	Minor – Temporary

Operational Phase

13.22. During the operational stage there will be a change to the setting of the identified heritage assets. The Proposed Development will result in a permanent change of use of the Site and will introduce a permanent new tall building into the skyline and a mid-rise block to the existing street frontage. This will also result in an increase in vehicular and pedestrian noise and movement and increased lighting at the Site. Whilst the Proposed Development is also considered to bring back into use a currently vacant and underutilised land, with the mid-rise block contributing to the current street frontage on Ellesmere Street.

13.23. The operational stage will not directly impact the identified heritage assets but will result in a change to their setting (indirect impact) and potentially their significance as a result.

13.24. Due to the proposed height and scale of the proposals, two Conservation Areas were considered within the assessment. The Proposed Development is considered to hardly affect the setting of the Castlefield Conservation Area and the Empress Conservation Area. Whilst the taller building will be visible in views out of the Conservation Areas, the immediate setting of Castlefield Conservation Area includes high-rise development, whilst the setting of Empress Conservation Area has been altered and compromised by modern development. Viewpoints have been tested within the TVIA (Appendix 9.1).

13.25. The setting of most of the heritage assets within the study area (and just beyond) is mixed, comprising mid-rise 20th-century residential development, tram and railway tracks, the canal, commercial units, car parks, vacant plots of land the busy A57 Chester Road, which is a main vehicular route providing access to the city centre. Several high-rise developments are also visible in the backdrop of views of several of the heritage assets. There is a lack of intervisibility between the heritage assets and much of the historic context has been lost.

Table 13.6 – Significance of Effect

Likely Significant Effect	Receptor	Sensitivity	Magnitude of Change
Change in setting and therefore significance of heritage assets	Railway Bridge Over Canal	Medium	Minor Adverse Permanent
	Former Turville Public House	Medium	Minor Adverse Permanent
	Former Albert Mill	Medium	Minor Adverse Permanent
	Church of St George	Medium	Minor Adverse Permanent
	Churchyard Walls, Gate Piers, and Gates at Church of St George	Medium	Minor Adverse Permanent
	Talbot Mill	Medium	Minor Adverse Permanent
	Cornbrook Bridge	Low	Minor Adverse Permanent
	Castlefield Conservation Area	Medium	Minor Adverse Permanent
	Empress Conservation Area	Medium	Minor Adverse Permanent

Cumulative Effects

13.26. The assessment of cumulative effects considers the effects of the Proposed Development and nearby consented developments.

Construction

13.27. There will be a visible temporary change to the setting of the identified heritage assets due to temporary structures and facilities to deliver the scheme and will visibly change from week to week. Construction activity associated with the Proposed Development and cumulative developments may occur at the same time, causing increased construction infrastructure, movement and noise. Therefore, temporary cumulative effects may affect the setting and significance of the heritage assets.

13.28. The construction will take place within a dense city context where construction activities are part of the existing baseline environment. The cumulative effects would be temporary and where a change to setting is perceived it will result in a 'negligible' impact on the significance of the identified assets overall.

Operation

13.29. The cumulative developments and the Proposed Development illustrate the continuing redevelopment of this area of Greater Manchester, comprising residential blocks of up to 34 storeys, with hotel accommodation, public open spaces, commercial use and refurbishment. Mid-rise and high-rise development has been permitted within this area.

13.30. During the operational phase, the cumulative developments will result in a change to the setting of the heritage assets. The development of other mid-rise and tall buildings in the study area is not considered to justify or diminish further changes to the setting and therefore the significance of the heritage assets. However, the cumulative developments will be visible or are already visible in views of the heritage assets, increasing modern built form within the wider setting, including alterations to the skyline.

13.31. A Townscape Visual Impact Assessment has been prepared to test the impact of the proposed development on key viewpoints within the town, including heritage assets.

Mitigation Measures

Construction Phase

13.32. It is anticipated that the construction site will be kept tidy and presentable at street level with suitable hoardings in place (secured through the Construction Environmental Management Plan). In addition, there will be controls on working hours and management of traffic. The changing weekly visual progress of development will only

temporarily indirectly impact the setting and there will be no permanent impact on setting and therefore significance derived from the construction stage. No significant cumulative effects are also anticipated.

Operational Phase

13.33. No further mitigation for the operation phase has been identified in the heritage assessment. Embedded mitigation measures that have already been incorporated within the Proposed Development, including the materiality and design of the proposed structures. In addition, a Townscape Visual Impact Assessment has been prepared which has allowed for the potential indirect impact on identified heritage assets to be understood and reported. These measures contribute to reducing the effect on the setting and significance of the heritage assets.

Residual Effects

13.34. The likely significant effects at construction phase are considered to be temporary changes to the setting and significance of the heritage assets. There are therefore considered to be no residual effects.

13.35. The heritage assessment has confirmed that the Proposed Development will have permanent Moderate and Minor levels of Effect upon the significance of the heritage assets. The assessment takes into consideration the permanent change of use of the Site for residential use and the construction of a mid-rise and high-rise building.

Table 13.7 – Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
Temporary change in setting and therefore significance of heritage assets	Railway Bridge Over Canal	Construction Environmental Management Plan (CEMP).	Site will be kept tidy and presentable at street level with suitable hoardings in place. Controls on working hours and management of traffic.	No significant residual effects anticipated
	Former Turville Public House			No significant residual effects anticipated
	Former Albert Mill			No significant residual effects anticipated
	Church of St George			No significant residual effects anticipated
	Churchyard Walls, Gate Piers, and Gates at Church of St George			No significant residual effects anticipated
	Talbot Mill			No significant residual effects anticipated
	Cornbrook Bridge			No significant residual effects anticipated
	Castlefield Conservation Area			No significant residual effects anticipated
	Empress Conservation Area			No significant residual effects anticipated
Operational Phase				
Change in setting and therefore significance of heritage assets	Railway Bridge Over Canal	Embedded design mitigation.	High-quality design with comprising a landmark tall building and a red brick clad mid-rise. The materials of the mid-rise building respond to the	Minor Adverse - Permanent
	Former Turville Public House			Minor Adverse - Permanent
	Former Albert Mill			Minor Adverse - Permanent
	Church of St George			Minor Adverse - Permanent

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
	Churchyard Walls, Gate Piers, and Gates at Church of St George		immediate setting and is complimentary to Manchester's industrial heritage, in contrast to the gateway building.	Minor Adverse - Permanent
	Talbot Mill			Minor Adverse - Permanent
	Cornbrook Bridge			Negligible - Permanent
	Castlefield Conservation Area			Minor Adverse - Permanent
	Empress Conservation Area			Minor Adverse - Permanent

Monitoring

13.36. No monitoring required.

Reference List

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- Historic England. (2019). Statements of Heritage Significance: Analysing Significance in Heritage Assets (Historic England Note 12). Historic England.
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- Manchester City Council. (2025). Draft Manchester Local Plan.
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- Ministry of Housing, Communities & Local Government. (Feb 2025). National Planning Policy Framework.

14. Summary of Residual Impacts

14.1. This section contains a summary of the residual effects of the Proposed Development in relation to each topic area, extracted from each chapter.

Climate Change Resilience and GHG Emissions

14.2. The residual effects, after taking account of the embedded mitigation, are summarised in the tables below. In all cases the residual effects are not significant in EIA terms.

Construction Phase

14.3. The residual effects at the construction phase are summarised below.

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Extreme weather affecting construction activities and surface water run-off	Construction site / local drainage	Standard construction controls secured through the CEMP		Negligible / Not significant – Temporary
Embodied carbon (modules A1–A5)	Global climate	Low carbon materials, efficient design and sustainable procurement (per the WLC Assessment)		Minor adverse / Not significant – Permanent

Operational Phase

14.4. The residual effects at the operational phase are summarised below.

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Overheating of habitable spaces	Residential occupants	Fabric-first design, solar control glazing and Part O compliance (demonstrated by the Part O assessment)	Specified through procurement	Minor adverse / Not significant – Permanent
Surface water flooding / drainage exceedance	Occupants / drainage system	Drainage with climate change allowances and SuDS	Specified through detailed drainage designs secured by condition in line with established principles.	Minor adverse / Not significant – Permanent

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Reduced water availability (dry spells)	Occupants	Water-efficient fittings	N/A	Negligible / Not significant – Permanent
Operational GHG emissions (modules B1–B7)	Global climate	Fabric-first design, ASHP, EPC A–C and low carbon energy (per the Energy Statement, WLC Assessment and Low Carbon Heat Appraisal)	Ongoing monitoring of operational usage of building.	Minor adverse / Not significant – Permanent

Daylight, Sunlight and Overshadowing

Construction Phase

14.5. No additional mitigation measures are proposed during operation of the Proposed Development

14.6. During the construction phase, the daylight and sunlight effects will gradually change from the baseline condition to those impacts (where present) with the Proposed Development in place, which is described below in the operational phase.

Operational Phase

14.7. On the basis that no mitigation measures are proposed, the Residual Effects of the Proposed Development on the Daylight and Sunlight amenity of the neighbouring sensitive receptors remain as per the Operational Phase effects identified earlier in this chapter, and summarised in the table below

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
N/A				
Operational Phase - Daylight Amenity				
Moderate - Major Adverse Impact on Daylight Amenity	Castlefield Locks	None proposed	None proposed	Significant and Permanent
Minor Adverse Impact on Daylight Amenity	The Trilogy Apartments	None proposed	None proposed	Not Significant and Permanent
Moderate Impact on Daylight Amenity	Vox	None proposed	None proposed	Significant and Permanent
Moderate – major Adverse Impact on Daylight Amenity	33 Ellesmere Street	None proposed	None proposed	Significant and Permanent
Negligible Impact on Daylight Amenity	Pomona Wharf	None proposed	None proposed	Not Significant and Permanent
Negligible - Minor Adverse Impact on Daylight Amenity	Excelsior Works	None proposed	None proposed	Not Significant and Permanent

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Negligible Adverse Impact on Daylight Amenity	No.1 Cornbrook	None proposed	None proposed	Not Significant and Permanent
Minor Adverse Impact on Daylight Amenity	Nos. 303-309 Chester Road	None proposed	None proposed	Not Significant and Permanent
Negligible Adverse Impact on Daylight Amenity	5 Kelso Place	None proposed	None proposed	Not Significant and Permanent
Operational Phase - Sunlight Amenity				
Minor Adverse Impact on Sunlight Amenity	Castlefield Locks (rooms)	None proposed	None proposed	Not Significant and Permanent
Minor Adverse Impact on Sunlight Amenity	Castlefield Locks (5no external spaces)	None proposed	None proposed	Not Significant and Permanent
Major Adverse Impact on Sunlight Amenity	Castlefield Locks (2no. external spaces)	None proposed	None proposed	Significant and Permanent
Negligible Impact on Sunlight Amenity	The Trilogy Apartments	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	Vox	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	33 Ellesmere Street	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	Pomona Wharf	None proposed	None proposed	Not Significant and Permanent
Minor Adverse Impact on Sunlight Amenity	Excelsior Works	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	No.1 Cornbrook	None proposed	None proposed	Not Significant and Permanent
Negligible Impact on Sunlight Amenity	Nos. 303-309 Chester Road	None proposed	None proposed	Not Significant and Permanent

14.8. No conditions are required in order mitigate in relation to daylight, sunlight and overshadowing as all mitigation is embedded into the design as primary mitigation.

Townscape and Visual Impact

14.9. The Proposed Development has evolved through an iterative design process, with townscape and visual considerations informing the layout, scale, massing, architectural expression and landscape design from the earliest stages of design development. Consequently, many potential effects have been avoided or reduced through embedded mitigation incorporated into the Proposed Development.

14.10. During construction, temporary effects would be managed through implementation of a Construction Environmental Management Plan (CEMP), together with standard best practice construction management measures.

14.11. During operation, mitigation is embedded within the design of the Proposed Development and includes high-quality architecture, public realm improvements, structural tree planting, integrated green infrastructure, biodiversity enhancements, active ground floor frontages and high-quality hard landscape materials. These measures contribute to reducing the magnitude of townscape and visual effects whilst enhancing the quality of the surrounding public realm.

Table 9.8 Summary of Mitigation Measures and Residual Effects

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Measure	Post Mitigation Residual Effect – Significance	Duration
Temporary change to the character and appearance of the Site during demolition and construction.	Townscape receptors within the immediate vicinity of the Site.	Construction Environmental Management Plan (CEMP).	Good site management, temporary hoarding, dust suppression, management of compounds and plant, control of construction lighting and phased construction programme.	Moderate Adverse (Not Significant)	Temporary
Temporary changes to visual amenity resulting from construction activity, cranes and associated infrastructure.	Visual receptors surrounding the Site.	Construction Environmental Management Plan (CEMP).	Appropriate siting of cranes, screening of compounds where practicable, management of construction traffic and maintenance of pedestrian routes.	Moderate Adverse (Not Significant)	Temporary
Permanent alteration to local townscape character through redevelopment of the Site.	Townscape Character Areas.	Embedded design mitigation.	High-quality architectural design, articulated massing, public realm improvements, street tree planting, green infrastructure and high-quality material palette.	Major Neutral (Castlefield); Minor to Negligible elsewhere	Permanent
Permanent changes to views resulting from the completed development.	Representative visual receptors.	Embedded design mitigation.	Careful building massing, architectural articulation, high-quality façade design, landscape proposals and enhancement of the public realm.	Moderate-Major to Minor; generally Neutral with one Moderate Beneficial effect	Permanent

Residual Effects

14.12. Following implementation of the embedded mitigation measures incorporated within the Proposed Development, together with the construction management measures identified within Table 9.8, residual townscape and visual effects have been assessed for both the construction and operational phases of the development.

14.13. During the construction phase, residual effects would be temporary, localised and reversible. The implementation of a Construction Environmental Management Plan (CEMP), together with standard best practice construction management measures, would minimise temporary effects arising from demolition, construction activity, temporary compounds and crane operations. No significant residual construction phase townscape or visual effects are predicted.

14.14. During operation, the principal residual townscape effects are confined to the immediate vicinity of the Site, where the redevelopment would introduce a substantial change to the existing urban form within Townscape Character Area A – Castlefield. Whilst this represents the greatest degree of change identified within the

assessment, it also reflects the regeneration of an underutilised brownfield site through the delivery of high-quality architecture, public realm and green infrastructure within an area identified for continued regeneration.

14.15. Residual visual effects are similarly concentrated within viewpoints located closest to the Site and those associated with the Castlefield Conservation Area and Bridgewater Canal corridor. Elsewhere, the Proposed Development would be experienced as part of the existing and evolving Manchester skyline and would not materially alter the wider visual character of the city.

14.16. The assessment concludes that, following implementation of embedded mitigation, no significant residual adverse townscape or visual effects are anticipated beyond those identified within the detailed assessment. The residual effects are considered acceptable when balanced against the wider regeneration, placemaking and public realm benefits delivered by the Proposed Development.

Wind Microclimate

Construction Phase

14.17. There is generally a negligible effect of the Development during construction and that effect is not significant.

Operational Phase

Scenario 4: Proposed Development within Cumulative Surrounds with Mitigation Measures

14.18. The results for Proposed Development within Cumulative Surrounds with mitigation scenario are presented graphically within Figure 4.9 and Figure 4.10 to Figure 4.11 for worst-seasonal and summer conditions, respectively, within Appendix 10.1.

Safety

14.19. Following the introduction of the mitigation measures within the Proposed Development within Cumulative Surrounds scenario, the safety criteria are met throughout the study area. This represents a negligible residual effect and is therefore not significant.

Comfort

14.20. The wind conditions within the Site have improved with the mitigation measures in place and are largely in compliance with the comfort criteria. A few exceedances still remain:

- In the Block B courtyard (locations 54 and 56), where minor exceedances of short-term sitting / standing conditions occur during the summer (meeting the threshold wind speed ~93% of the time) and thus represent minor adverse residual effects that are not significant.
- Outdoor seating areas near Block A (locations 57 and 59), where minor exceedances of long-term sitting / standing conditions occur during the summer (meeting the threshold wind speed ~94% of the time) and thus represent minor adverse residual effects that are not significant.
- Block B entrances (locations 36 and 44), where minor exceedances of short-term sitting / standing conditions occur during the winter (meeting the threshold wind speed ~93% of the time) and thus represent minor adverse residual effects that are not significant.
- Block B terrace (locations 309 and 312), where minor exceedances of short-term sitting / standing conditions occur during the summer (meeting the threshold wind speed ~93% of the time) and thus represent minor adverse residual effects that are not significant.

14.21. Thoroughfares near the Vox apartment (locations 84 and 85), where minor exceedances of strolling conditions occur during the winter (meeting the threshold wind speed ~94% of the time) and thus represent minor adverse residual effects that are not significant.

14.22. Several off-site exceedances (locations 1, 81, 91, 92, 93, 98, 104 and 118) which are determined to be pre-existing and therefore represent negligible effects of the Proposed Development.

Scenario 5: Proposed Development within Existing Surrounds with Mitigation Measures

14.23. The results for Proposed Development within Cumulative Surrounds with mitigation scenario are presented graphically within Figure 4.12 and Figure 4.13 to Figure 4.14 for worst-seasonal and summer conditions, respectively, within Appendix 10.1.

14.24. With the introduction of mitigation measures within the Proposed Development within Existing Surrounds, conditions remain similar to the cumulative surrounds' scenario with mitigation measures in place, hence the conclusions of which are equally applicable to the existing surrounds scenario.

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
Negligible effects	All	None	N/A	Negligible effects
Operational Phase				
Exceedance of comfort criteria	Recreational spaces in courtyard between Block A and B	Additional evergreen trees from 4 to 6 metres in height, in place of deciduous trees of equal heights. 2 metre tall, 8 metre wide 50% solid screen. Extension of planter. 2 metre tall, 1.8 metre wide 50% solid screen.	Details submitted as part of this planning submission	Minor adverse, permanent
Exceedance of comfort criteria	Outdoor seatings at the courtyard	Additional 4m tall evergreen trees in place of 4m deciduous trees.	Details submitted as part of this planning submission	Minor adverse, permanent
Exceedance of comfort criteria	Block B southeast entrances	None	N/A	Minor adverse, permanent
Exceedance of comfort criteria	Block B terrace	Porous screens, 0.8 metres wide, 2 metres tall, 50% solid	Details submitted as part of this planning submission	Minor adverse, permanent
Exceedance of comfort criteria	Thoroughfares to the east of Vox Apartments	Porous screen, 2 metres wide, 2 metres tall, 50% solid placed at the	Details submitted as part of this planning submission	Minor adverse, permanent

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
		western façade of Block B.		

Human Health

14.25. The Human Health assessment considers the combined influence of the Proposed Development on health and wellbeing, drawing on the findings of the relevant ES technical chapters and wider determinants of health. During construction, residual effects are generally temporary and controlled through standard construction management measures, including the CEMP, with no significant adverse effects identified. The principal beneficial construction effect relates to employment and economic activity associated with the works.

14.26. During operation, the Proposed Development would deliver a significant beneficial effect through the provision of new housing, contributing to local housing supply and supporting healthy, sustainable city-centre living. Other beneficial effects include minor improvements associated with employment, local authority revenue and crime/community safety, while effects on health and social infrastructure, education, open space, climate change resilience and wind comfort are assessed as negligible to minor and not significant.

14.27. The main residual adverse effects relevant to human health relate to amenity impacts experienced by some neighbouring residential receptors, particularly daylight effects at Castlefield Locks, Vox and 33 Ellesmere Street, and sunlight effects to external spaces at Castlefield Locks. These effects are reported as significant where identified in the daylight, sunlight and overshadowing assessment. Solar glare effects are also identified at rail and Metrolink receptor points, including one major adverse and four moderate adverse effects. Overall, the Human Health residual effects table summarises a balance of significant beneficial effects, principally housing provision, alongside localised significant adverse amenity effects and a range of non-significant residual effects across the remaining health determinants.

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
Employment & Economy	Workers	N/A	N/A	Moderate Beneficial (Significant)
TVIA	Nearby residents & visitors		CEMP	Moderate Adverse (Not Significant)
Built Heritage	Setting of heritage assets	N/A	N/A	Negligible to Minor Adverse Not Significant)
Climate Change	Global climate	N/A	N/A	Minor Adverse (Not Significant)
Climate Change	Workers	N/A	N/A	Negligible
Wind	Workers, passers-by		CEMP	Negligible
Solar Glare	Nearby residents & visitors, and train / tram drivers	N/A	N/A	Negligible
Operational Phase				
Housing	New Residents	N/A	N/A	Moderate Beneficial (Significant)

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Employment	Workers	N/A	N/A	Minor Beneficial (Not Significant)
Economy LA revenue	LA income	N/A	N/A	Minor Beneficial (Not Significant)
Health & Social Infrastructure	New & nearby Residents	N/A	N/A	Minor Adverse (Not Significant)
Education – early years, primary, secondary	New & nearby Residents	N/A	N/A	Negligible
Open Space & Amenity	New & nearby Residents	N/A	N/A	Negligible
Crime	New, nearby Residents & visitors	N/A	N/A	Minor Beneficial (Not Significant)
TVIA – Local Townscape Character	New, nearby Residents & visitors	N/A	N/A	Major Neutral (Castlefield); Minor to Negligible elsewhere
TVIA - views	New, nearby Residents & visitors	N/A	N/A	Moderate-Major to Minor; generally Neutral with one Moderate Beneficial effect
Built Heritage	Settings of heritage assets	N/A	N/A	Negligible to Minor Adverse Not Significant)
Daylight Amenity	Nearby residents – Castlefield Locks, 33 Ellesmere St	N/A	N/A	Moderate- Major Adverse (Significant)
Daylight Amenity	Vox	N/A	N/A	Moderate Adverse (Significant)
Daylight Amenity	Trilogy, 303-309 Chester Rd,	N/A	N/A	Minor Adverse (Not Significant)
Daylight Amenity	Pomona, Excelsior, No 1 Cornbrook, 5 Kelso Pl	N/A	N/A	Negligible
Sunlight Amenity	Castlefield Locks (external spaces)	N/A	N/A	Major Adverse (Significant)
Sunlight Amenity	Castlefield Locks (rooms), Excelsior	N/A	N/A	Minor Adverse (Not Significant)
Sunlight Amenity	Other nearby receptors	N/A	N/A	Negligible
Climate Change – overheating, flooding, water availability	New & nearby residents	N/A	N/A	Minor Adverse – Negligible (Not Significant)
Climate change - GHGs	Global climate	N/A	N/A	Minor Adverse (Not Significant)
Wind	New & nearby residents safety	N/A	N/A	Negligible
Wind	Residents comfort	Evergreen trees, canopy, porous screens,	Details as part of planning submission	Minor Adverse (Not Significant)
Solar Glare	Receptors (x12 points) at signals on Metro & rail lines	N/A	N/A	Moderate Adverse (5), Minor Adverse (3), Negligible (2), and None (2)

Socio-Economic

14.28. The socio-economic assessment considers the likely residual effects of the Proposed Development on employment, housing provision, the local economy, local authority revenue, healthcare, education and open space. During construction, temporary employment effects are assessed as negligible and not significant. During operation, the principal residual effect is a permanent moderate beneficial effect associated with the delivery of new housing, which is significant in EIA terms. Other operational effects, including employment generation, GVA, local authority revenue, healthcare, education and open space demand, are assessed as negligible to minor and not significant.

Construction Phase

Table 12.14: Residual Effects of Construction Phase

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Change in temporary employment during the construction stage	Individuals seeking construction employment	N/A	N/A	Temporary, short term and negligible (not significant)

Operational Phase

Table 12.15: Residual Effects of Operational Phase

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Change in housing provision	Local (district) housing supply	N/A	N/A	Permanent, long term, moderate beneficial (significant)
Change in direct operational employment	Individuals seeking employment	N/A	N/A	Permanent, negligible (not significant)
Change in economic performance (GVA)	Local economy	N/A	N/A	Permanent, negligible (not significant)
Change in annual fiscal contributions	Contribution to local authority fiscal income	N/A	N/A	Permanent, minor beneficial (not significant)
Change in demand for healthcare facilities (GP services and dentists) as a result of the uplift in population	Primary healthcare facilities	N/A	N/A	Permanent, minor adverse (not significant)
Change in demand for early years and primary school places arising from the uplift in population	Early years and primary education facilities	N/A	N/A	Permanent, minor adverse (not significant)
Change in demand for secondary school places arising from the uplift in population	Secondary education facilities	N/A	N/A	Permanent, minor adverse (not significant)
Change in demand for the use of the existing open space and amenity space and children's play space within close proximity to	Users of open space and play space	N/A	N/A	Permanent, negligible (not significant)

Likely Significant Effect	Receptor(s)	Mitigation Measure	Means of Implementation of Mitigation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
the Site.				

Heritage

14.29. The likely significant effects at construction phase are considered to be temporary changes to the setting and significance of the heritage assets. There are therefore considered to be no residual effects. The effects of both construction and operation are set out below.

Likely Significant Effect	Receptor	Mitigation Measure	Means of Mitigation Implementation	Post Mitigation Residual Effect – Significance and Duration (Temporary/Permanent)
Demolition and Construction Phase				
Temporary change in setting and therefore significance of heritage assets	Railway Bridge Over Canal	Construction Environmental Management Plan (CEMP).	Site will be kept tidy and presentable at street level with suitable hoardings in place. Controls on working hours and management of traffic.	No significant residual effects anticipated
	Former Turville Public House			No significant residual effects anticipated
	Former Albert Mill			No significant residual effects anticipated
	Church of St George			No significant residual effects anticipated
	Churchyard Walls, Gate Piers, and Gates at Church of St George			No significant residual effects anticipated
	Talbot Mill			No significant residual effects anticipated
	Cornbrook Bridge			No significant residual effects anticipated
	Castlefield Conservation Area			No significant residual effects anticipated
	Empress Conservation Area			No significant residual effects anticipated
Operational Phase				
Change in setting and therefore significance of heritage assets	Railway Bridge Over Canal	Embedded design mitigation.	High-quality design with comprising a landmark tall building and a red brick clad mid-rise. The materials of the mid-rise building respond to the immediate setting and is complimentary to Manchester's industrial heritage, in contrast to the gateway building.	Minor Adverse - Permanent
	Former Turville Public House			Minor Adverse - Permanent
	Former Albert Mill			Minor Adverse - Permanent
	Church of St George			Minor Adverse - Permanent
	Churchyard Walls, Gate Piers, and Gates at Church of St George			Minor Adverse - Permanent
	Talbot Mill			Minor Adverse - Permanent
	Cornbrook Bridge			Negligible - Permanent
	Castlefield Conservation Area			Minor Adverse - Permanent
	Empress Conservation Area			Minor Adverse - Permanent

15. Type 1 Cumulative Impacts

Introduction

15.1. This Chapter gives consideration to Type 1 cumulative effects. The assessment is informed by the findings of the technical assessments contained within Chapters 6 to 13 of the Environmental Statement.

15.2. Type 1 cumulative effects are also known as inter-project effects and comprise the combined effects arising from the Proposed Development upon a set of defined sensitive receptors. These effects occur where an individual receptor experiences multiple environmental effects arising from different technical disciplines assessed within the ES.

15.3. Type 2 cumulative effects, relating to the combined effects of the Proposed Development and other committed developments, are considered within the relevant technical chapters. Whilst those chapters have also had regard to the potential for Type 1 cumulative effects, a standalone assessment is provided within this chapter to ensure a robust review of the interactions between environmental disciplines.

Legislation, Policy and Guidance

Legislation

15.4. There is no specific legislation prescribing a methodology for assessing Type 1 cumulative effects. However, Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires consideration of cumulative effects within the Environmental Statement.

15.5. In the context of this chapter, cumulative effects relate to the interactions between different residual effects arising from the Proposed Development. Both beneficial and adverse effects are considered across both the construction and operational phases of development.

Policy

15.6. As this chapter considers the cumulative interaction of environmental effects already assessed within the ES technical chapters, all relevant planning policy has been reviewed and reported within Chapters 6 to 13 and is therefore not repeated here.

Guidance

15.7. This assessment has had regard to the following guidance:

- European Commission Environment DG (May 1999) Study on the Assessment of Indirect and Cumulative Impacts as well as Impact Interaction.
- Institute of Environmental Management and Assessment (IEMA) guidance relating to cumulative effects.
- National Planning Practice Guidance (NPPG) concerning the consideration of cumulative effects within EIA.

15.8. The guidance recognises that cumulative effects include the interaction of environmental effects and that professional judgement is required when determining significance.

Assessment Methodology and Significance Criteria

Methodology

15.9. The assessment focuses on the potential for significant Type 1 cumulative effects to occur through the interaction of residual environmental effects identified elsewhere within the Environmental Statement.

15.10. The assessment has been undertaken by experienced EIA practitioners using the residual effects identified throughout Chapters 6 to 13. An exercise has been undertaken to identify:

- Sensitive receptor groups;
- Relevant residual environmental effects;
- The combined interaction of those effects; and
- The overall cumulative outcome experienced by each receptor.

15.11. Residual effects assessed as negligible or neutral have generally been excluded from detailed consideration because they are, by their nature, imperceptible and unlikely to contribute materially to cumulative effects. The assessment therefore principally considers minor, moderate and major residual effects.

Significance Criteria

15.12. The following terminology has been applied:

- Major Effect – a very significant cumulative effect, either beneficial or adverse.
- Moderate Effect – a noticeable cumulative effect, either beneficial or adverse.
- Minor Effect – a small cumulative effect which is barely noticeable.
- Negligible Effect – no discernible cumulative effect.

15.13. Significance has been determined having regard to the magnitude of combined effects and the sensitivity of the affected receptor, consistent with the methodology set out in Chapter 2.

Assumptions and Limitations

15.14. Type 1 cumulative effects assessments are inherently qualitative and rely upon professional judgement when considering how different environmental effects may interact.

15.15. Unlike many technical assessments that draw upon quantitative modelling, Type 1 cumulative effects require consideration of the potential combined experience of receptors. Consequently, the assessment involves an element of professional interpretation. Nevertheless, the approach adopted provides a proportionate and reasoned consideration of potential cumulative effects arising from the Proposed Development.

Identification of Type 1 Cumulative Effects

15.16. The assessment below considers the principal receptor groups identified through the ES.

Local Population and Site Users

Construction Phase

15.17. Potential impacts include:

- Construction-related environmental effects;
- Temporary disturbance associated with site activities; and
- Temporary effects on local amenity.

15.18. These effects are generally mitigated through the Construction Environmental Management Plan and associated construction controls.

Operational Phase

15.19. Local residents, workers and visitors may experience a combination of effects including:

- Minor adverse daylight and sunlight effects on neighbouring receptors taken as whole;
- Minor adverse effects associated with pressure on local services;
- Moderate beneficial socio-economic effects arising from employment generation and economic activity;
- Improved housing provision;
- Public realm enhancements; and
- Regeneration benefits.

15.20. Whilst some individual adverse effects remain, the overall balance of effects is considered to result in a minor adverse Type 1 cumulative effect on local population and site users once mitigation is taken into account.

Local Businesses

Operational Phase

15.21. The principal identified effect relates to increased economic activity, spending and investment generated by the Proposed Development.

15.22. The assessment concludes that local businesses would experience a moderate beneficial cumulative effect due to increased expenditure generated by residents, visitors and employees associated with the Proposed Development.

Built Environment

Construction Phase

15.23. Construction phase heritage effects are temporary and are primarily associated with temporary changes to the setting of heritage assets.

Operational Phase

15.24. The Built Environment receptor group experiences both positive and adverse effects through several environmental disciplines:

- Beneficial Effects
    - Moderate to major beneficial townscape and visual effects.
    - Regeneration of a vacant brownfield site.
    - Enhanced public realm and urban design quality.
- Adverse Effects
    - Minor adverse heritage effects arising from changes to the setting of heritage assets.

15.25. Overall, the positive townscape and regeneration benefits substantially outweigh the limited heritage effects. The overall cumulative outcome is therefore considered to be a minor beneficial Type 1 cumulative effect.

Natural Environment

Construction Phase

15.26. Environmental topics affecting the Natural Environment include:

- Climate change and greenhouse gas emissions;
- Potential pollution pathways;
- Habitat effects;
- Effects on species; and
- Surface water management.

15.27. Most ecological and environmental effects are mitigated to negligible levels.

Operational Phase

15.28. Key effects comprise:

- Non-significant adverse effects associated with habitat creation and biodiversity enhancement, which will be addressed through off site mitigation;
- Minor adverse climate change effects associated with greenhouse gas emissions; and
- Negligible residual ecological effects once mitigation is implemented.

15.29. Taken together, the balance of effects is assessed as a minor adverse Type 1 cumulative effect due principally to unavoidable greenhouse gas emissions notwithstanding biodiversity benefits

Infrastructure and Utilities

Construction Phase

15.30. Potential impacts include temporary demands on utilities and drainage systems.

Operational Phase

15.31. Relevant effects comprise:

- Minor beneficial effects associated with improved surface water management;
- Negligible effects associated with potable water demand; and
- Negligible residual utility impacts.

15.32. On balance, the cumulative outcome for infrastructure and utilities is neutral, with no significant Type 1 cumulative effects identified.

Summary

15.33. The Environmental Statement has been used to assess the interactions between environmental disciplines and their combined effects on identified receptor groups. The Type-1 Cumulative Assessment concludes that:

- Local population and site users would experience a minor adverse cumulative effect.
- Local businesses would experience a moderate beneficial cumulative effect.

- The built environment would experience a minor beneficial cumulative effect.
- The natural environment would experience a minor adverse cumulative effect.
- Infrastructure and utilities would experience a neutral cumulative effect.

15.34. Overall, the assessment confirms that the Proposed Development would deliver substantial regeneration, socio-economic, housing, townscape and public realm benefits. Whilst certain minor adverse effects remain, these are generally localised and limited in extent. No significant adverse Type 1 cumulative effects are identified that would alter the overall conclusions of the Environmental Statement.

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