



Alberton House, St Mary's Parsonage

Environmental Statement: Volume 1

July 2022



Important notice: This Environmental Statement has been prepared by Deloitte, with technical input from Chris Burnett Associates, Stephen Levrant Heritage Architecture, Curtins Ramboll "the Consultants". Chapter 1, Volume 1 of this Environmental Statement sets out the parties responsible for preparing each Chapter and associated figures and appendices.

Although we have read the Consultants' reports for consistency and provide our observations based on our knowledge and experience, we accept no liability or responsibility for the Consultant's Reports and will not be responsible for the technical content of Chapters 6-9, Volume 1, nor Volume 2, nor the technical content of the associated separate Non-Technical Summary.

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1. Introduction

- 1.1. This Environmental Statement ('ES') accompanies an application for Full Planning Permission made by Bruntwood RB Limited ('the Applicant'). The application seeks approval for the full demolition and redevelopment of Alberton House in Manchester City Centre.
- 1.2. The Proposed Development seek to bring forward a high quality office-led mixed-use scheme, to deliver a new Grade A office building with supporting ground floor commercial uses and office-related amenity space ('the Proposed Development'). The Proposed Development also includes enhancements to the surrounding public realm at Trinity Way located between Alberton House and Albert Bridge House to the west.
- 1.3. The term "Proposed Development" used within this Report refers to all stages of demolition, construction and operation of the development.
- 1.4. The 0.26 hectare Site (Figure 1.1) is within the St Mary's Parsonage area, in Manchester City Centre. The Site is bounded by Cardinal House to the east, St Mary's Parsonage to the south, Alberton Bridge House (car park) to the west and the River Irwell to the north. The Site is identified for redevelopment within the St Mary's Parsonage Strategic Regeneration Framework (SRF).

Figure 1.1 Existing Site Location Plan with red line boundary and blue line denoting Applicant's land ownership (EPR Architects)

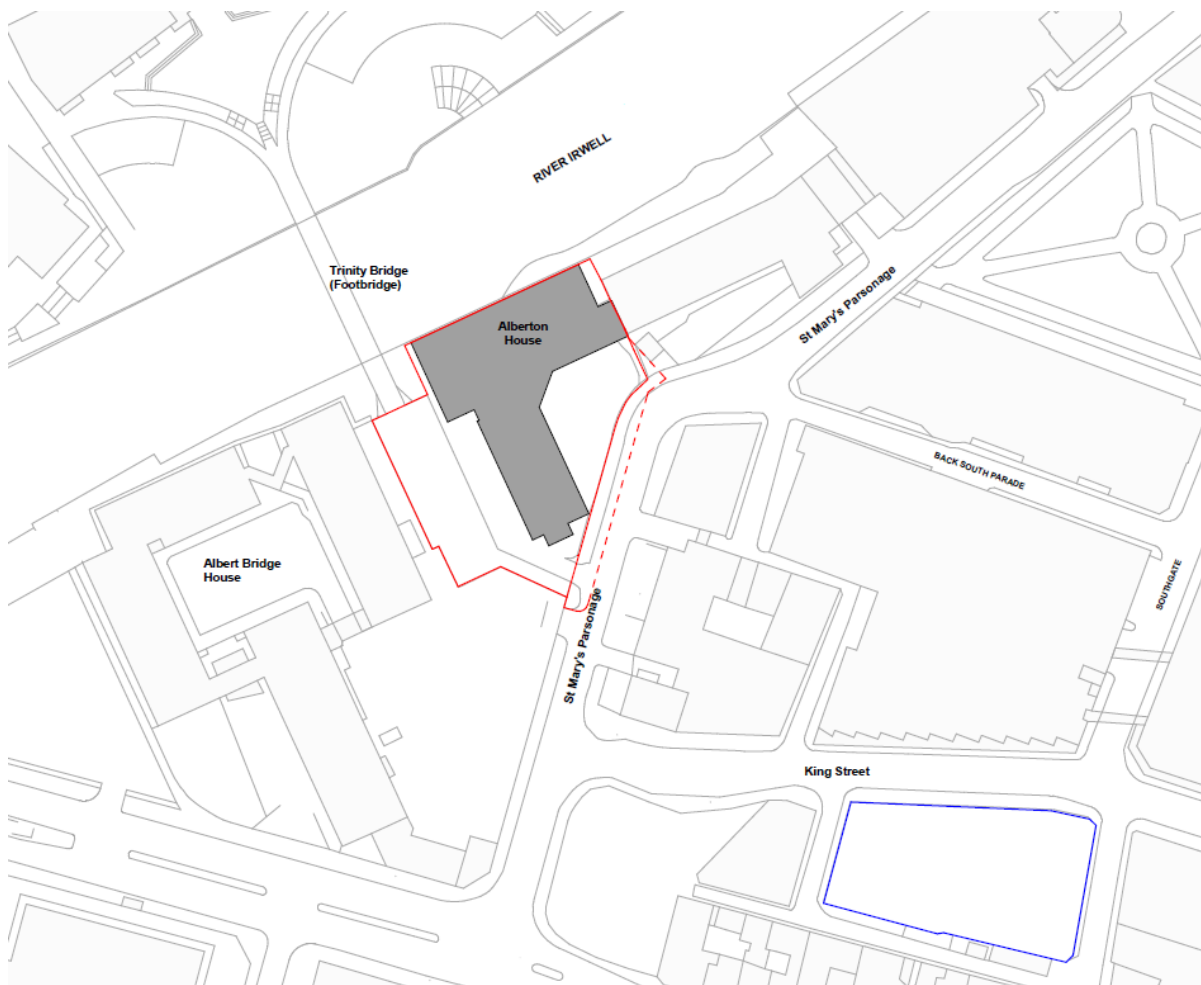
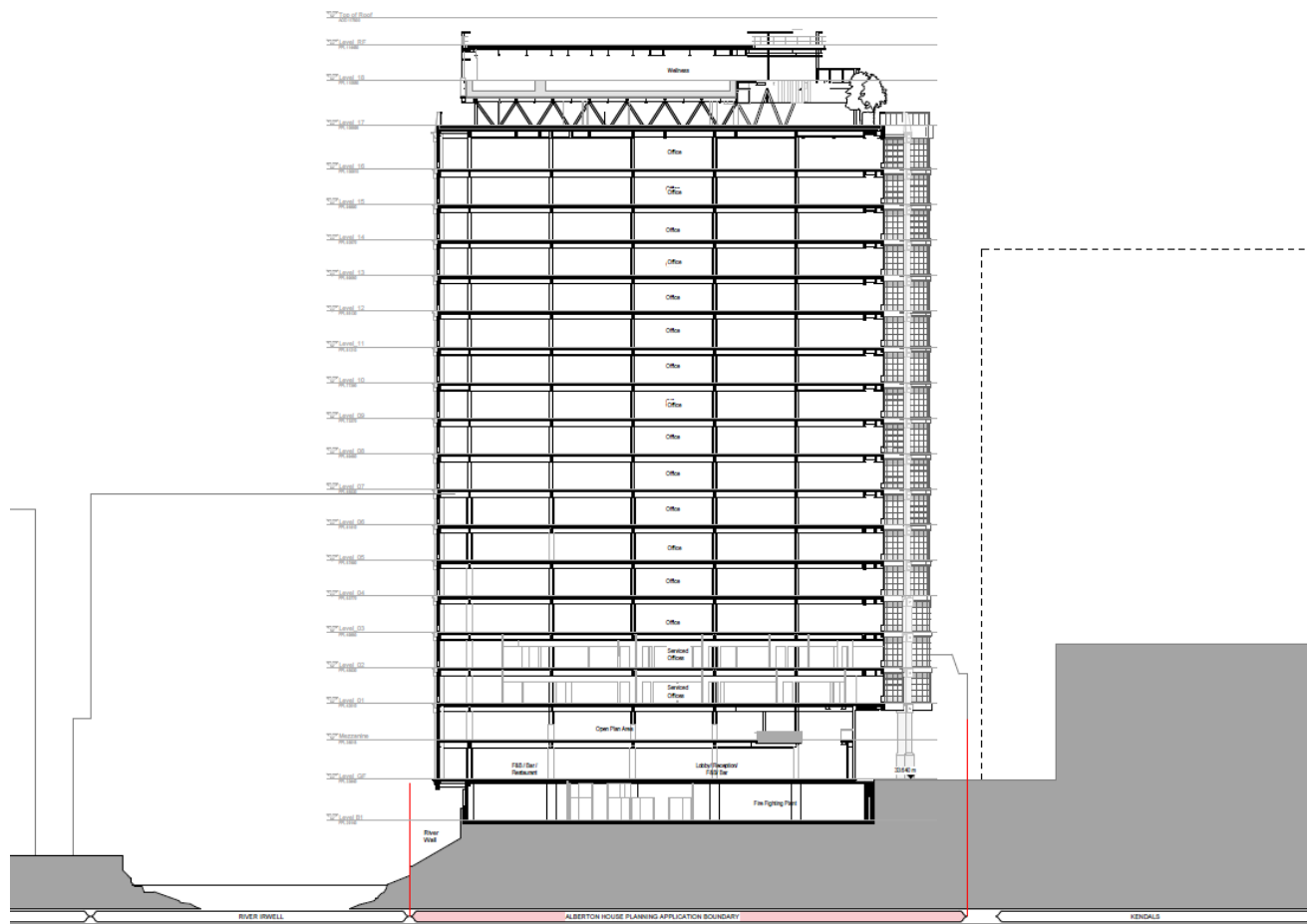


Figure 1.2 Proposed Site Cross Section Plan with red line boundary (EPR Architects)



- 1.5. The Site currently comprises a part 12 (ground +11), part 4 storey (ground +3) office building, which has an L-shaped footprint with its main entrance set back from the street edge of St Mary's Parsonage. The 12 storey (including ground) part of the building abuts the River Irwell on its north western edge and back of house servicing access is provided off St Mary's Parsonage along the Site's south western edge.
- 1.6. Immediately adjacent to the service access route, to the west of the Site is the access to the pedestrian footbridge (Trinity Bridge), which provides a key connection between Salford and Manchester City Centre. The existing footbridge access off St Mary's Parsonage is positioned between the Albert Bridge House car park and the Alberton House service road.
- 1.7. The description of development, as stated on the application form is as follows:

"Demolition of existing building and erection of a 19 storey (basement, ground including mezzanine, plus 18) building to form a mixed use office development with ancillary office amenity (Use Class E(g(i)) flexible commercial floorspace at ground floor and mezzanine (Use Class E (a), (b), (c) and/ or drinking establishment Sui Generis), flexible office floorspace (Use Class E(g(i)) at Levels 1-16, and two floors of wellness centre (Sui Generis) at Levels 17 and 18 including ancillary food and beverage (Use Class E (a), (b), (g(i)) and/ or drinking establishment Sui Generis), cycle parking, landscaping, highways and other associated works."
- 1.8. The Proposed Development includes the redevelopment of Alberton House, located on St Mary's Parsonage. This includes the demolition of the existing building and the erection of a new, contemporary 19 storey (including ground floor with mezzanine, and excluding basement)) Grade A office building, including F&B floorspace on the ground floor, and a rooftop amenity and wellness space (floors 17 & 18).
- 1.9. Overall the Proposed Development will deliver c. 32,260 sqm (GEA) of commercial floorspace. The quantum of the Proposed Development is set out below:
 - Office (Class E(g(i)) – c. 26,420 sqm (GIA) (including mezzanine)

- Office ancillary and amenity (Use Class E(g)(i)) – c. 1,330 sqm (GIA)
- Flexible commercial (F&B) ((Use Class E (a), (b), (c) and/ or drink establishment Sui Generis – c. 1,470 sqm (GIA) at ground floor
- Ancillary Wellness Centre (Sui Generis and, Use Class E (a), (b), (g(i)) and/ or drinking establishment Sui Generis)– directly associated with Bruntwood's commercial customers) including swimming pool – c. 1,740 sqm (GIA) at levels 17 and 18.

- 1.10. The Proposed Development will deliver an exemplar highly sustainable building, providing new, high quality Grade A office space, flexible commercial space (F&B) and amenity/ wellness facilities. High quality management support spaces, site infrastructure, and back of house facilities for the office uses will be provided to encourage use of sustainable transport modes and support the delivery of a highly sustainable office development of the highest specification for wellness, including through the provision of the rooftop amenity wellness space.
- 1.11. A key part of the Proposed Development is the opportunity to create an open and inviting ground floor entrance which enhances public realm and connectivity. To support this the ground floor will provide publicly accessible commercial uses along the key pedestrian route linking with Trinity Bridge and the River Irwell frontage. The Proposed Development will provide an investment into public realm which will encourage further investment into the area and its wider transformation, consistent with the St Mary's Parsonage SRF.
- 1.12. This ES sets out the findings of an Environmental Impact Assessment ("EIA") carried out in respect of the Proposed Development of the Site.

Requirements for EIA

- 1.13. The EIA process is the mechanism by which development proposals are appraised in terms of their likely environmental effects, in addition to engineering and technical considerations.
- 1.14. 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, during both construction and operational phases, so as to identify the likely significant effects on the environment. The assessment compares the existing situation at the start of the work (baseline) with the situation during demolition and construction, and when the Proposed Development is operational.
- 1.15. 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' (as defined within the meaning of the EIA Regulations), 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 (Regulation 2(b)).
- 1.16. The Proposed Development is considered likely to fall under the category of "urban development projects" (Schedule 2, 10, (b)) where:
- The development includes more than 1 hectare of urban development which is not dwelling house development; or
 - The development includes more than 150 dwellings; or
 - The overall area of the development exceeds 5 hectares.
- 1.17. A formal EIA scoping request was submitted to Manchester City Council on 25 February 2022 requesting formal confirmation as to the proposed scope of the Environmental Impact Assessment required in respect of the Proposed Development. A formal scoping opinion was received on 20 May 2022. The technical Chapters are based on a scope of assessment that has been agreed with the relevant statutory consultees where possible. A copy of the scoping report and the scoping opinion is included in **Appendix 2.1**.
- 1.18. In accordance with the EIA Regulations, this ES sets out the following information:
- A description of the Proposed Development comprising information on the Site, design, size and other relevant features of the development;

- A description of the likely significant effects of the Proposed Development on the environment;
- A description of any features of the Proposed Development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- A description of the reasonable alternatives studied by the developer, which are relevant to the Proposed Development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
- A non-technical summary of the information, of the information specified above; and
- Any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

Project Team

- 1.19. Deloitte has significant experience and expertise in managing the EIA process and hold the IEMA EIA Quality Mark. Deloitte has managed the EIA process and the production of the ES for the Jackson's Brickworks remediation application and has received technical input from a range of suitably qualified and experienced technical consultees. Details of the EIA Technical Team and qualifications are set out in Table 1.1 below.

Table 1.1: EIA Technical Team

Organisation	Expertise	Qualifications
Bruntwood RB Ltd	The Applicant	N/A
Deloitte	Town Planning, EIA Coordination	MRTPI, MRICS, IEMA EIA Quality Mark, MPlan, MSc, BA(Hons)
Chris Burnett Associates	Townscape and Visual Impact	BSC BLD CMLI
Stephen Levrant Heritage Architecture	Built Heritage	BA Hons, MA
Curtins	Ground Conditions	BSc (Hons), MCIWEM, MSc, FGS, C.WEM, CEng
Ramboll	Climate Change	MSc (Hons) GradIEMA, BSc(Hons), PIEMA, BEng(Hons), MSc

EIA Scenarios

- 1.20. The EIA scenarios for each discipline are set out in **Appendix 1.1**, which were all agreed as part of the EIA scoping exercise.

Organisation of the Environmental Statement

- 1.21. This ES comprises 11 Chapters and is supported by figures (located at the back of each Chapter within Volume 1) and technical appendices (within a separate Volume 2). A Non-Technical Summary (NTS) of the full ES is provided as a separate standalone document.
- 1.22. 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. Table 1.2 sets out the structure of the ES.

Table 1.2: Structure of this Environmental Statement

Chapter No.	Chapter Title	Description
VOLUME 1		Following Chapters
1	Introduction	Introduction to the ES, EIA requirements, details of the project team, ES organisation and availability.
2	EIA Methodology	Methods used to prepare each Chapter, description of ES structure and content, generic significance criteria, scoping and consultation.
3	Alternatives and Design Evolution	Outline of the main alternatives considered by the Applicant.
4	Site and Development Description	Site description and details of the Proposed Development. Summary of effects with respect to climate change, energy and sustainability.
5	Construction Phasing and Methodology	Details of anticipated programme for development and construction methodology are also included.
6	Townscape and Visual Impact	To assess the likely significant effects of removing the vegetation on Site on townscape.
7	Built Heritage	To assess the likely significant effects of the Proposed Development in relation to built heritage.
8	Ground Conditions	To assess the likely significant effects of the Proposed Development in relation to ground conditions.
9	Climate Change	To assess the likely significant effects of the Proposed Development in relation to ground conditions.
10	Type 1 Cumulative Effects	Review of inter project effects, which are combined effects arising from the Proposed Development on defined sensitive receptors.
11	Summary of Residual Effects	Summary of the effects that remain after mitigation.
VOLUME 2	Technical Appendices	Technical data and reports to support the Chapters in Volume 1.
VOLUME 3	Non-Technical Summary	Summary of the ES in non-technical language.

Other Documents

- 1.23. Together with this ES, the following documents will be submitted to Manchester City Council in support of the planning application. These include:

Table 1.3: Planning Application Supporting Documents

Document	Prepared By
Application Form and Certificates	Deloitte
Site Location Plan	EPR Architects
Existing Site Plan	EPR Architects
Existing and Proposed Plans, Sections and Elevations	EPR Architects

Document	Prepared By
Landscaping Plans	Planit-ie
Design and Access Statement (Architectural)	EPR Architects
Accommodation Schedule	EPR Architects
Landscaping Design and Access Statement	Planit-ie
Statement of Consultation	Deloitte
Ventilation Strategy	Hilson Moran
Green and Blue Infrastructure Statement (appended to this Statement)	Deloitte
Archaeology Desktop Study	Salford Archaeology
Arboricultural Survey	Bowland
Economic Impact Assessment	Ekosgen
Lighting Strategy included within Landscaping DAS	EPR Architects
Energy Statement	Hilson Moran
Environmental Standards Statement	Hilson Moran
Air Quality Assessment	Hilson Moran
Crime Impact Statement	Greater Manchester Policy (GMP)
Topographical Survey	West Coast Geomatics
TV Reception Survey	Pager Power
Technical Aerodrome Safeguarding Assessment	Pager Power
Ecological Assessment (including Biodiversity Net Gain Assessment)	Penny Anderson Associates
Noise and Vibration Assessment	Sandy Brown
Wind Assessment	GIA
Daylight, Sunlight and Overshadowing Assessment	GIA
Site Waste Management Strategy	Curtins
Interim Travel Plan	Curtins
Transport Statement	Curtins
Flood Risk Statement and Drainage Strategy (SuDs)	Curtins
Local Labour Agreement	Bruntwood RB Limited
Environmental Statement Volume 1:	
• Chapters 1-4: Introductory Chapters	Deloitte
• Chapter 5: Construction Management and Programme	Sir Robert McAlpine Ltd and PP O'Connor
• Chapter 6: Townscape and Visual Impact	Chris Burnett Associates
• Chapter 7: Built Heritage	Stephen Levrant Heritage Architecture
• Chapter 8: Ground Conditions	Curtins
• Chapter 9: Climate Change	Ramboll
Environmental Statement: Volume 2 – Technical Appendices	EIA Technical Consultants
Environmental Statement: Non-Technical Summary	Deloitte with input from EIA Technical Consultants

Environmental Statement Availability

- 1.24. 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.
- 1.25. 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.

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

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Figure 1.1 Site Location Plan

Figure 1.2 Existing Site 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.

Legislation and Guidance

- 2.2. 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.
- 2.3. 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)
- 2.4. 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 2021 (NPPF). The NPPF sets out the Government's economic, environmental and social planning policies for England, articulating the Government's aspiration for sustainable development. The NPPF has been considered where it is relevant to EIA.
- 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:
- 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 25 February 2022 (**Appendix 2.1**) requesting formal screening opinion and confirmation as to the proposed scope of the Environmental Impact Assessment required in respect of the Proposed Development. A formal scoping opinion was received on 20 May 2022 (**Appendix 2.1**). The following chapters have been scoped into the EIA:
- Townscape and Visual Impact
 - Built Heritage
 - Ground Conditions
 - Climate Change
- 2.9. The results of the scoping exercise have determined the subject areas of the EIA, set out in Table 1.2 above.

Consultation

- 2.10. The Proposed Development has been prepared in consultation with Manchester City Council and a range of technical stakeholders (refer to Table 2.1).

Table 2.1: Scope of Stakeholder Consultation

Stakeholder Consultation
Manchester City Council Planning Authority
Manchester City Council Highways
Greater Manchester Archaeological Advisory Service
Manchester City Council Environmental Health Officers
Environment Agency
Greater Manchester Ecology Unit (GMEU)

Public Consultation

- 2.11. The proposals have been subject to pre-application engagement with a wide range of stakeholders including Manchester City Council Planning Officers, Environmental Health Officers, Greater Manchester Ecology Unit and a range of technical stakeholders. Further details are provided in the Statement of Consultation which accompanies application.
- 2.12. Pre-application consultation exercise was undertaken with local residents and businesses, in the form of a consultation website in December 2022 and subsequently extended until 4 January 2022. The website set out the vision for the Site, the design development process
- 2.13. Following the conclusion of the initial consultation, the Applicant took on board feedback received and updated the plans for Alberton House. The main focus of the changes related to the architectural design of the rooftop amenity and wellness space
- 2.14. In January 2022, an online public consultation webinar was held to virtually present the proposals to those members of the public who registered to join the webinar. This provided an opportunity for members of the public to provide feedback and ask questions about the Proposed Development during the Q&A section of the webinar.

- 2.15. A meeting also took place with the Applicant and Ward Councillors in the Deansgate Ward on 8 December 2021 to discuss the principle of development, present the developed design proposals further to the Strategic Regeneration Framework and seek views on the design. The meeting was attended by Councillor William Jeavons and Councillor Marcus Johns.
- 2.16. A follow up virtual meeting took place on 27 April 2022 which was attended by Councillor Jeavons and Deloitte as project team representative. The follow up meeting provided an opportunity to update on the public consultation and the proposed amendments to the roof design following further detailed design development.
- 2.17. For further details on the pre-application consultation please refer to the Statement of Consultation prepared by Deloitte and submitted as part of this Application, as well as Chapter 4 of this Statement (for details on the design development/ evolution).

Non-Significant Effects

- 2.18. It is considered that 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 each discipline is provided in the EIA Scoping Report in **Appendix 2.1**, which was confirmed by the scoping opinion received by MCC on 9 April 2021.

- Agricultural Circumstances.
- Aviation.
- Archaeology.
- Arboriculture.
- Human Health.
- Electronic Interference.
- Solar Glare.
- Daylight, Sunlight and Overshadowing.
- Ecology
- Socioeconomic.
- Noise and Vibration
- Traffic and Transport
- Air Quality.
- Water Resources, Flood Risk and Drainage.
- Wind Microclimate.

Approach to Technical Studies

- 2.19. Various technical studies were commenced at an early stage in the 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.
- 2.20. Project 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 project team was fully aware of the environmental constraints and opportunities and of the interactions between disciplines. Pre-

application engagement was also undertaken with Manchester City Council as the Local Planning and Highway Authority.

- 2.21. The technical studies have been undertaken in accordance with current best practice. Specific guidance used is referenced within each of the respective assessment Chapters.
- 2.22. The majority of assessments involved consultations with statutory and non-statutory bodies, desk-based research, Site inspections and surveys, impact prediction and mitigation.
- 2.23. The assessment and conclusions of the ES are based on the description of the Proposed Development provided in Chapter 4.

Structure of Technical Chapters

- 2.24. Each technical Chapter of the ES (Chapters 6-9) has been set out broadly in line with Table 2.2.

Table 2.2: Structure of ES Technical Chapters

Technical Chapter Structure	
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 & 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.

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

- 2.25. Chapter 5 provides information to allow the construction phase of the Proposed Development to be assessed by the disciplines set out in Chapters 6-13.

Magnitude

- 2.26. The methodology for determining the scale, or magnitude, of effect is set out in Table 2.3.

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

- 2.27. 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

- 2.28. 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 - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor - Negligible
Negligible	Negligible	Negligible	Negligible

- 2.29. 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'.
- 2.30. For the purposes of this Environmental Statement, an effect will be considered to be 'significant' if it is classed as either 'moderate' or 'major'.

Baseline Conditions

- 2.31. Each technical Chapter includes a section which describes and evaluates the baseline environmental conditions (i.e. the current situation and anticipated changes over time assuming the Site remains unchanged). Baseline data has been obtained from a variety of sources, including published documents, maps, historical information and Site survey data. Given the complex nature of the Site and surroundings, each technical Chapter (Chapters 6 to 9) includes a clear description of what is assumed as the baseline against which the assessment is being made.
- 2.32. 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

- 2.33. 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.
- 2.34. 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.
- 2.35. 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.

- 2.36. Mitigation to be implemented during the operational phase would be secured through planning conditions and obligations.

Residual Effects

- 2.37. 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 11 of this Statement.

Cumulative Effects

- 2.38. 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').
- 2.39. A search of Manchester City Council's planning applications database and knowledge of the area has identified a number of schemes for which cumulative effects are considered more likely. A full list is contained within the Scoping Report at **Appendix 2.1**, for which agreement was sought from the Local Planning Authority as part of the Scoping Opinion process.
- 2.40. Each technical Chapter (Chapters 6-9) has assessed the potential for likely significant effects on the environment, as a result of the above committed developments, together with the Proposed Development.
- 2.41. In addition, Chapter 10 assesses the Type 1 Cumulative effects.

Assumptions and Limitations

- 2.42. 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 are considered as part of the Cumulative Impacts;
 - Baseline conditions have been established in 2021 and 2020 from a variety of sources, including historical data, but due to the dynamic nature of certain aspects of the environment, conditions will change during the Proposed Development. Where required consultation has taken place with relevant statutory consultees (e.g. MCC Highways) to seek agreement on the reliability of baseline and monitoring data, in order to suitably account for the effects of COVID-19 – where applicable, each Chapter provides further details.
 - 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 infrastructure for the Proposed Development will be provided by statutory undertakers.

Objectivity

- 2.43. The technical studies undertaken within 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.
- 2.44. The assessment has been explicit in recognising areas of limitation within the ES and any difficulties that have been encountered, including assumptions upon which the assessments are based. Where appropriate, the assessment of significance has been given confidence levels.

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 provide an outline of the main alternatives studied and an indication of the main reasons for the choice made, taking into account the environmental effects.
- 3.2. The form of the Proposed Development has been influenced by a range of factors, including location, surrounding land use and input from Manchester City Council, Statutory and Non-Statutory Consultees and other stakeholders.
- 3.3. This Chapter reviews the principal land use and siting options explored and the reasoning for the selection of the current design for the Proposed Development which forms the subject of assessment within the 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 uses for the Site.
 - Alternative design/layout for the Proposed Development in the context of the design evolution.

The "do nothing" Alternative

- 3.5. The "do nothing" scenario refers to the option of leaving the Site in its current state, which comprises the existing Alberton House building.
- 3.6. The redevelopment of Alberton House was identified as part of the wider regeneration strategy for the St Mary's Parsonage SRF area. The SRF recognises the highly sustainable location of Alberton House, but acknowledges that the existing building is not fully utilised due to its dated internal configuration and inability to compete with newer Grade A commercial office spaces being brought forward in the city centre. As such the SRF acknowledges that Alberton House is in need of major reinvestment.
- 3.7. The new office space being delivered as part of the Proposed Development will replace the outdated existing Alberton House building. It presents an opportunity to create an exemplar highly sustainable building, providing new, high quality Grade A office space, retail and cafe/restaurant space and amenity/ wellness facilities.
- 3.8. The Proposed Development will enable the quality of the public realm and environment around the Site to be properly addressed, creating a more attractive environment that enhances walking and cycling routes that are critical to the connectivity of the area with the wider city centre.
- 3.9. Overall, it is considered that the 'do nothing' alternate option will not align with objectives of the SRF, will not secure the best and long-term viable re-use of the heritage asset and does not achieve the overall strategic objectives of the City Council.
- 3.10. The Proposed Development will bring further and more regular activity to the Site and boost economic activity in the area, supporting significant environmental and social improvements on Site and up to a regional scale. Full details of the public benefits are set out in Chapter 8 (Public Benefits) of the Planning and Tall Building Statement prepared by Deloitte.

Consideration of Alternative Locations

- 3.11. The Proposed Development will be located at the heart of a commercially-led regeneration project focussed around St. Mary's Parsonage, located in the city centre, as detailed in the adopted SRF (2020) and as defined in the development brief.
- 3.12. In addition, there is clear policy support for the Proposed Development in this location and the availability of land in the city centre. The Site is also well located for the proposed commercial use as it is within walking distance of key transport nodes and complementary uses.
- 3.13. Whilst Bruntwood owns other sites within the city centre, these are neither readily available for redevelopment nor identified as strategic regeneration priorities. On balance it is considered that, due to the use, land ownership, policy support for development in this area and the availability land to deliver this unique project in Manchester City Centre, alternative locations are not possible for this particular development.

Consideration of Alternative Uses

- 3.14. The Site's proposed use is for office led mixed-use development. Other reasonable alternative uses, considering its City Centre location, have been discussed below:
- 3.15. Other reasonable alternative uses for the Site, considering its location, have been discussed below:
- **Retail** - The Site falls outside Manchester City Centre's Primary Shopping Area and a standalone retail development on this Site would require extensive justification. The retail sector within the UK is volatile with the high street retail market has already seen significant downturn, and in recent years the retail market is changing at an unprecedented speed. The industry has faced large-scale business restructuring and the expansion in the online market share has drawn customers away from traditional high street shops and department stores. The size of the application Site would present challenges in terms of the scale of demand for a large quantum of retail floorspace. Limited retail is however considered to be viable and beneficial to the area's regeneration objectives for ground floor frontage, in combination with office uses on the upper levels. Delivering a retail-led development on the Site has therefore been discounted.
 - **Hotel** – The Site could technically accommodate a hotel development. However, this has been discounted on the basis the SRF identifies office use as a strategic regeneration objective for the Site and the fact that Bruntwood does not specialise in delivering hotel developments.
 - **Residential** - The Site is located within a part of the City Centre that is developing an established commercial character. Whilst there is a need for more residential development to be brought forward within the City Centre, it is considered that such development will be better located further from the City core.
- 3.16. The Site is currently occupied by a vacant office, which the St Mary's Parsonage SRF recognises as not fully utilised due to its dated internal configuration and inability to compete with newer Grade A commercial office spaces being brought forward in the city centre. As such the SRF acknowledges that Alberton House is in need of major reinvestment and the Proposed Development seeks to respond to this by delivering new, high quality Grade A office space, retail and cafe/restaurant space and amenity/ wellness facilities.
- 3.17. The principle of development in this area of Manchester is established through planning policy, namely Policy CC1 'Primary Economic Development Focus: City Centre and Fringe' which supports high quality office developments on the Site.
- 3.18. For the reasons outlined above, alternative uses have been discounted. The principle of an office led development this location is consistent with planning policy and the strategic objectives of the St Mary's Parsonage SRF. The office-led use will complement the existing commercial character of the area and support Manchester City Council's regeneration ambitions for the Site.

Design Evolution

- 3.19. The Design and Access Statement which accompanies this planning application addresses the design evolution of the Proposed Development in detail.

- 3.20. A wide range of specialist consultants and other stakeholders have provided valuable input into the scheme, informing the design process and assisting the team in arriving at an appropriate solution of the Site. The design has evolved particularly in terms of the rooftop design. The evolution of the scheme and the final design is discussed in detail within Section 3 of the accompanying Design and Access Statement.
- 3.21. The design of the Proposed Development has been interrogated through extensive design review by the Applicant's design team, as well as being informed by pre-application consultation with MCC officers, Places Matter! Design Review Panel, statutory consultees and through public consultation.
- 3.22. The core design team has undertaken an extensive contextual analysis of the Site and surroundings and recognise the high-profile nature of the Site. In this respect, a significant amount of time has been spent developing the proposal through a number of design stages to deliver a high quality development that not only secures the viable future for the Site, but also delivers demonstrable enhancements and regeneration benefits to the surrounding area.
- 3.23. For further details please refer to Section 3 of the Design and Access Statement prepared by EPR and Chapter 4 of the Planning and Tall Building Statement, prepared by Deloitte.

Summary

- 3.24. Where possible, alternative options have been considered throughout the design process. The above has set out why the Site is considered suitable for the Proposed Development. This process has been informed by the viability, and the desire to create a positive relationship with the surrounding developments. The Proposed Development has been influenced by pre-application consultation with key stakeholders, as well as with MCC. On this basis, Regulation 18(3) and Paragraph 2 of Schedule 4 of the EIA Regulations has been considered.

4. Site, Surroundings and Description of Proposals

- 4.1. This Chapter includes a description of the Site, its surrounding context, a more detailed description of the Proposed Development.

Site Description

- 4.2. The Site is located to the west of Manchester City Centre and is entirely within the St. Mary's Parsonage Conservation Area, in close proximity to Manchester Victoria mainline railway station.
- 4.3. The 0.26 ha Site is bounded by Cardinal House to the east, St Mary's Parsonage to the south, Albert Bridge House (car park) to the west and the River Irwell to the north.
- 4.4. The Site, Alberton House, currently comprises a part 12, part 4 storey office building, which has an L-shaped footprint with its main entrance set back from the street edge of St Mary's Parsonage. The 12 storey part of the building abuts the River Irwell on its north western edge and back of house servicing access is provided off St Mary's Parsonage along the Site's south western edge. The Site is identified for redevelopment within the endorsed St Mary's Parsonage Strategic Regeneration Framework ('the SRF'), which will form a material consideration in the determination of all future planning applications within the SRF area.
- 4.5. Immediately adjacent to the service access route, to the west of the existing building, is the access to the pedestrian footbridge (Trinity Bridge), which provides a key connection between Salford and Manchester City Centre. The existing footbridge access off St Mary's Parsonage is positioned between the Albert Bridge House car park and the Alberton House service road.
- 4.6. To the south of the Trinity Bridge pedestrian access is Albert Bridge House, an 18 storey 1950's commercial office building. To the south east is 3 St Mary's Parsonage and Reedham House, which are each four storey Grade II listed buildings. To the north of the Site is Cardinal House, which is a ten storey commercial office building, built in the 1970's. All three of these neighbouring sites are identified within the SRF as having potential for complete or partial redevelopment, although no formal Proposed Development have been submitted for the sites to date.
- 4.7. Motor Square, an area of public realm is located to the south east of the Site, forming one of the gateways into the Parsonage Gardens area. Motor Square is currently recognised as a disjointed and underused space and so is identified by the SRF as requiring a comprehensive redesign to enhance activity and vibrancy.

Site Context

St. Mary's Parsonage Strategic Regeneration Framework

- 4.8. The St. Mary's Parsonage Strategic Regeneration Framework (SRF), in which the Site is located, was endorsed by the Executive Committee on 3rd July 2020.
- 4.9. The Site falls within an area covered by the St. Mary's Parsonage Strategic Regeneration Framework (SRF) (August 2020)¹, which provides guiding development principles for the future regeneration and development of key sites within this part of the city centre.
- 4.10. The SRF seeks to refocus the priorities of the area in order to establish St Mary's Parsonage as a clearly definable and cohesive City Centre neighbourhood, with a distinctive character and sense of place. The Proposed Development set out the ambition to create a commercially-led, mixed-use district, set around high quality public

¹ https://www.manchester.gov.uk/downloads/download/7208/st_marys_parsonage_srf

space. A key underlying principle of the SRF is the retention and celebration of the area's special qualities and assets, including its heritage assets, public spaces and green and blue infrastructure.

- 4.11. The St Mary's Parsonage SRF proposes that Parsonage Gardens will build upon its existing asset base, and its positive adjacencies to other parts of the City Centre, to successfully host an eco-system of best in class employment – from global businesses to start ups – and other high quality uses including residential, hotel, retail and leisure.
- 4.12. The St Mary's Parsonage area will deliver a series of significant regeneration benefits, which will be fully integrated and connected into the wider City Centre and will draw activity and support the further expansion of the City Centre's quality activity into the area. This will make the most of its positive adjacencies to other successful and vibrant parts of the City Centre including Spinningfields, the Primary Retail Area, the Central Business District, and support the growth and enhanced productivity of the City.
- 4.13. The Proposed Development has been directly informed by the strategic objectives of the SRF, and detailed options testing will be undertaken to ensure they can be supported wherever feasible and where other strategic objectives can also be maintained.

Site Specific Designations

Environmental Designations

- 4.14. The Site is situated in the Greater Manchester Combined Authority Air Quality Management Area (AQMA).
- 4.15. The Site is not within, nor does it contain, any ecological designations including Sites of Specific Scientific Interest (SSSI), Sites of Biological Importance (SBI) or Special Protection Areas (SPA).
- 4.16. There are no habitats of principal importance, as defined under Section 41 (S41) of the Natural Environment and Rural communities (NERC) Act 2006, within the Site.
- 4.17. It should be noted that one European Protected Site is within a 10km radius of the Site, Rochdale Canal is classed as a Special Areas of Conservation (SAC) and Site of Special Scientific Interest (SSSI), located approximately 6 kilometres to the north-west and designated for its aquatic and emergent flora.

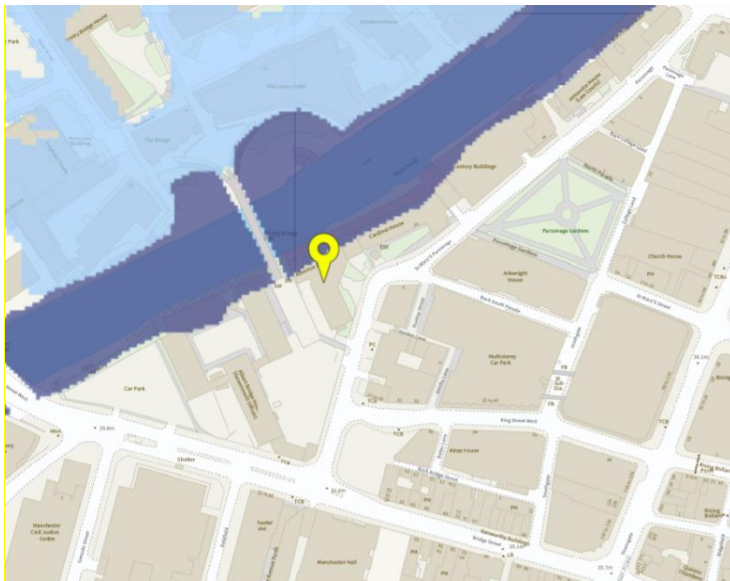
Protected Species

- 4.18. As part of the Phase 1 Habitat Survey undertaken by Penny Anderson Associates Ltd a small number of birds were seen, including a starling, stock dove, mallard and house sparrow.
- 4.19. Access to the riverbanks was restricted and close inspection was not possible during the survey, however it should be noted that the otter population underwent a widespread decline during the 20th Century, thought to be related to the introduction of pesticides in the mid-1950s. It is considered that there is a possibility that otter are using the River Irwell for foraging and commuting and the small area of vegetation along the riverbank on-site could provide some, albeit highly limited, daytime cover. It is extremely unlikely that water vole are present. The fluctuating height in river levels and the lack of suitable foraging available on the banks make the habitat wholly unsuitable for water vole.
- 4.20. The building inspection undertaken as part of the Phase 1 Habitat Survey found no features that provide suitable conditions for roosting bats. Overall, the Site was assessed as having negligible roost potential.

Flood Risk

- 4.21. The Site, for the majority, is located in Flood Zone 1, as shown in Figure 2.1. This portion of the Site is therefore of a low risk of flooding. The north western boundary of the Site is located within Flood Zone 3 as a result of the River Irwell forming this boundary. This part of the Site is within an area with a high probability of flooding; however the Proposed Development will be cantilevered approximately 6m above the river level. For further details please refer to the Flood Risk Statement and Drainage Strategy, prepared by Curtins.

Figure 4.1: Flood Map for Planning with the Site indicated in yellow (source: Government Flood Map for Planning)



4.22. The Site is located within the Manchester Conurbation Core Critical Drainage Area.

Conservation and Heritage

4.23. The Site does not contain any heritage assets that are afforded statutory protection, such as Scheduled Monuments, listed buildings, or any Registered Parks and Gardens, and it does not fall within a conservation area.

4.24. The Site is situated within close proximity to Parsonage Gardens Conservation Area (as shown in Figure 4.2), with the conservation area 10m to the east Site, on the opposite side St Mary's Parsonage.

4.25. The Site is also located within 100m of the Deansgate/Peter Street Conservation Area and within 200m of St Ann's Square Conservation Area, Albert Square Conservation Area and the Flat Iron Conservation Area in Salford.

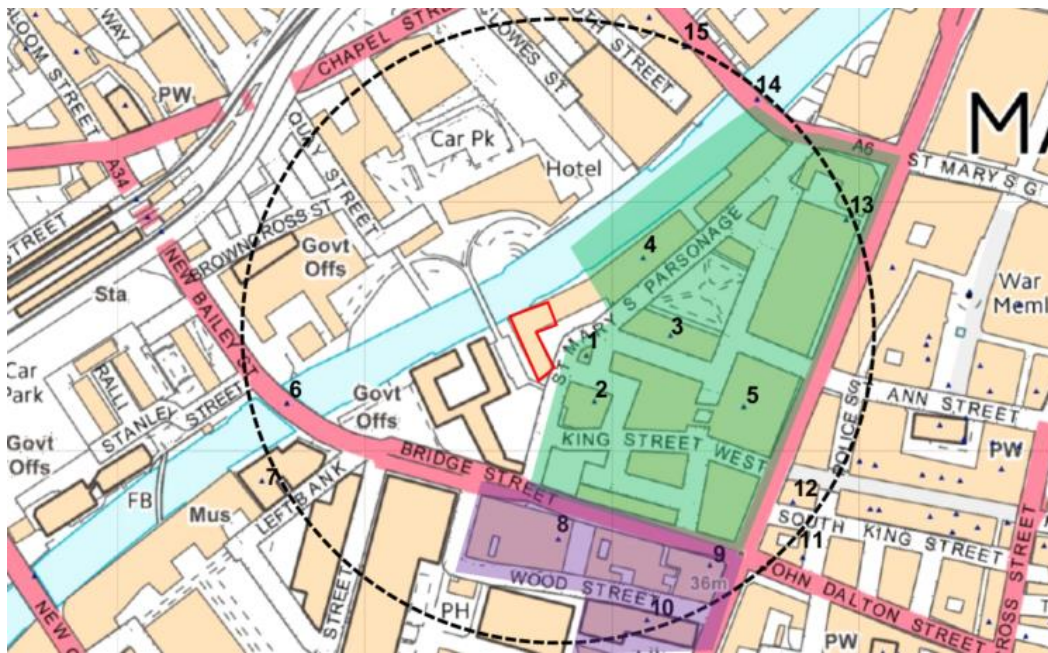
4.26. The Site is located within 200m of 15 listed buildings and within 150m of six listed buildings. The Site is within the setting of a number of listed buildings, with two listed buildings located directly to the south east of the Site, 3 St Mary's Parsonage and Reedham House, which are both four storey Grade II listed buildings.

4.27. The 15 built heritage assets within a 200m radius of the Site boundary are as follows (as shown in Figure 4.2):

- 3 St Mary's Parsonage – Grade II Listed
- 31 and 33 King Street West (including 3 Smithy Lane) – Grade II Listed
- Arkwright House – Grade II Listed
- Century Buildings (National Buildings), 14 St Mary's Parsonage – Grade II Listed
- 98 – 116 Deansgate (Kendals) – Grade II Listed
- Albert Bridge – Grade II Listed
- Former Hydraulic Power Station (in Grounds of City College) – Grade II Listed
- Masonic Temple – Grade II Listed
- Sawyers Arms Public House – Grade II Listed
- John Rylands Library (and Attached Railings, Gates and Lamp Standards) – Grade I Listed

- 105 – 113 Deansgate – Grade II Listed
- 4 -14 King Street – Grade II Listed
- Haywards Building – Grade II Listed
- Blackfriars Bridge – Grade II Listed
- The Crown Tavern – Grade II Listed

Figure 4.2 Heritage Asset Map (listed buildings within 200m are numbered and identified by blue triangles with the Parsonage Conservation Area identified in green)



- 4.28. For further details please refer to Chapter 7 (Built Heritage) of the Environmental Statement Volume 1 and accompanying Heritage Statement (Appendix 7.1 – ES Volume 2) both prepared by Stephen Levrant Heritage Architecture.

Planning History

- 4.29. A planning history search was undertaken using Manchester City Council's (MCC) public access system. There are no recent planning applications of relevance to the Site.

Proposed Development

- 4.30. This section provides a summary description of the key elements of the Proposed Development.
- 4.31. The Proposed Development includes the redevelopment of Alberton House, located on St Mary's Parsonage. This includes the demolition of the existing building and the erection of a new, contemporary 19 storey (including ground floor with mezzanine, and excluding basement) Grade A office building, including F&B floorspace on the ground floor, and a rooftop amenity and wellness space (floors 17 & 18).
- 4.32. Overall the Proposed Development will deliver c. 32,260 sqm (GEA) of commercial floorspace. The quantum of the Proposed Development is set out below:
- Office (Class E) – c. 26,420 sqm (GIA) *(including mezzanine)*
 - Office ancillary and amenity (Use Class E) – c. 1,330 sqm (GIA)
 - Retail / Café (Class E and Sui Generis) – c. 1,470 sqm (GIA) *at ground floor*

- Ancillary Wellness Centre (Sui Generis and Use Class E – directly associated with Office use only) including swimming pool – c. 1,740 sqm (GIA) *at levels 17 and 18*.
- 4.33. The Proposed Development will deliver an exemplar highly sustainable building, providing new, high quality Grade A office space, retail and cafe/restaurant space and amenity/ wellness facilities. High quality management support spaces, site infrastructure, and back of house facilities for the office uses will be provided to encourage use of sustainable transport modes and support the delivery of a highly sustainable office development of the highest specification for wellness, including through the provision of the rooftop amenity wellness space.
- 4.34. A key part of the Proposed Development is the opportunity to create an open and inviting ground floor entrance which enhances public realm and connectivity. To support this the ground floor will provide publicly accessible commercial uses along the key pedestrian route linking with Trinity Bridge and the River Irwell frontage. The Proposed Development will provide an investment into public realm which will encourage further investment into the area and its wider transformation, consistent with the St Mary's Parsonage SRF.
- 4.35. The Proposed Development is summarised below:
- Demolition of the existing Alberton House and erection of a c. 32,260 sqm (GEA) highly sustainable 19-storey office-led building;
 - The office reception, including a double height entrance space is located at the ground floor along St Mary's Parsonage, as well as back of house areas including the bin store;
 - Food and beverage floorspace at the ground floor level fronting the river, with an external terrace activating the Trinity Bridge walkway;
 - Mezzanine with co-working space such and amenity features;
 - Basement includes a cycle hub (with 120 secure cycle parking spaces), a gym, changing and showering facilities, back of house areas and plant areas;
 - Floors 1 – 16 provide office accommodation, with floors 1-2 providing serviced accommodation fit out by Bruntwood Works;
 - A rooftop amenity and wellness space on 17th and 18th floors, including a leisure and fitness offering with a swimming pool and associated facilities;
 - A panoramic landscaped, external rooftop terrace on 17th floor.
 - Tree planting and public realm enhancements along St Mary's Parsonage and Trinity Bridge walkway
 - Highways works and servicing arrangements including a loading bay along St Mary's Parsonage;
 - Drainage and ecological works, including the installation of blue roof; and
 - Other associated works.
- 4.36. The Design and Access Statement prepared by EPR submitted in support of this application contains more information on the design of the Proposed Development. For further details please also refer to Chapter 4 of the Planning and Tall Buildings Statement prepared by Deloitte.

5. Construction Methodology and Programme

Introduction

- 5.1. This Chapter of the ES has been prepared by Sir Robert McAlpine Ltd and describes the proposed construction programme and key activities that will be undertaken. Detailed consideration of potential impacts during the construction process and any necessary mitigation measures are provided in each relevant chapter of the ES.
- 5.2. The following figure is included with this Chapter:
- Figure 5.1 – Logistics plan
- 5.3. The main aim throughout the construction period is to minimise the impact on the surrounding properties and roadways for the duration of the work. Close collaboration with all project teams of all construction projects will be maintained at all times to achieve this aim.
- 5.4. The following narrative explains this methodology and timescales envisaged at the time of the planning application. More detailed proposals will be developed prior to commencement on site. This will include preparation of detailed plans to incorporate Construction Management, Construction Phase Health and Safety, Environmental Management as well as Site Waste Management, Logistics and Traffic Management.

Programme

- 5.5. The total construction programme will span a period of approximately two years incorporating the main works (93 weeks), frame construction, façade cladding and internal fit out. Whilst there are several issues that will determine the final programming and sequencing at the Proposed Development, the target plan is to split the development into phases subject to Planning Permission being granted the proposed key dates and durations are shown below.
- Demolition Preparation Works – Hoarding installation, Soft Strip and Asbestos Removal, Fire Escape restraining work – Works commencing in July 2022 for 10 weeks.
 - Hard Demolition works – Scaffold Installation, high rise demolition, works and site clearance – Works commencing September / October 2022 for 20 Weeks (depending on date of planning permission).
 - Main Works – Frame, façade cladding and fit out - construction commencing in Quarter 1 2023 and completing in Quarter 1 2025.
- 5.6. This is an indicative construction programme and the Applicant highlights that there are multiple risks involved in the development process. The Applicant notes that this programme may ultimately be extended in the event delays caused by sustained periods of poor weather, unexpected ground conditions or other abnormals, economic volatility and political uncertainty.
- 5.7. The programme is based upon normal working hours in line with Manchester City Council Guidance of 7.30hrs to 1800hrs Monday to Saturday. Access to the Site will be permitted 30 minutes prior to working day commencing with noise being kept to a minimum for the first half hour of each day.
- 5.8. On Sundays and Bank holidays noisy working will generally not be planned. On some occasions there are certain operations that maybe required to proceed during these periods. When required, these will be agreed with the Environmental Health Officer (EHO) and local residents will be notified through letter drops. The frequency of these will vary and respond to demand.
- 5.9. We acknowledge the proximity of the neighboring residents and as such will endeavor at all times to ensure the working hours are adhered to in order to protect this residential amenity.

Construction Methodology

- 5.10. The following is a brief overview of the methodology to be adopted for the demolition, construction and fit out of the Proposed Development. The section also considers general logistics as well as traffic management for the movement of material to the disposal of waste.

Demolition Methodology

- 5.11. To allow the safe demolition of all structures on site, various demolition methods will be adopted to allow the works to be carried out safely within a busy city center environment. Mechanical demolition methods using conventional demolition excavators and attachments will be used to carry out the low-level structures where it is safe to do so, and 'top down' floor by floor methods will be adopted to remove the taller and more high-risk areas of the structures on site.
- 5.12. Top Down, floor by floor demolition is the preferred method when carrying out the demolition of high-rise structures within busy City Centre's and where space is limited. The building will be wrapped in a fully Mono-flexed scaffold system around its perimeter. Once erected, small 1t excavators and BROKKS will be lifted onto the roof using a mobile crane. The structure is then demolished floor by floor, with the generated demolition arisings being ditched down the existing lift shafts once they have been removed. The arisings are then collected from the lift shaft base with small plant and disposed off site, as and when required. This process is then repeated until the building is down to ground floor level, or stops at a safe height where it can then be demolished mechanically using excavators.
- 5.13. During the delivery and collection of demolition plant and equipment, all loading and unloading activities will be carried out within the footprint of the site, and away from the public highway to minimize disruption to the road users and local residents. In circumstances when abnormal loads are required to site, these vehicle movements will be planned and agreed with effected parties informed well in advance of the work.

Site Logistics

- 5.14. A permanent solid hoarding around the full perimeter of the Site will be erected prior to the start of the construction works proper.
- 5.15. A temporary lane closure will be obtained on St Mary's Parsonage to provide a construction traffic pitlane to safely take vehicles away from the public road and footpath users. The Site will operate a one way system with traffic exiting in the same direction as they entered. Discussions will be held with MCC at the appropriate time to determine if there can be temporary permissions granted to reopen the St Mary's Parsonage / Blackfriars Street junction for construction vehicles to egress and the temporary traffic management requirements to address the narrowing of St Mary's Parsonage as a result of the pit lane.
- 5.16. A detailed traffic plan will be agreed with the Highways Authority in advance of starting works on site.
- 5.17. It is envisaged that the temporary site establishment and welfare space will be located in rented accommodation within the adjacent Cardinal House. The welfare facilities will be suitably sized to suit the anticipated number of operatives.
- 5.18. Material storage will be contained within the Site boundary with access through the site entrance gates on St Mary's Parsonage for deliveries, small low height forklift trucks will be employed to store materials within the ground floor for the façade construction and fit out elements of the works.
- 5.19. Any temporary public road or footpath closures associated with the construction phase will be agreed with Manchester City Council highways department and relevant diversion signage will be put in place.
- 5.20. Access to the site entrance will be controlled by biometric scanner through a secure metal turnstile. This will monitor construction operative's movements and prevent unauthorized public access to the Site. The main gates will be locked securely at all times except for when deliveries are being made. The gates will be manned by qualified banksmen who will co-ordinate traffic, bank deliveries as well as ensure the road and pavement areas are kept clean.
- 5.21. Where required, appropriate wheel and vehicle wash facilities will be in place to ensure delivery wagons leave the Site clean and tidy with regular cleaning of St Mary's Parsonage using road sweepers.

- 5.22. Loading and unloading of material deliveries will occur within the site boundary unless exceptional circumstances require special measures to be instigated.
- 5.23. Waste materials will be placed in skips and these will be removed on a regular basis. Food waste from canteens and eating areas will be contained within a smaller covered skip to prevent vermin.
- 5.24. The Site will employ security guards as appropriate to prevent and discourage nuisance. Regular patrols will take place throughout the shift. As an additional measure, CCTV will be installed to elements of the Site and compound to aid early identification of potential issues.

Demolition and Construction

- 5.25. The works generally comprise the following:
- Site Establishment
 - Service diversions and isolations
 - Soft Strip and asbestos removal
 - Fire escape restraining works
 - Scaffold installation
 - Demolition
 - Removal of foundations
 - Enabling Works
 - Creation of piling mat substrate and formation of tower crane bases.
 - Substructure
 - CFA & bored piling to the site perimeter with associated temporary propping.
 - Bearing pad construction, ring beams and basement slab and drainage.
 - Superstructure
 - Installation of tower crane(s).
 - Construction of in-situ concrete core, by slip-form construction concrete stair, steel structural frame and composite floors to roof level by concrete pump.
 - Facade
 - Roof coverings.
 - Installation of façade cladding.
 - Fit out
 - Installation of internal mechanical and electrical systems including main lifts.
 - Fit out of landlord including walls, floors, ceilings, toilets and final finishes.
 - Installation of BMU
 - Removal of Tower crane.
 - Completion of internal finishes to communal space.
 - Removal of permanent hoardings and temporary gates.
 - Landscaping
 - Completion of public realm.
 - Decant from site leading.

Traffic Management Plan

- 5.26. It is envisaged that deliveries will approach site via the A34/ Bridge Street turning left onto St Mary's Parsonage and pull into a hoarded off pitlane for unloading. The vehicles will then leave site heading along St Mary's Parsonage and turning left on to Blackfriars Street and on to the A6042/ Ring Road.
- 5.27. A full traffic management plan will be developed to address the following issues:
- Integration of traffic management scheme with surrounding construction developments and calming measures.
 - Access, egress, drop off and turning areas.
 - Temporary and/or permanent alterations to local traffic routes (both vehicular and pedestrian) It is currently assumed that the installation / dismantle of tower cranes will require some limited weekend local road closures and the Applicant is consulting MCC Highways to ensure any local highways impacts can be mitigated so far as is practical. It is anticipated that further details will be required to be submitted for approval via a planning condition, which will also be subject to wider consultation. The local community will be notified well in advance of any required road closures and a management strategy will be in place to minimise disruption as far as is practical.
 - Additions, alterations and positions of any temporary signage, road markings or protection barriers.
 - Pedestrian access around site and relevant protection, lighting and signage schemes.
 - Temporary suspension / relocation of any parking bays or bus stops.
 - Segregation of plant, materials and pedestrians on site and safe access routes between welfare and site areas.
 - The provision of car parking, off and on site, and public transport strategy for staff and operatives
 - Loading bays, hoist positions and tower crane areas.
 - Any other measures to ensure the safe integration of pedestrians, cyclists and road users both on, off and surrounding the development.
- 5.28. In preparation of the above document, Sir Robert McAlpine Ltd Protocol of timed and booked deliveries, off peak deliveries and prefabrication will be incorporated to minimise local disruption and normal workings of the surrounding properties.
- 5.29. The Applicant will continue to consult with MCC Highways to identify opportunities to minimise any temporary highways disruption during the construction period.

Parking

- 5.30. There will be no parking within the site. Site personnel will be encouraged to utilise the extensive public transport options available to them. Any personnel who have to attend by car will be asked to avoid parking in residential areas and instead utilise formal car parks such as Browncross Street car park or Manchester Bridge Street car park.

Health and Safety

- 5.31. The project will be carried out in accordance with the Construction, (Design and Management) Regulations 2015, and all other relevant legislation and guidance.
- 5.32. Sir Robert McAlpine Ltd will be the Principal Contractor. Their track record demonstrates their competency in the management and execution of Health and Safety. Sir Robert McAlpine Ltd have the appropriately trained management resource and procedures in place to oversee the activities of a complex, city centre construction project.
- 5.33. Working under a Pre-Construction Services Agreement, the Principal Contractor will work closely with the Principal Designer at this early stage of the project and will influence the detailed design to remove construction and residual safety risks.

- 5.34. Sir Robert McAlpine Ltd will produce a Construction Phase Health and Safety Plan prior to works commencing on site that will be reviewed and signed off by the client and their Principal Designer. This document will form the basis of the procedure for managing health and safety during the construction phase and will be periodically reviewed as the work progresses. This will address amongst other things, flood risk, control of pollution, any required oversailing licenses and relevant permits / consents required to complete the works.

Construction Materials

- 5.35. The materials selected at this stage of the design process do not generate a risk to construction personnel using the appropriate PPE and following manufacturers guidance.

Site Security and Safety

- 5.36. Protecting the public from risks to their health and safety arising from the construction work is a high priority. Every care will be exercised to prevent risk to members of the public and appropriate action, including dust & noise control & the erection of perimeter fencing to a specified standard, will be taken.
- 5.37. Vandalism and theft of plant, equipment, materials and fuel is possible throughout the duration of the development. Sir Robert McAlpine Ltd will take appropriate action, as described in previous sections, to ensure the site is always secure from unauthorised access. As described previously, the site will have metal turnstile access system controlled by an individual proximity fob system. In the event of a lost or stolen data the system can be updated to prevent fraudulent use.
- 5.38. The provision of CCTV would be considered if required to main site points and compound areas to assist in the prevention of unauthorized activities.

Environmental Management

- 5.39. An Environmental Plan, in line with the Sir Robert McAlpine Ltd environmental management system, will be developed to address and monitor the following issues on site and to the surrounding area including the adjacent River Irwell:
- Applicable environmental legislation.
 - Pollution.
 - Nuisance (Noise, vibration, dust, emission and light).
 - Public relations.

Environmental Legislation

- 5.40. Applicable environmental legislation will be identified in a register, to ensure that appropriate systems are put in place in order to comply with the legal requirements in question.

Pollution

- 5.41. Sir Robert McAlpine Ltd will establish procedures, to ensure the prevention of water and ground pollution, relating to the following risk activities:
- De-watering of the site (if required).
 - Soil contamination remediation.
 - Earthworks (including piling, spoil movement and removal, and movement of contaminated soils).
 - Concrete works.
 - Storage and movement of fuels, oils, chemicals and other such fluids.
 - Cleaning (including plant, machinery and wheel washing).

Nuisance (Noise, Vibration & Dust)

Noise & Vibration

- 5.42. The principal concerns relating to the nuisances of noise and vibration come from construction activities such as demolition, excavation, cutting, breaking out and plant movements. Mitigation measures will be considered to include low noise options, noise attenuation techniques and carrying out certain activities during agreed hours of the day.
- 5.43. In order to minimise the noise, Sir Robert McAlpine Ltd will provide the following:
- Any compressors brought on to the Site to be silenced or sound reduced models fitted with acoustic enclosures.
 - All pneumatic tools to be fitted with silencers or mufflers where available.
 - Care to be taken when unloading vehicles to minimise noise. Delivery vehicles to be routed to minimise disturbance to local residents. Delivery vehicles to be prohibited from waiting within or in the vicinity of the Site with their engines running.
 - All plant items to be properly maintained and operated according to manufacturers' recommendations in such a manner as to avoid causing excessive noise.
 - Where possible, all plant to be sited so that the noise impact at nearby noise sensitive properties is minimized.
 - Local hoarding, screens or barriers to be erected as necessary to shield particularly noisy activities.
- 5.44. In order to minimize the vibration, Sir Robert McAlpine Ltd will provide the following:
- Adoption of low vibration working methods. Consideration should be given to use of the most suitable plant.
 - Where processes could potentially give rise to significant levels of vibration, on - site vibration levels should be monitored regularly by a suitably qualified person.
 - Where piling is to take place, any obstructions should first be removed.
 - Application of piling techniques aimed at reducing resistance to penetration e.g. pre-boring for driven piles and adding water to the hole for impact bored piles.

Dust

- 5.45. The principal concerns relating to air quality and emissions from construction activities are in the form of dust and fumes. The degree of dust deposition is usually dependent on the nature of the works. Increased levels of dust are most likely to occur during site activities related to demolition (of which there are none planned on site) piling, moving construction traffic and ground works.
- 5.46. In order to minimise the dust and fumes, Sir Robert McAlpine will provide the following:
- Providing a hard surface where vehicle movements occur.
 - Control measures and dust suppression techniques.
 - Minimising stock piling and positioning in a manner that reduces risk of dust arising through wind action.
 - Measures such as screening and covering.
 - Installation of appropriate wheel and body wash facilities.
 - Keeping of adjacent roads and pavements clean.

- Ensure plant is turned off and not left running when not in use.
- Selection of electrically powered plant where possible in lieu of diesel or petrol plant.

Public Relations

- 5.47. To align with the strategic regeneration framework objectives, the contractor will ensure that regular contact is made with local residents and community groups to ensure they are kept up to date with general progress on the Site. This is especially important for major work elements such as piling and tower crane erection due to our close proximity to adjacent residential schemes. Sir Robert McAlpine will display a contact number on hoardings which will be operational 24/7.
- 5.48. The contractor acknowledges the future developments proposed in and around the vicinity of the Site and intends to establish a Parsonage Gardens Contractor Group. The group, consisting of key lead members from the contractors local to the Parsonage Gardens will meet regularly to agree and review upcoming significant activities on their contracts which would impact significantly on the traffic management with a view to reducing the affects to a minimum.

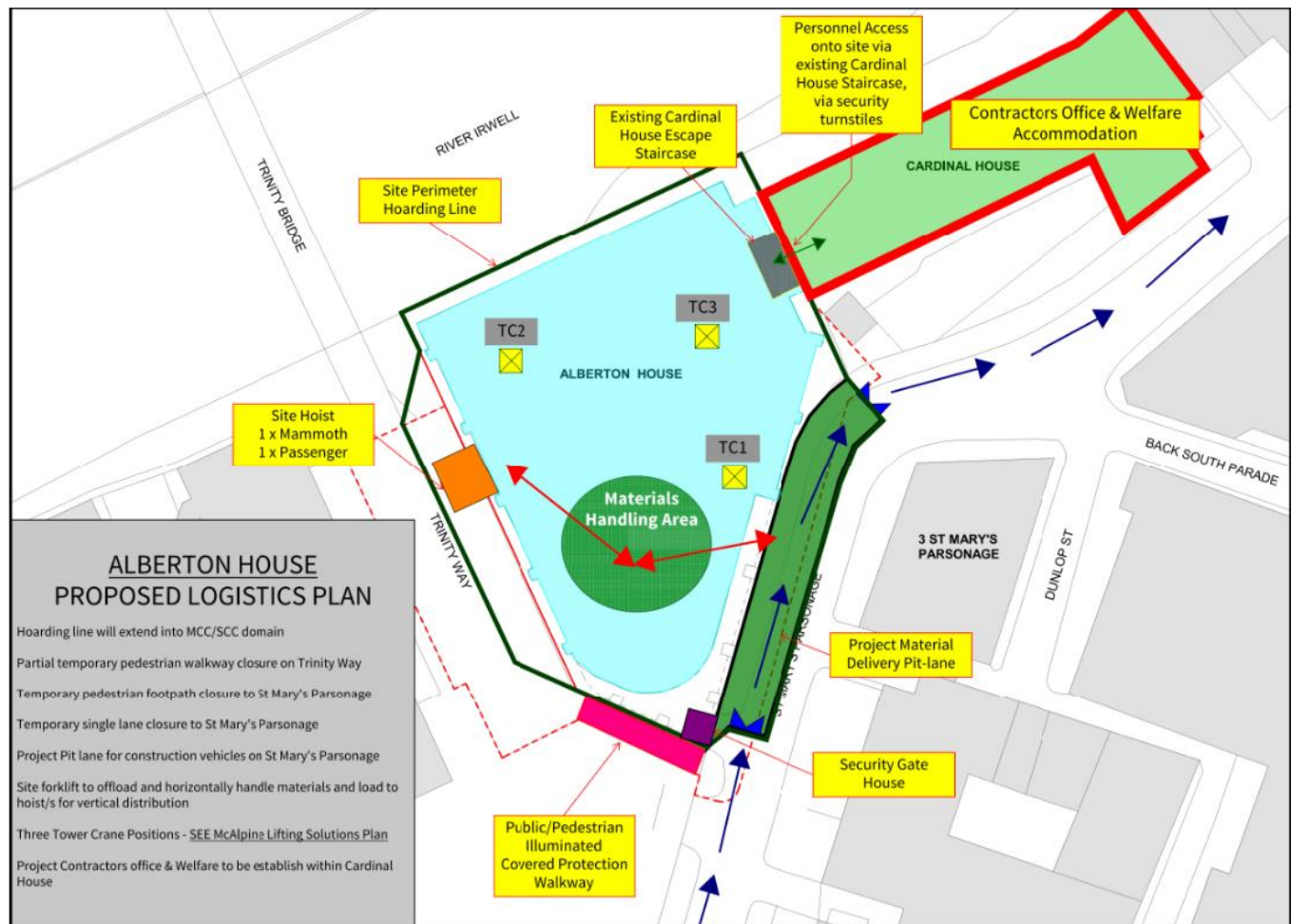
Waste Management Strategy

- 5.49. In line with the "Site Waste Management Plan Regulations 2013", a site waste management plan (SWMP) will be developed by the principal contractor and agreed with Manchester City Council.

Operational Waste Removal

- 5.50. Waste generated during the construction phase is to be cleared on a daily basis to a main holding skip. Each floor plate will have a designated waste area that will see bins located within it that can be emptied at the end of each shift. This waste removal may need to occur several times a day via the hoists and as such general operatives will be employed to ensure this will occur. Hazardous waste will be stored and disposed of separately but main waste will enter a common skip where our supplier will sort at their transfer station before issuing us recycling percentages and data.
- 5.51. To reduce the volume of waste sent to landfill, waste from site will be segregated at the waste transfer station into the following categories.
- CAT A: Hazardous waste – Paint tins, mastic etc
 - CAT B: Metal
 - CAT C: Timber
 - CAT D: Plasterboard
 - CAT E: General Waste
- 5.52. All carriers of waste will hold a valid waste transfer license and provide certification to the main contractor for all elements of the process.

Figure 5.1 – Logistics Plan



6. Townscape and Visual Impact

Introduction

6.1. This Chapter of the ES has been prepared by Chris Burnett Associates and assesses the likely significant effects of the Proposed Development with respect to Townscape and Visual amenity. This Chapter also describes the methods used to assess the effects; the baseline conditions currently existing at the Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant adverse effects; cumulative effects and the likely residual effects. Technical appendices also support this assessment and consist of the following:

- Appendix 6.1: Maps
- Appendix 6.2: Viewpoint and townscape photographs including AVR images
- Appendix 6.3: Visualisation methodology

About the Author

6.2. Chris Burnett BSC BLD CMLI, is principal partner of Chris Burnett Associates, a registered practice of landscape architects, who specialises in tall building Townscape and Visual Impact Assessments, as part of Environmental Statements, for many tall building developments throughout the UK since 2002. This includes over 20 tall buildings all of which have received planning consent, in Manchester and Salford including Beetham Hilton, Deansgate Square, New Wakefield Street and others.

Legislative and Policy Context

Legislation

- 6.3. The European Landscape Convention (ELC, 2000)² provides a foundation for closer co-operation on landscape issues across Europe and was ratified in the UK on the 21 November 2006 and became binding on 1 March 2007. The convention identifies the need to recognise landscape in law, to develop and promote landscape policies dedicated to the protection, management and creation of landscapes, and to establish procedures for the participation of the general public and other stakeholders in the evolution and implementation of landscape policies. It also encourages the integration of landscape into all relevant areas of policy, including cultural, economic and social policies.
- 6.4. The ELC defines landscape under Article 1 as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'. It recognises that landscape has important cultural, ecological, environmental and social dimensions and is a key element of achieving sustainable development. Article 3 states that the aims of the Convention are to promote landscape protection, management and planning and to organise European co-operation on landscape issues.

National Planning Policy

- 6.5. The National Planning Policy Framework³ sets out the Government's planning policies for England and how these are expected to be applied. It sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.
- 6.6. Key aspects of the NPPF, revised in 2021, which apply to the Townscape and Visual Impact Assessment are the paragraphs 126 and 130 below:

² Ref 9.1 The European Landscape Convention (ELC 2000)

³ Ref 9.2 National Planning Policy Framework 2019 Dept Communities and Local Government

Para.126 The creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Being clear about design expectations, and how these will be tested, is essential for achieving this. So too is effective engagement between applicants, communities, local planning authorities and other interests throughout the process.

Para. 130 Planning policies and decisions should ensure that developments:

a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;

c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);

d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;

e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users⁴; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.

Local planning policy

6.7. The following relevant policies are set out below as extracts from Manchester City Council's Core Strategy⁴:

6.8. The Core Strategy was adopted by Manchester City Council on 11th July 2012. It is the key document in Manchester's Local Development Framework and covers a period of 15 years from 2012 to 2027. It describes Manchester today and outlines the Council's vision for Manchester in 2027 along with the planning policies which will be used to deliver that vision⁵.

Policy EN 1 - Design Principles and Strategic Character Areas

All development in Manchester will be expected to follow the seven principles of urban design, as identified in national planning guidance and listed above and have regard to the strategic character area in which the development is located. Opportunities for good design to enhance the overall image of the City should be fully realised, particularly on major radial and orbital road and rail routes. Design and Access Statements submitted with proposals for new development must clearly detail how the proposed development addresses the design principles, reinforces and enhances the local character of that part of the City and supports the achievement of the Core Strategy Strategic Objectives."

Policy CC6 High Density Development

City Centre High Density Development City Centre development will generally be high-density. It is a location where land should be used to maximise its efficiency. The appropriate scale, massing and height of development in the City Centre will significantly exceed what is appropriate elsewhere in the City. Development will need to have regard to the Council's approach to tall buildings (policy EN2), but any proposals which do not reflect the importance of maximising the development opportunities in the City Centre will only be supported where this accords with wider Core Strategy objectives

⁴ Manchester City Council Core Strategy 2012-2027

⁵ Manchester City Council Core Strategy 2012-2027

Policy CC 9 Design and Heritage

Design of new buildings will need to be of the highest standard in terms of appearance and function. The standards and guidance explained in other LDF policies should be the basis for the approach to design, with particular attention to be given to the City Centre context and character. Development in Manchester City Centre should preserve or enhance the heritage assets that have been identified, including listed buildings, conservation areas and scheduled ancient monuments. The Council will support high density and mixed use development in the City Centre, but developers must recognise the specific design challenges that must be overcome to ensure complementarity of function and form. New development must support the range of uses the Council expects in the City Centre and contribute to a coherent and integrated physical environment.

- 6.9. The City Centre Character Area is of relevance to the Proposed Development. This area has been broken down into distinct townscape character zones by Manchester City Council and the extent and nature of the impact of the Proposed Development on these zones is described in more detail later in this chapter. The Core Strategy also refers to tall buildings:

Policy EN2 - Tall Buildings

Tall buildings are defined as buildings which are substantially taller than their neighbourhoods and/or which significantly change the skyline.

Proposals for tall buildings will be supported where it can be demonstrated that they

- *Are of excellent design quality,*
- *Are appropriately located,*
- *Contribute positively to sustainability,*
- *Contribute positively to place making, for example as a landmark, by terminating a view, or by signposting a facility of significance, and*
- *Will bring significant regeneration benefits.*

A fundamental design objective will be to ensure that tall buildings complement the City's key existing building assets and make a positive contribution to the evolution of a unique, attractive and distinctive Manchester, including to its skyline and approach views.

Suitable locations will include sites within and immediately adjacent to the City Centre with particular encouragement given to non-conservation areas and sites which can easily be served by public transport nodes.

Elsewhere within Manchester tall building development will only be supported where, in addition to the requirements listed above, it can be shown to play a positive role in a coordinated place-making approach to a wider area. Suitable locations are likely to relate to existing district centres. The height of tall buildings in such locations should relate more to the local, rather than the City Centre, urban context.

By their very size tall buildings can have a significant impact on the local environment and its micro-climate. It is therefore expected that this impact be modelled and that submissions for tall buildings also include appropriate measures to create an attractive, pedestrian friendly local environment.

It will be necessary for the applicant/developer to demonstrate that proposals for tall buildings are viable and deliverable"

- 6.10. Significantly, the Core Strategy offers further guidance in relation to the development of tall buildings as follows:-

Tall Buildings can provide a sense of place and distinctiveness, however as high development can have a substantial impact on an area careful consideration should be given to each proposal.

The NPPF requires local authorities to have regard to best practice in design, such as "By Design - Urban Design in the Planning System: Towards better practice" and "By Design – Better places to live". Policies are not to be overly prescriptive but, amongst other things, should concentrate on guiding height in relation to neighbouring buildings and the local area in general. Innovation should not be stifled but local distinctiveness should be reinforced. PPS4 directs planning authorities to set flexible policies for their centres which can respond to changing economic

circumstances and encourage where appropriate high density development accessible by public transport, walking and cycling.

In the context of ensuring sustainable development, the City Centre is clearly a location that requires the prudent use of scarce land resources. It is generally well served by public transport and one where a high density of development is consistent with its distinctive character. The City Centre is, in general, considered an appropriate area for tall buildings. The growth of the City Centre is still evolving, particularly in relation to the development of fringe sites, and proposals need to be considered having regard to the character of the places in which they are proposed. Therefore, whilst some parts of the City Centre are more or less likely to be suitable for tall buildings, the Council does not consider a site specific policy that identifies detailed locations for a tall building to be appropriate. The Council is aware that over the 15 year plan period there is a need to be flexible and to be able to respond to changing economic conditions. The above criteria based policy is therefore set out, which will together with other design policies, form the policy context against which all proposals for tall buildings will be considered.

Elsewhere across the City, District Centres may be appropriate locations for "tall" buildings. Being generally accessible to the local population and well served by public transport, they are natural foci for developments that attract a larger number of people. The definition of tall as being in relation to neighbouring buildings should be noted, however, as the scale of development acceptable within a District Centre is unlikely ever to match that within the City Centre.

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."

Policy EN3 - Heritage

Throughout the City, the Council will encourage development that complements and takes advantage of the distinct historic and heritage features of its districts and neighbourhoods, including those of the City Centre.

New developments must be designed so as to support the Council in preserving or, where possible, enhancing the historic environment, the character, setting and accessibility of areas and buildings of acknowledged importance, including scheduled ancient monuments, listed buildings, registered parks and gardens, conservation areas and archaeological remains.

Proposals which enable the re-use of heritage assets will be encouraged where they are considered consistent with the significance of the heritage asset."

Assessment Methodology and Significance Criteria

- 6.11. This assessment has been undertaken alongside an assessment of the Historic Built Environment which assesses the impact of the Proposed Development on the heritage assets and the surrounding built environment. This chapter assesses the impact of the Proposed Development over a wider area and assesses it against townscape character and visual amenity.

Study Area

- 6.12. The study area for this assessment comprises an area of approximately 1km in radius focussed on the Proposed Development Site. This area is judged to be appropriate given the height of the Proposed Development, the prevailing topography of surrounding area and its location. Outside this zone townscape and visual effects are unlikely to be significant due to distance, the effects of urban grain and street pattern and also the proximity of a number of intervening tall buildings.

Baseline Surveys

Desk Based Research

- 6.13. Research included establishing a Zone of Theoretical Visibility (ZTV) (Fig 6.1 Maps in Appendix 6.1) and examining appropriate guidance and policies on tall buildings issued by Manchester City Council (MCC) and relevant authorities such as Historic England.

Field Surveys

- 6.14. Field surveys were undertaken to explore the current baseline of Manchester City Centre. The survey was based on zones using the template set out in Manchester Residential Quality Guidance⁶. Broad Townscape Character Zones were also defined which lie outside the City Centre. During the field survey the ZTV was confirmed and a series of Representative Viewpoints established for assessment, all subsequently subject to Accurate Visual Representation (AVR).

Consultations

- 6.15. Manchester City Council were consulted on the proposed location of all viewpoints and agreement was reached via correspondence with the Local Planning Authority (LPA) in February 2022 which include a proposed a minor amendment and an additional viewpoint, Viewpoint 16. This was formally confirmed by the LPA in the Scoping Opinion, dated 19 May 2022.

Method of Assessing Significance

- 6.16. The Townscape and Visual Impact Assessment (TVIA) was undertaken in accordance with the methodology and approach set out in the 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA) Third Edition' (2013) – produced by the Landscape Institute (LI) and IEMA.⁷

The GLVIA requires that a clear distinction is drawn between landscape (which includes the urban townscape) and visual effects:

- *Townscape effects relate to the degree of change to characteristics or physical components of an urban area, which together form the character of that townscape, e.g. topography, buildings and vegetation.*
- *Visual effects relate to the degree of change to an individual receptor's or a receptor group's view of that townscape, e.g. local residents, users of public footpaths or motorists passing through the area."*
- *The relationship between the effects of the Proposed Development on Townscape and Visual Issues are interdependent but not exclusively so.*

- 6.17. The effects will therefore be examined in terms of:

- **Effects on townscape character** - for the purposes of this study the area immediately around the Proposed Development is examined on a character area basis based on the zonal template used by Manchester City Council. Character areas are shown on Map 2, which is located at Appendix 6.1.
- **Effects on visual receptors** - this is examined through the Representative Viewpoint Approach in which the effects of the Proposed Development are assessed in short, medium and long distance views from variety of key locations.

- 6.18. In addition, the following guidance documents have also been consulted:

- Guidance on tall buildings published by Historic England: Advice Note 4⁸ March 2022
- History in the View prepared for English Heritage by LUC in 2011
- Manchester Residential Quality Guidance ⁹

- 6.19. The guidance contained in Historic England's advice note on Tall Buildings is particularly relevant:

⁶ Ref 5.4 Manchester Residential Quality Guidance MCC 2017

⁷ Ref 5.5 Guidelines for Landscape and Visual Impact Assessment 3rd Edition 2013 landscape Institute and Institute of Environmental Management and Assessment

⁸ Ref 5.6 Historic England note on Tall Buildings 2022

⁹ Op Cit.5.4 Manchester Residential Quality Guidance MCC 2017

“Tall buildings need to set exemplary standards in design because of their scale, mass, wide impact and likely longevity. Good design will take the opportunities available for improving the character and quality of an area and respond to local character and history (NPPF paragraphs 58 and 64). It is important that the required high standard of architectural quality is maintained throughout the process of procurement, detailed design, and construction, through the use of conditions and reserved matters.

Given their likely impact on a wide area, it is important that social and environmental effects are also assessed. Consideration needs to be given to a tall building's contribution to public space and facilities. This applies both internally and externally, including the provision of a mix of uses (especially on the ground floor of towers), as part of a well-designed public realm. Consideration of the impact on the local environment is also important, including microclimate, overshadowing, night-time appearance, light pollution, vehicle movements, the environment and amenity of those in the vicinity of the building, and the impact on the pedestrian experience. Well-designed tall buildings provide an inclusive environment, both internally and externally, taking opportunities to offer improved permeability, accessibility and, where appropriate, the opening up or effective closure of views to improve the legibility of the wider townscape.”

Townscape Character effects

- 6.20. The assessment of the Proposed Development on Townscape Character has been based on Manchester City Centre Zones, revised in Manchester Residential Quality Guidance as Neighbourhood Zones, and supplemented by those which lie outside the City Centre. It includes an assessment of the elements which comprise it such as built form and styles, urban grain and street pattern, soft elements such as green spaces and trees and a sense of place and effect that the Proposed Development is judged to have on them the following zones are affected:

Manchester City Centre Neighbourhood and Townscape Character Zones

- Chapel Street
 - Spinningfields
 - Retail Core
 - Central business district
 - Medieval Core
- 6.21. Their extent is defined on Figure 6.3: City Neighbourhood Zones and Viewpoints (Appendix 6.1) and they are described in more detail in the corresponding baseline condition section.
- 6.22. Townscape effects can be characterised as the changes in the urban grain, character and condition of the townscape as a result of the impact of a development. Specifically, the assessment will examine:
- Direct effects on specific townscape elements
 - Effects that are more subtle in nature which affect the character of the townscape
 - Effects on a designated asset such as a World Heritage Site, Listed Building or Conservation Area or tourist landmark.

Visual Effects

- 6.23. The Zone of Theoretical Visibility (ZTV), in the context of the surrounding topography and the height of the Proposed Development, has been established initially through 3D modelling using current Lidar DSM data combined with 10K base mapping to produce a Zone of Theoretical Visibility (ZTV) or Viewshed map, Fig 6.1 Appendix 6.1, and then confirmed as part of the field work exercise. Taking into account the scale and height of the Proposed Development, it covers the area with a focus to the south of the city centre and provides a quick guide as to the Proposed Development's visibility in the immediate vicinity. The Proposed Development consists of an 20 storey building with a maximum height at c.117m AOD.

- 6.24. As with other Townscape and Visual Impact Assessments, and in accordance with guidance issued in GLVIA, the usual, and accepted, practice of selecting and assessing of a range of “Representative Viewpoints”, all publicly accessible, has been adopted as being the most appropriate and practical method of assessing and understanding the visual impact of the Proposed Development from a range of viewpoints surrounding the Proposed Development Site. These viewpoint locations are marked in **Appendix 6.1** on Map 1 ZTV and viewpoints and Map 2 City Neighbourhood Areas and Viewpoints and are illustrated by way of photographs taken from these viewpoints, represented in **Appendix 6.2**.
- 6.25. Representative Viewpoints are, by their very nature, representative and not necessarily site specific, unless a townscape or visual effect from an important regional landmark i.e. Albert Square, is predicted. In each a case a view was sought where the Proposed Development was visible, guided by the results of the ZTV. Viewpoints were selected to cover a number of different locations and varying distances, to reflect the experience of different types of visual receptor and viewing distance. Accordingly, viewpoints ranged from immediate proximity to the Proposed Development site and included residential streets, pedestrianized precincts, public squares footpaths and main approach and ring roads.
- 6.26. During the main field assessment process which occurred in February 2022, baseline viewpoint photographs were initially taken using a Canon E500 DSLR camera, for consultation purposes, but then subsequently retaken by Planit-ie using a Canon EOS 5D Mk III with wide angle, 25mm to 35mm and / or Tilt Shift lenses depending on the proximity of the Proposed Development to the viewpoint. Full justification for the use of this camera and lens, together with recommendations on presentation and viewing distance are contained in **Appendix 6.3** Visualization Methodology and the lens used for each photograph is contained for each viewpoint in **Appendix 6.2**.
- 6.27. The effect of the Proposed Development is then assessed from each of the viewpoints using the information on the height of the building provided by the architects EPR Architects and the accurate interpretation of this information by Planit-ie in the form of a series of Accurate Visual Representation (AVR) images or wireline outlines of the Proposed Development superimposed onto photographs from each viewpoint.

Defining Significance of Effect

- 6.28. The significance of townscape and visual effects can broadly be determined by the interaction of the sensitivity of the receptor and the magnitude of effect with professional judgement playing an important part in identifying the overall significance values for each receptor.

Townscape: Sensitivity of Receptor

- 6.29. The sensitivity of a townscape receptor is an expression of its ability to accommodate the Proposed Development. Sensitivity is a judgement based on a combination of the susceptibility of the type of change or development proposed and the value attached to the townscape, as set out below.
- 6.30. Susceptibility indicates the ability of a defined townscape receptor to accommodate the proposed development “without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.” (GLVIA, 3rd version). A description of how susceptibility would be evaluated for each receptor type is included below:

Table 6.1 Susceptibility of Townscape Receptor

Susceptibility	Criteria
High	Little ability to accommodate the proposed development without undue harm.
Medium	Some ability to accommodate the proposed development without undue harm.
Low	Substantial ability to accommodate the proposed development without undue harm.

- 6.31. Townscape Value is “the relative value that is attached to different landscapes by society”. It is assessed on the following scale along with assessment of various undesigned townscape attributes:

Table 6.2 Townscape Value

Value	Description
High	Sites, features or areas of national or international importance with settings of high quality such as World Heritage Site, AONB, National Parks, Grade I and Grade II* Listed buildings or Registered Parks and Gardens.
Medium	Sites, features or areas of local or regional importance with intact character such as Grade II* and Grade II Listed Buildings or Registered Parks and Gardens, Conservation Areas, Scheduled Monuments, local nature site, long distance recreational routes. Tree Preservation Orders (TPO) and local designations that exhibit wider geographic, cultural or townscape significance.
Low	Areas or features of local importance such as Tree Preservation Orders (TPO), Public Right of Way (PROW) and locally listed buildings.

- 6.32. The overall sensitivity of each townscape receptor would be rated within the range of High-Medium-Low and would be informed by combining the susceptibility and value as described above.

Townscape: Magnitude of Effect

- 6.33. The magnitude of a townscape effect is assessed in terms of its size or scale, the geographical extent of the area influenced by that effect, and its duration and degree of reversibility and would be rated within the range of Major-Moderate-Minor-Negligible-No Change set out below:

Table 6.3 Magnitude of Townscape Effect

Category	Criteria
Major adverse townscape effect	The proposals will result in a total change in the key characteristics of townscape character; will introduce elements totally uncharacteristic to the attributes of the receiving townscape; and/or will result in a substantial or total loss, alteration or addition of key elements/features/characteristics.
Moderate adverse townscape effect	The proposals will result in a partial change in the key characteristics of townscape character; will introduce elements partially uncharacteristic to the attributes of the receiving townscape; and/or will result in partial loss, alteration or addition of key elements/features/characteristics.
Minor adverse townscape effect	The proposals will result in a small change in the key characteristics of townscape character; will introduce elements that are not uncharacteristic to the attributes of the receiving townscape; and/or will result in a minor loss, alteration or addition of elements/features/characteristics.
Negligible townscape effect	The proposals will result in a just discernible change to townscape character/elements/features/characteristics.
Negligible townscape benefit	The proposals will result in a just discernible improvement to the townscape character/elements/features/characteristics.
Minor townscape benefit	The proposals will achieve a degree of fit with the townscape character/elements/features/characteristics and go some way towards improving the condition or character of the townscape.
Moderate townscape benefit	The proposals will achieve a good fit with the townscape character/elements/features/characteristics, or would noticeably improve the condition or character of the townscape.

Category	Criteria
Major townscape benefit	The proposals will totally accord with the townscape character/elements/features/characteristics, or would restore, recreate or permanently benefit the condition or character of the townscape.
No Change	The proposals will not cause any change to the townscape character/elements/ features/ characteristics.

6.34. The size and/or scale of change in the townscape takes into consideration the following factors:

- the extent/proportion of townscape elements lost or added;
- the contribution of that element to townscape character and the degree to which aesthetic/perceptual aspects are altered; and
- whether the effect is likely to change the key characteristics of the townscape, which are critical to its distinctive character.

6.35. The geographical extent of effects relates to:

- the area over which townscape effects are likely to be experienced, i.e. this could be at the site level, the immediate setting of the site, or townscape character type or area;
- the area over which visual effects are likely to be visible; and duration.

Visual receptors: Sensitivity of Receptor

6.36. In terms of assessing the baseline visual sensitivity, key factors to consider are the type of view and the likely numbers and types of viewers (the visual receptors). The type of view and the number of viewers are described in the following terms:

6.37. Glimpsed (i.e. in passing) / Filtered / Oblique / Framed / Open Views; and Few / Moderate / Many Viewers

6.38. The value attached to views has regard to a number of factors, including:

- recognition through planning designations or heritage assets; and
- the popularity of the viewpoint, its appearance in guidebooks, literature or art, on tourist maps and the facilities provided for its enjoyment.

6.39. The GLVIA identifies that the susceptibility of visual receptors to changes in views and visual amenity is a function of:

- The occupation or activity of people experiencing the view at a particular location; and
- The extent to which their attention or interest may therefore be focused on the views and visual amenity they experience at particular locations.

6.40. The assessment of receptor sensitivity is rated on the scale High-Medium-Low, and combines judgements on the susceptibility of the receptor to the specific type of development proposed and the value attributed to that receptor, determined from the criteria below.

Table 6.4 Visual Receptor Susceptibility

Susceptibility	Type of Receptor
High	- Users of public space, including users of public rights of way, whose attention is likely to be focused on the townscape and on particular views; - Visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience; - Communities where views contribute to the townscape setting enjoyed by residents; and - Travellers on scenic routes.
Medium	- Travellers on road, rail or other transport routes, where the view is moderately important to the quality of the journey; and - Users of public space, where the view is part of the wider experience of the place.
Low	- People at their place of work, where the setting is not important to the quality of working life; - Travellers on road, rail or other transport routes, where the view is fleeting and incidental to the journey; and - People engaged in outdoor sport or recreation, or users of a public space, which does not involve appreciation of views.

Table 6.5 Visual Receptor value

Value	Criteria
High	Views from townscapes/viewpoints of national importance, or highly popular visitor attractions where the view forms an important part of the experience, or with important cultural associations. An example may be where the viewpoint features a nationally important designated asset as the main focus of the view.
Medium	Views from townscapes/viewpoints of regional/district importance or moderately popular visitor attractions where the view forms part of the experience, or with local cultural associations. The viewpoint may be a good location to view a designated asset of regional/ local importance, or where a nationally important designated asset is not the main focus of the view.
Low	Views from townscapes/viewpoints with limited designations, not particularly popular as a viewpoint and with minimal or no cultural associations. The viewpoint may include designated assets of regional/local importance which do not form the main focus of the view.

Visual: Magnitude of Effect

- 6.41. The magnitude of a visual effect is assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility and will be rated within the range of Major-Moderate-Minor-Negligible-No Change set out below.

Table 6.6 Magnitude of visual effect

Category	Criteria
Major adverse or beneficial visual effect	The proposals will cause a dominant or complete change or contrast to the view, resulting from the loss or addition of substantial features in the view and will substantially alter the appreciation of the view.

Category	Criteria
Moderate adverse or beneficial visual effect	The proposals will cause a clearly noticeable change or contrast to the view, which would have some effect on the composition, resulting from the loss or addition of features in the view and will noticeably alter the appreciation of the view.
Minor adverse or beneficial visual effect	The proposals will cause a perceptible change or contrast to the view, but which would not materially affect the composition or the appreciation of the view.
Negligible adverse or beneficial visual effect	The proposals will cause a barely perceptible change or contrast to the view, which would not affect the composition or the appreciation of the view.
No change	The proposals will cause no change to the view.

6.42. The size or scale of change in the view relates to the degree of contrast or integration likely to result from the Proposed Development and is influenced by the relative time over which a view is experienced and whether it is a full, partial or glimpsed view.

Duration of Effect

6.43. Both Townscape and Visual effects may be experienced over a range of timescales. For this assessment, the following timescales are considered appropriate:

- Short-term: 1 year or below
- Medium-term: Between 1 and 10 years in duration
- Long-term: Greater than 10 years in duration

Significance of Effect

6.44. The objective of the assessment process is to identify and evaluate the likely significant effects arising from the Proposed Development for both Townscape and Visual Receptors. Significance indicates the importance or gravity of the effect. The table below, Table 6.7 is offered in support of professional judgement in determining the Significance of effect and is used as a guide to the narrative explanation of the nature and significance of both townscape and visual effects brought about by the Proposed Development.

Table 6.7: Significance of Effect

		Magnitude of Effect				
		Major Effect	Moderate Effect	Minor Effect	Negligible Effect	No Change
Sensitivity of Receptor	High	Major Significance	Moderate Significance	Moderate Significance	Minor Significance	Negligible
	Medium	Moderate Significance	Moderate Significance	Minor Significance	Negligible	Negligible
	Low	Moderate Significance	Minor Significance	Negligible	Negligible	Negligible

- 6.45. The effects on both townscape and visual receptors is examined in each case. All viewpoints have been subjected to the insertion of an Accurate Visual Representation (AVR) into a baseline photograph so that the extent of both townscape and visual effects can be judged more accurately. In each case the effect of the Proposed Development is compared with the baseline condition or view and an assessment made in terms of receptor susceptibility, value of townscape setting or view, receptor sensitivity and magnitude of effect. A judgement is then made as to whether the effect is of major to negligible significance of effect using the Effect Significance Matrix in Table 5.7 and then a judgement made as to whether the effect is significant or not significant in EA regulation terms. For the purposes of this Townscape and Visual Impact Assessment, effects of Moderate Significance and above are considered to be Significant. Those values of Minor and below are therefore deemed to be Not Significant. A professional judgement is then made as to whether the effect is of an adverse or beneficial nature. The effects below are primarily concerned with the effects on townscape character and visual receptors.
- 6.46. This process has been applied to provide a robust assessment in similar townscape settings, including Manchester City Centre, and is considered to be the most suitable approach in this context.
- 6.47. The visual impact of the Proposed Development will demonstrably change as it is constructed. As the construction phase is likely to be a relatively short period in the context of the lifecycle of the Proposed Development, the impact of the building upon completion, or operational phase, is the principal focus of this study although the construction effects are also examined below. Similarly, the impact pathway is direct. The building is either visible or it is not.

Mitigation Methodology

- 6.48. In terms of mitigation for the Proposed Development this has been derived by the architects EPR Architects as the design of the building has developed in consultation with interested parties. Mitigation for the Construction Phase Effects is described in the relevant section below.

Residual Impact Methodology

- 6.49. Residual Impacts are described based on the assumption that all mitigation measures have been fully deployed.

Baseline Conditions

Townscape Baseline

- 6.50. A summary set out below describes the main attributes and characteristics of each of the Townscape Zones and Representative Viewpoints that may be potentially affected by the Proposed Development as existing at the time of this assessment in May 2022. Each character area is referenced on Map 2 City Neighbourhood Areas and Viewpoint Locations (Appendix 6.1). Only those areas which have the potential to be significantly affected by the Proposed Development are included. For the purposes of this assessment, the baseline conditions that prevail at the current time (May 2022) in terms of townscape character and views are described below and include relevant schemes under construction, which are predicted to be complete when the Proposed Development is due to have been completed. The effects on the baseline together with the Proposed Development and any committed development is dealt with in the Cumulative Effects section.
- 6.51. The area in which the Proposed Development is situated has been identified as an area for regeneration as set out in the St Mary's Parsonage SRF.¹⁰ The boundaries of the SRF is defined on Map 2 (**Appendix 6.1**) which lies within the Retail Core character zone. The Proposed Development Site lies within the North Parade Character Area which is described in the SRF appraisal as follows:

'The centre and northern end of the SRF area is defined by the quiet, and predominantly inward looking character of Parsonage Gardens, which is largely covered by the Parsonage Gardens Conservation Area. St Mary's Parsonage/Parsonage provides a route through the site north-south, but one that is little used. The entry point from the north, off Blackfriars Street, is poorly defined in the enclosed streetscape. Equally, the entry to St Mary's Parsonage, from the south, is also poorly defined due to the fragmented open nature of this space, inactivity at street level and poorly defined public realm. The historic and well-defined green space of Parsonage Gardens is an important space in terms of amenity, setting, and coherence to the urban form. However, the general lack of activity around the square, raised level of the square, inappropriate planting, poor pedestrian environment and poor management of Back College

¹⁰ St Marys Parsonage SRF February 2020

Land, in terms of refuse collection, has negatively affected this otherwise quiet, hidden, valuable green space in the city. The North Parade character includes large commercial/ residential developments surrounding Parsonage Gardens. The retail and restaurant uses fronting onto Deansgate is external facing, but do not provide strong pedestrian connections and therefore largely fail to draw in pedestrian activity from Deansgate.'

Parsonage Gardens

- 6.52. Parsonage Gardens was formally the site of St Mary's Church which was demolished in 1891 and subsequently maintained as the green space that we know today. Due to the limited active uses around its perimeter and the negative impacts from bin storage and car parking on surrounding roads, the green space is underused. The limited pedestrian activity and associated passive overlooking has also given rise to elements of anti-social behaviour which further detracts from the areas potential.'

Representative viewpoint 9.

Medieval Core

- 6.53. This townscape area is an important regional and local gateway and transport hub containing Victoria Station, a number of Metrolink stops and the Inner relief route on its northern boundary. The major overhaul of Metrolink tracks, station building and platforms at Victoria is now complete. It is also a major retail and leisure area with the development of the Corn Exchange, Urbis, now the National Football Museum, MEN Arena and the Printworks. Its significance as a cultural and public area is notable with the presence of Manchester Cathedral which has been the ecclesiastical and scholastic centre of Manchester since the earliest of times. To the south and east of the Cathedral Yard lie the Victorian commercial buildings of the impressive Corn and Produce Exchange. These all cluster around the medieval street pattern and are bounded on the outside by the curving line of the Cateaton Street, Hanging Ditch, Todd Street, Victoria Station and Hunts Bank approach. To the north and west, the Cathedral overlooks the broad width of the busy Victoria Street and the deeply incised channel of the River Irwell, both of which run beyond into Salford.

Representative viewpoint 7.

Retail Core

- 6.54. The main retail streets of Market Street, King Street, St. Ann's Square and part of Deansgate constitute this area of the city centre. Two main roads, Cross Street and Deansgate, giving contained axial views on a north to south orientation, cross the area. To the east of Cross Street, the bulk of the Arndale shopping complex dominates, enclosing the pedestrianised Market Street, which leads to Piccadilly Gardens. A mix of historic and modern buildings characterise the area between Cross Street and Deansgate. These buildings, including the Cotton Exchange, generally have large footprints and enclose the intimate St Ann's Square at the core of the zone. St Mary's Parsonage is part of this Character Zone
- 6.55. The River Irwell forms the western boundary and includes the three bridges which link Manchester with Salford. The river corridor itself is confined by buildings on both banks

Representative viewpoints 8, 9, 10, 13 and 14.

Chapel Street

- 6.56. Chapel Street is part of the historic core of Salford and a key part of the city centre. Recently it has seen many new developments for residential, educational, civic and business uses. The area includes the city centre's first five star rated hotel, the Lowry Hotel, on the banks of the River Irwell, which forms the southern boundary of the zone. Development along the river has created a predominantly 'canyon' effect, although views open up at various crossing points. A small plaza combines with a pedestrian bridge next to the Lowry Hotel and forms one such nodal point. The raised section of the railway corridor linking Salford Central Station, in the centre of this zone, with Manchester Victoria also bisects the area obscuring many ground level views towards the city centre. In general the area has a dense urban fabric with few open spaces and limited opportunities for panoramic views out.

Representative viewpoints 1, 2, 3, 4, 5, 6 and 15.

Spinningfields

- 6.57. The result of a major regeneration initiative which commenced in 1997 this area is now home to Manchester's financial community and restaurant scene. New development dominates and this is a vibrant busy district popular in equal measure both day and night. The area also includes the Crown and County Courts (Grade II Listed) and the cultural assets of the People's History Museum (Grade II Listed) and the newly refurbished John Rylands Library (Grade I listed). The area contains, Sunlight House (Grade II*), Masonic Lodge (Grade II). In addition, new apartment blocks have been constructed on the River Irwell frontage. Most of the building forms are large in scale and mass. The redevelopment has created several new and re-vamped public open spaces including Irwell Square, Hardman Square and Spinningfields Square, linked by a network of legible and pedestrian friendly routes. Views are varied depending on the orientation of the road junctions and the axial emphasis of the public open spaces but generally are few and far between.

Representative viewpoint 11.

Civic Quarter

- 6.58. Constituting the heart of the city, this zone includes many old but also new office buildings. It is criss-crossed by the Metrolink and by main bus and vehicular routes into and out of the city centre. At its core is Manchester Town Hall (Grade I Listed), now in the process of being restored, the spire of which is one of Manchester's most prominent skyline features, and Albert Square, an important civic space. Enclosed on all sides by buildings of similar scale and mass, trees have been introduced to soften the architecture and add to the ambience. Other important historic civic buildings include the City Art Gallery (Grade II* Listed) and Central Library (Grade II* Listed). The latter a neo classical masterpiece by Vincent Harris and hemmed in by the neo-Gothic splendour of the Town Hall on one side and the Edwardian baroque red bricks of the Midland Hotel (Grade II Listed). The square is a major tram stop and contains the city's war memorial, which extends to form the Peace Garden at the back of the Town Hall.

Representative viewpoint 12.

Assessment of Effects

Limitations and Assumptions

- 6.59. The principal limitation as far as the field survey work was concerned has been that photography was undertaken in the winter or early spring months when the extent of foliage on trees is at the minimum and therefore reflects a worst case scenario.

Embedded Mitigation

- 6.60. Mitigation in terms of visual and townscape effects has been incorporated into the Proposed Development as part of the design process by the scheme architects EPR Architects and has evolved through consultation with the Local Planning Authority and others.

Sources of Effect

Demolition and construction phases

- 6.61. The construction of this building on a site on the centre of Manchester will clearly involve procedures and processes that are unsightly and intrusive consistent with operations on most large scale construction sites. However, this process is comparatively short lived in nature when considered in the context of the lifespan of the Proposed Development concerned and will also be screened to some extent by existing buildings which surround it. The demolition and construction programme will commence as a single operation at the start of the project. The key physical activities will include:
- Site clearance.
 - Construction plant such as cranes etc.
 - Mobile construction plant.
 - Delivery and stockpiling of materials.
 - Protective fencing and hoardings.

- Unfinished appearance of the Proposed Development and its core for the majority of the construction period.
- Traffic movements associated with the above.

Assessment of Construction Phase Effects

- 6.62. The construction phase effects, as with the Operational Phase effects are assessed against the Baseline. The townscape character area most affected by the demolition and construction operations are the Townscape Character Zones in and around the Proposed Development Site namely: Retail Core, Spinningfields and Chapel Street. The effects of such construction activity on the character of these zones in the immediate vicinity is predicted to be minor adverse for the duration of the construction period due to site clearance works, stockpiling of demolition and construction materials, the use of construction equipment such as cranes and temporary fencing. The effects, however, should be relatively localised and temporary and will not affect other Townscape Character zones in any measurable way.

Effects of demolition, clearance and construction on Views

- 6.63. The effects of demolition and clearance on the Representative Viewpoints will also be readily visible in the immediate area surrounding the Proposed Development, as the ZTV demonstrates, but less so within the core of the city centre. Nonetheless, there is little doubt that the construction phase of any building of any scale, until it is fully clad, will involve processes that are visually unsightly and are likely, in visual effect terms to be largely adverse in nature. This period, however, is only likely to be transitional and will be of short duration in relation to the lifespan of the Proposed Development itself. In view of the scale of the Proposed Development, the magnitude of effect, and significance of effect is therefore judged to be minor adverse during the construction period in the following Zones: Retail Core, Spinningfields and Chapel Street where views are obtained.

Operational Phase

- 6.64. The source of the effect during the operation phase is concerned with the physical impact that the Proposed Development will have on views, visual and townscape receptors.
- 6.65. The townscape and visual effects of the Proposed Development are considered to be long term in terms of their duration.

Assessment of Operational Phase Effects

Effects of completed Development on Townscape Character and Views

- 6.66. The ZTV confirms that the Proposed Development will not be widely visible as the Site is well contained and the building is only 20 storeys in height. This is illustrated by Map 1 ZTV (**Appendix 6.1**). The visual and townscape effects of the completed Proposed Development are now summarised with respect to the effects of the Proposed Development on Townscape Character and views through a narrative description of the nature of the effect on each of the Representative Viewpoints which lie within each character area.

Retail Core

Viewpoint 8 Parsonage Lane

- 6.67. This viewpoint is directed towards the heart of the St Mary's Parsonage Conservation Area and explores the relationship the Proposed Development will have principally on the townscape character of its immediate surroundings. Only Century Buildings on the western edge of this view, is listed, but most have historical origins. Townscape susceptibility and value are both judged to be medium as a result and the resulting sensitivity is correspondingly medium also. Visual receptor sensitivity is judged to be low as the view is a narrow, niche view that is glimpsed with most receptors in transit. In terms of magnitude of townscape effect, the Proposed Development fits well with the existing townscape character and sits well below the roofline of the new development adjacent to Century buildings. The proportions used in the design of the fenestration where the horizontal axis of the window bays is accentuated in relation to the vertical axis, echoes the pattern and architecture of other buildings in the square and complements townscape character as a result. Similarly, the use of subtle red and green accents ensures that the building blends in rather than stands out. In terms of magnitude of visual effect, the Proposed Development enhances the view through deflection rather than curtailing it abruptly as the existing development does. The top floors also add to the visual interest of the skyline and steps down creating a varied profile. Taking into account the niche nature of the view, both magnitude of visual and townscape effects are judged to be minor

beneficial. This translates to significance of effect values of minor beneficial for townscape effects and negligible beneficial for visual effects both of which are not significant in EA regulation terms.

Viewpoint 9 Parsonage Gardens

- 6.68. This viewpoint is located at the entrance to Parsonage Gardens from St Mary's Parsonage and represents an oblique close up view from the principal public space within St Mary's Parsonage SRF focused on the Proposed Development. Townscape susceptibility is judged to be medium here as the site is in the heart of the Conservation Area and two listed buildings, Arkwright House and Century Buildings are dominant features in this view. Nonetheless the area has been identified as an area for regeneration. Townscape value is also judged to be medium however as this valued public open space is covered by conservation area status. Overall townscape sensitivity is judged to be medium. Visual receptors fall into many categories including office workers, apartment dwellers and those using the gardens for quiet recreation. Visual receptor value is judged to be medium reflecting its value as a relatively small, quiet, local, green space in central Manchester. Visual receptor sensitivity is therefore medium. The Proposed Development brings about a transformative change in terms of townscape character and view from this viewpoint and addresses the space strongly by forming a new well designed focal point. In terms of townscape character it acknowledges the strong horizontal linearity in the architecture of Arkwright house in the proportions of the window bays. The proportion of glazing is similarly balanced and fits with the townscape character. Similarly in visual terms it aligns well with the geometry of the gardens and rises up above the roofline of buildings in the square to form a focal point of interest but not in an overwhelming way. Once again, the red and green accents ensures that the building blends in rather than stands out. Reference is made in particular to the red brick used in the construction of the neighbouring Century Building. In terms of both magnitude of visual and townscape effects, values of moderate beneficial are registered for this viewpoint. This translates to significance of effect values of moderate beneficial for both categories of receptor which is significant in EA regulation terms.

Viewpoint 13 St Ann Street

- 6.69. Located on the edge of St Ann's Conservation Area this view provides a long distance perspective view looking down St Ann Street. Once again, the quality of townscape character and view are high and modern development is notably absent. Sensitivity values therefore, for both visual and townscape receptors are high. The Proposed Development forms a new element on the middle distance skyline and complements the existing townscape character which is multifaceted and diverse. Both north and east elevations are clearly visible in this view and both are different which fits with the heterogenous mixture of building styles and architecture that make such a successful contribution to a coherent sense of townscape character. Visually, the development is recessive rather than assertive in this view but visual interest is added in a positive way to the skyline with the plant room adding to the diversity. St Anns church tower still remains the dominant focal point. The magnitude of effect is judged to be minor beneficial for both sets of receptors which translates to moderate beneficial significance of effect for both townscape and visual receptor which is significant in EA regulation terms.

Viewpoint 14 St Ann Square

- 6.70. This viewpoint is located directly outside one of Manchester's key listed buildings St Ann's church in St Ann's Square. It is located in the heart of the Conservation Area and townscape quality is high manifest in the number of listed buildings and absence of recent development. Both townscape susceptibility and value are judged to high as a consequence. Visual receptor sensitivity is equally high as St Ann's Square is a key destination for visitors in Manchester and has many high quality retail outlets and sitting areas to appreciate the view and surroundings. Visual receptors are drawn from the more sensitive categories and visual receptor value is high also. Visual receptor sensitivity is therefore judged to be high. The Proposed Development barely registers in this view filling the void behind Kendals with the roof pavilion rising imperceptibly above the roofline. The scale and materiality fit well with the townscape character and view and values of negligible beneficial are registered in terms of magnitude of visual and townscape effect which translates to a value of minor beneficial significance of effect for both categories which is not significant in EA regulation terms.

Viewpoint 10 Motor Square

- 6.71. This viewpoint examines the impact of the Proposed Development on one of the small areas of public open space adjacent to Bridge Street. The Proposed Development is in a prominent location in this view and its full elevation will be visible. This is a small but busy, open space but the square has no cohesive landscape strategy with a piecemeal arrangement to street furniture and poor quality tree scape. The function of the square is not clearly defined and is mainly used as a point of passing. It does however, lie within the confines of the Parsonage Gardens Conservation Area. As such townscape susceptibility is judged to be low as this area has been identified for regeneration but

townscape value is high as it is in a Conservation Area so townscape receptor sensitivity is medium overall. Visual receptors fall into many categories including office workers, apartment dwellers and those using the gardens for quiet recreation. Visual receptor value is judged to be medium reflecting its value as a small area of space in central Manchester. Visual receptor sensitivity is therefore medium. The Proposed Development becomes the dominant focal point in the square replacing the existing tired building and responding positively to the street pattern and view lines. In townscape terms the horizontal emphasis of the fenestration design with its repetitive features unifies both sides of the building and relates well to the surrounding architecture. In visual terms, the curved fulcrum of the southern end simultaneously deflects the view down St Mary's Parsonage and also towards the Millennium Bridge and the Lowry hotel strengthening both links in the process. Magnitude of effect in both visual and townscape effect term is therefore judged to be moderate beneficial. This translates into values of moderate beneficial significance of effect for both categories which is significant in EA regulation terms.

Viewpoint 16 Bridge Street

- 6.72. This viewpoint is located on Bridge Street a street with mixed townscape heritage but generally consisting of low rise, 2 to 3 storey development. The route is one of the main access routes into the city centre and constantly busy. It does, however, lie on the boundary of the Parsonage Gardens Conservation Area. Townscape receptor sensitivity is judged to be medium whilst visual receptor sensitivity is judged to be low. The Proposed Development barely registers in this view with the roof pavilion rising imperceptibly above the roofline. The scale and materiality fit well with the townscape character and view and values of negligible beneficial are registered in terms of magnitude of visual and townscape effect which translates to a value of negligible beneficial significance of effect for both categories which is not significant in EA regulation terms.

Medieval Core

Viewpoint 7 Cathedral Approach

- 6.73. 5.69 The urban grain opens out at this point and exposes a panoramic if somewhat channelled view, down the River Irwell corridor. Townscape Character is mixed with much of the development in this view recent in origin including the Premier Inn but dominated by the ongoing works on the previous Ramada hotel site in the foreground. As a result, townscape susceptibility is judged to be low but the location is situated within the Cathedral Conservation Area so sensitivity is medium overall. Visual receptor sensitivity is also medium however, as this is a recently pedestrianized routeway where receptors can sit and appreciate the view which includes Manchester Cathedral nearby. The Proposed Development replaces a building of poor townscape value with one that is much larger in scale but one which fits with the scale and mass of the surrounding townscape consistently and balances the development on the opposite side of the river successfully. The view is enhanced by a development of good design and proportion with different facets and textures which increases the visual interest. Importantly the niche, open view down the river is maintained and the proposed development accentuates the course of the river. Magnitude of effect in both cases is judged to be minor beneficial which translates into a significance of effect value of minor beneficial which is not significant in ES regulation terms.

Chapel Street

Viewpoint 1 Footbridge over River Irwell

- 6.74. This view sets the Proposed Development in context with other recent tall buildings existing and under construction, along the River Irwell corridor. The townscape quality of the immediate river margins is fragmented and in parts neglected. Susceptibility to accommodate the Proposed Development is therefore judged to be low and, as the viewpoint lies outside the Parsonage Gardens Conservation area, townscape value is judged to be low also. Townscape Receptor sensitivity is therefore low. The bridge is a busy crossing point connecting a revitalized small square near Albert Bridge on the west bank with Spinningfields on the east bank. As a consequence, visual receptor sensitivity is judged to be low as most receptors are in transit or at their place of work. The Proposed Development slots in behind Albert Bridge House and fills a void of development along the river front. It does not overwhelm but balances the buildings opposite and steps up from the adjacent Albert Bridge House. In townscape terms the composition is improved. Visually, a tired development is replaced with a more assertive structure lifting the skyline and providing additional visual interest with the roof pavilion. The Albert bridge crossing is strengthened and consolidated as a result. Magnitude of effect is judged to be moderate beneficial for both categories which infers that significance of effect is minor beneficial as a result which is not significant in EA regulation terms.

Viewpoint 2 Bridge Street

- 6.75. This viewpoint is situated close to Bridge Street as it crosses the River Irwell and of higher townscape quality with recent improvements at street levels manifest in new walkways, railings and surfacing. The bridge is frequented by vehicle users and pedestrians alike and offers unrestricted views up and down the river and includes the elegant design of the Trinity Bridge. Townscape character reflects the amount of modern development that now occupies both river banks, much of it of the same scale. Susceptibility to accommodate the Proposed Development is therefore judged to be low which, when combined with a townscape value judged to be low as the viewpoint lies well outside the Parsonage Gardens Conservation Area, confers a value of low townscape sensitivity. In Visual Receptor sensitivity terms, most receptors are in transit on the bridge, or on the adjacent walkways and views are fleeting as a result. The viewpoint has no official designation and is not a tourist attraction in its own right and so visual receptor sensitivity is judged to be low at this point overall. The Proposed Development occupies a prominent location in the townscape from this viewpoint but is well balanced in terms of its immediate neighbour Albert Bridge House. The fit is complimentary and magnitude of townscape effect judged to be moderate beneficial in this case. Visually, the Proposed Development is judged to improve the view. A tired building is replaced with one of clearly modern origin but one which is distinctive and separate from its neighbour in terms of architectural style and materiality. The composition of the cluster is improved also. This translates to a visual receptor value of moderate beneficial. As a consequence, the significance of townscape and visual effects are recorded as minor beneficial significance, which is significant in EA regulation terms.

Viewpoint 3 Quay Street

- 6.76. This is a glimpsed niche view, in direct alignment with the Proposed Development, demonstrating the effect that the riverside development has on a typical view on the densely developed Salford side of the River Irwell where panoramic views are scarce. Townscape receptor sensitivity is judged to be low in this location reflecting the nature of the recent development which frames the view. Similarly visual receptor sensitivity is low as this street terminates at the river and is dominated by the Lowry Hotel rather than residential development. In terms of magnitude of townscape effect, the Proposed Development fits with the recent foreground development and replaces an imposes its presence without detriment to the urban grain at this point. Similarly, the architecture of the Proposed Development with its emphasis on the horizontal axis reinforces the perspective of Trinity Bridge and improves textural contrast with neighbouring buildings. Values of moderate beneficial are recorded for both sets of receptor category for magnitude of effect. This translates into significance of effect values of minor beneficial for both categories which is not significant in EA regulation terms.

Viewpoint 4 Trinity Bridge

- 6.77. This viewpoint is situated on Trinity Bridge over the River Irwell linking The Lowry Hotel with St Mary's Parsonage. The footbridge is well used and offers unrestricted views up and down the river. Townscape character is heavily influenced by the corridor of modern development that now occupies both river banks, much of it on the same scale. Susceptibility to accommodate the Proposed Development is therefore judged to be low which, when combined with a townscape value judged to be low as the boundary of the Parsonage Gardens Conservation Area is some way away. A value of low townscape sensitivity is therefore registered for this viewpoint. In visual receptor sensitivity terms, most receptors are either in transit on the bridge or occupying the small public space with seating which lies immediately below. The Lowry hotel provides accommodation for visitors and business visitors alike and has a direct view. The visual receptor sensitivity therefore, is judged to be medium overall. The Proposed Development acts as an anchor point for the bridge and a new landmark for the river frontage at this point. Although the scale of the building it replaces is much larger, the dominant horizontal axis of the window bays echoes the geometry of the neighbouring buildings and contributes to the sense of horizontal flow. The proximity to the viewpoint implies that magnitude of effect for both townscape and visual receptors is moderate beneficial and this translates to a significance of effect value of minor beneficial for townscape and moderate beneficial significance for visual receptor categories which is not significant and significant in EA regulation terms respectively.

Viewpoint 5 Riverside Walkway West side

- 6.78. This viewpoint is typical of one on the walkway on the west side of the River Irwell looking south towards the Proposed Development. Both the Lowry Hotel and Trinity Bridge are fully visible. Susceptibility to accommodate the Proposed Development is judged to be low which, when combined with a townscape value assessed as medium in the context of the boundary of the Parsonage Gardens Conservation Area opposite, confers a value of medium low townscape sensitivity. Visual receptors are drawn from two categories, walkers along the walkway and the inhabitants of residential apartments above which confers medium receptor sensitivity overall. Townscape character is influenced by the abrupt manner if the interface between river edge and developed frontage and the Proposed Development replicates this character without stepping back or changing the nature of this boundary. It does, however, rise up well above the existing river frontage but, by avoiding a sharp rectangular footprint adopted by

many of the neighbouring buildings, it creates a softer profile and deflects the view behind it whilst simultaneously reinforcing the river corridor. The top levels provide further visual interest on the skyline. The net effect is a moderate beneficial effect for both receptor categories which translates into a moderate beneficial significance of effect which is significant in EA regulation terms.

Viewpoint 6 Blackfriars Bridge

- 6.79. Directed towards the heart of the St Mary's Parsonage Conservation Area this view explores a view down the River Irwell corridor. Recent development prevails in the foreground on both banks of the River Irwell with limited exceptions. Townscape susceptibility and value are both judged to be medium as a result and the resulting sensitivity is correspondingly medium also. Visual receptor sensitivity is judged to be medium here as the view is a glimpsed narrow niche view with most receptors in transit but with some residential receptors in the apartments on the north bank so medium overall. The Proposed Development adds to the varied townscape pattern in a consistent way that does not overwhelm. Once again, the rear façade of the development deflects the view tangentially and increases visual interest. The roof pavilion softens the skyline impact so the net effect in magnitude of effect terms both visually and in townscape character terms is judged to be moderate beneficial. This translates into moderate beneficial in terms of significance of effect for both categories which is significant in EA regulation.

Viewpoint 15 New Quay Street

- 6.80. The most southerly crossing of the River Irwell from which the Proposed Development is visible this view provides good middle distance context. Recent residential development associated with Spinningfields together with the recent Trinity Riverside development emphasises how quickly the townscape character of the river corridor is changing. Once again townscape susceptibility is judged to be low in this context but as the Parsonage Gardens conservation area boundary is some distance away, townscape sensitivity is also low. Visual receptors in this instance are largely drawn from those in transit either pedestrians or in vehicles. Visual receptor sensitivity is, therefore, also judged to be low. Once again, the proportions used in the design of the fenestration, where the horizontal axis of the window bays is accentuated in relation to the vertical axis, stands out strongly here and the roof pavilion provides additional visual interest and contrast. The mass of the building helps also to balance the recent Riverside development on the opposite bank and complements the existing recent development on the south bank. As a consequence, the magnitude of effect is judged to be moderate beneficial which translates to significance of effect values of minor beneficial significance of effect values for both receptor categories which is not significant in EA regulation terms.

Spinningfields

Viewpoint 11 Crown Court

- 6.81. There is no view of the Proposed Development from this viewpoint so a value of no change is predicted as a consequence

Central Business District

Viewpoint 12 Princess Street

- 6.82. Only a very small part of the Proposed Development is visible behind Albert Bridge House so a value of no change is predicted as a consequence.

Assessment of Cumulative Effects

- 6.83. The cumulative effect of the Proposed EIA Development is now examined in relation to intra- project and inter-project cumulative effects.

Inter-project cumulative effects

- 6.84. In terms of inter- project cumulative effects, or effects arising from similar developments that are either consented or are coming forward in the planning process in close proximity to the Proposed EIA Development Site, there are developments that cumulatively, are considered to affect the significance values for townscape and views. Table 6.9 summarises these schemes. Details of the Cumulative schemes are outlined in the ES Appendices and appear as different coloured wirelines in the AVRs in **Appendix 6.2**.

Table 6.9 Cumulative schemes

Planning reference	Cumulative Scheme	No of storeys
129251/FO/2021	Kendals and Fraser	3
131314/FO/2021	39 Deansgate	17
202/5571/FUL	Plot B7	10
132088/FO/2021	Ramada Renaissance	26 & 13
126648/FO/2020	Union T2 St Johns	36
132429/FO/2021	Trinity Islands	51

- 6.85. The developments listed above will not have a universal effect on all of the selected viewpoints and the townscape character of the affected city centre zones of Salford and Manchester. The baseline schemes have already been assessed under the Operational Effects section earlier in this chapter. An assessment of cumulative schemes is necessary to understand the manner in which the Proposed Development fits in with neighbouring developments in the future. Table 6.10, has been compiled to facilitate this process by first summarising the effect of the Proposed Development on its own, using the values resulting from the Operational Effects section, and then reassessed the effect in respect of the relevant committed cumulative scheme on a viewpoint by viewpoint basis. Where a cumulative scheme is predicted to have an effect on views or townscape character then the significance of effect values are reassessed and adjusted accordingly to take the scheme or schemes into account in each case.
- 6.86. The relevant cumulative schemes have been modelled and are represented as different coloured wirelines in the Cumulative Views in **Appendix 6.2** Viewpoint and townscape photographs including AVR images.
- 6.87. Of course, as the cumulative schemes come forward then, in certain cases, visual receptor sensitivity is likely to increase as many of the developments contain apartments. However, by the same token, the magnitude of effect is likely to decline as the Proposed EIA Development will now be seen in the context of a greater number of similar developments of equivalent scale. As a result, the net effect, where the effect is deemed to be significant, is generally a lowering of the significance of effect value in cumulative terms. This is exacerbated to a value of not significant if the cumulative building obscures the view of the Proposed EIA Development completely which occurs in a few cases

Table 6.10 TVIA Committed Cumulative Schemes Impact Assessment summary table

(Note. Where townscape (T) and visual receptor (VR) significance of effect values are the same, one shared value is provided. Where they are different, a value is provided for both categories. Abbreviations: Mod = Moderate; Min = Minor ; Neg = Negligible)

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
1 Footbridge over River Irwell				
Sensitivity (VR)	Low	Not Significant	Ramada Plot 28	Minor beneficial
Sensitivity (T)	Low			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial			
Significance of effect	Minor Beneficial			

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
2 Bridge Street				
Sensitivity (VR)	Low	Not Significant	Kendals & Fraser	
Sensitivity (T)	Low		39 Deansgate	
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial			
Significance of effect	Minor Beneficial			Minor beneficial
3 Quay Street				
Sensitivity (VR)	Low	Not Significant		
Sensitivity (T)	Low			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial		None	Minor beneficial
Significance of effect	Minor Beneficial			
4 Trinity Bridge				
Sensitivity (VR)	Medium	Not Significant (T)		
Sensitivity (T)	Low	Significant (VR)		
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Min Beneficial			
Significance of effect	Minor Beneficial		None	Minor beneficial
5 Riverside Walkway (West side)				
Sensitivity (VR)	Medium Low			
Sensitivity (T)	Medium Low			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial	Significant	T2 St Johns	Moderate beneficial
Significance of effect	Mod Beneficial		Trinity Islands	
6 Blackfriars Bridge				
Sensitivity (VR)	Medium	Significant		
Sensitivity (T)	Medium			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial		T2 St Johns	Moderate beneficial
Significance of effect	Mod Beneficial		Trinity Islands	
7 Cathedral Approach				
Sensitivity (VR)	Medium	Not Significant	T2 St Johns	
Sensitivity (T)	Medium		Trinity Islands	
Magnitude (VR)	Min Beneficial		Ramada	
Magnitude (T)	Min Beneficial		Renaissance	
Significance of effect	Min Beneficial			Negligible beneficial

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
8 Parsonage Lane				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect (VR) Significance of effect (T)	Low Medium Min Beneficial Min Beneficial Neg Beneficial Min Beneficial	Not Significant	None	Neg beneficial Min beneficial
9 Parsonage Gardens				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Medium Mod Beneficial Mod Beneficial Mod Beneficial	Significant	Kendals & Fraser	Mod beneficial
10 Motor Square				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Medium Mod Beneficial Mod Beneficial Mod Beneficial	Significant	Kendals & Fraser	Minor beneficial
11 Crown Court				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	No change	Not Significant	Kendals & Fraser	No change
12 Princess Street				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	No change	Not Significant	None	No change
13 St Ann Street				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T)	High High Min Beneficial Min Beneficial	Significant	Kendals & Fraser	Minor beneficial

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
Significance of effect	Mod Beneficial			
14 St Ann Square				
Sensitivity (VR)	High	Not Significant	Kendals & Fraser	Negligible beneficial
Sensitivity (T)	High			
Magnitude (VR)	Min Beneficial			
Magnitude (T)	Min Beneficial			
Significance of effect	Min Beneficial			
15 New Quay Street				
Sensitivity (VR)	Low	Not Significant	Ramada Renaissance	Minor beneficial
Sensitivity (T)	Low			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial			
Significance of effect	Min Beneficial			
16 Bridge Street				
Sensitivity (VR)	Low	Not Significant	None	Negligible beneficial
Sensitivity (T)	Medium			
Magnitude (VR)	Neg Beneficial			
Magnitude (T)	Neg Beneficial			
Significance of effect	Neg Beneficial			

Mitigation Measures

Mitigation of effects during the construction phase

- 6.88. Mitigating the effects of the construction phase will involve high quality hoardings that will be used to limit unsightly visual impacts during the construction phase at street level. These will secure and protect the Proposed Development Site and prevent views of an unsightly construction site.

Mitigation of effects during operational phase

- 6.89. Mitigation measures for the operational phase are focussed on embedded mitigation measures which are an integral part of the design of the building and fully described in the Design and Access Statement which accompanies the planning application and summarised earlier in this chapter. These mitigation measures deal with the Proposed Development's relationship to neighbouring buildings and its location.

Residual Effects

- 6.90. The visual impact assessment has been carried out based on the assumption that all the necessary mitigation measures have been accounted for in the design process. The images for selected viewpoints illustrated in **Appendix 6.2** represent the accurate definition of the location and mass of the component parts of the Proposed EIA Development. The predicted significance of effect values are therefore the same for each representative viewpoint and Townscape Character Area as the residual effect values and are illustrated in Table 6.10 above.

Summary

- 6.91. This Townscape and Visual Impact Assessment examines the impact that the Proposed Development will have on the townscape of Manchester and Salford City Centres and on the townscape character of the city centre zones immediately surrounding the Proposed Development in particular. It does so in a systematic, rational and objective way using established methodologies and practices contained in GLVIA 3. The impact of the Proposed Development on its own is explored and then in conjunction with consented and committed development in a Cumulative Assessment.
- 6.92. A computer modelling process was employed to provide an accurate series of Type 4 verified (AVR) images and wirelines which illustrate and inform the nature of the impact that the Proposed Development will have on a series of selected Representative Viewpoints, and on the surrounding townscape, on a 360 degree basis. The scale and location of the development results in a localized Zone of Visual Influence and the development will not be widely visible across Manchester.
- 6.93. Although it is not possible to provide one single summary value for the impact the Proposed Development will have on Manchester City Centre it is possible to summarise the effects in general terms.
- 6.94. In this regard Table 6.10 records that in just under half the cases, the Proposed Development will have significant effect. In all cases effects are recorded as beneficial. This is because emphasis has been placed from the outset on achieving a design which is judged to fit in a complementary way, in terms of mass, style and materiality with the surrounding townscape. In visual terms the view is often improved with increased visual interest supplied by the top levels. Importantly, the Proposed Development does not overwhelm but fits with the corridor of development that is such a characteristic feature of both banks of the River Irwell at this point.
- 6.95. In terms of cumulative effects the cumulative schemes that have been assessed have little impact on the operational effects of the Proposed Development. Where there is judged to be a cumulative effect then the effects are diminished in most cases.

References

Ref . No.	Reference
6.1	The European Landscape Convention (ELC, 2000)
6.2	National Planning Policy Framework 2019 Dept Communities and Local Government
6.3	Manchester City Council Core Strategy 2012
6.4	Manchester Residential Quality Guidance MCC 2017
6.5	Guidelines for Landscape and Visual Impact Assessment 3 rd Edition 2013 landscape Institute and Institute of Environmental Management and Assessment
6.6	Historic England note on tall buildings 2022
6.7	Landscape Institute Technical Guidance Note 06/19 September 2019,Landscape Institute

7. Built Heritage

Introduction

- 7.1. This Chapter of the ES has been prepared by Stephen Levrant Heritage Architecture (SLHA) and assesses the likely Built Heritage 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.
- 7.2. This Chapter is accompanied by one technical appendix: the accompanying Heritage Statement (Appendix 7.1). All work has been produced by Sarah Stirling (BA Hons, MA) who has four years' experience in producing ES Chapter reports on the built historic environment.

Limitations and Assumptions

- 7.3. Survey of the identified heritage assets within the study area was from publicly accessible areas. As such the study is limited to assessment from ground level. Assessment of below ground archaeology does not form part of this assessment.

Legislative and Policy Context

- 7.4. The Heritage Statement (Appendix 7.1) has been undertaken in general accordance with or with reference to the following legislation, policy and guidance:
- Planning (Listed Buildings & Conservation Areas) Act 1990
 - National Planning Policy Framework (NPPF) Conserving and enhancing the historic environment (2021);
 - Planning Practice Guidance (PPG), Historic Environment, July 2019
 - Principles of Selection for Listing Buildings, DCMS 2018
 - Manchester Core Strategy (2012) Policy CC9 Design and Heritage;
 - St Mary's Parsonage Strategic Regeneration Framework (SRF) (August, 2020)
 - Historic England guidance: Conservation Principles Policies and Guidance (2008);
 - Historic England's Good Practice Advice Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015);
 - Historic England's Good Practice Advice Note 3 (second edition): The Setting of Heritage Assets (2017);
 - Historic England's Advice Note 1: Conservation Areas (second edition) (2019);

- Historic England's Advice Note 4: Tall Buildings (second edition) (2022).
- Historic England's Advice Note 12: Statements of Heritage Significance (2019)

Legislation

- 7.5. The Site is adjacent to and within the setting of a number of Listed Buildings and Conservation Areas.
- 7.6. Section 66 of the 1990 Planning (Listed Buildings and Conservation Areas) Act requires the Local Planning Authority to "have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses" when considering whether to grant planning permission.
- 7.7. Section 72 of the Act is also of relevance, as it embodies the 'general duty as respects conservation areas in exercise of planning functions.' This duty is therefore applicable to the present proposals.

National Planning Policy

- 7.8. Section 16 of the National Planning Policy Framework (NPPF, 2021) sets out the Government's planning policies on the conservation of the historic environment.
- 7.9. The policies in the NPPF constitute the Government's view of what sustainable development in England means in practice. In these terms, development proposals which fail to give due weight to the conservation of heritage assets are deemed not to be sustainable development and consequently should not be supported. This is because one of the key dimensions of sustainability is protecting and enhancing our historic environment.
- 7.10. The NPPF stresses that "great weight" should be given to the conservation of designated heritage assets (paragraph 199), emphasising the need to avoid substantial harm, in terms of demolition, alteration or the compromise of its setting. The fundamental objective is to ensure that the balance of the impact on the heritage assets is demonstrably beneficial, minimising any negative impact on their significance.
- 7.11. The NPPF establishes a clear hierarchy of significance for heritage assets, derived from their designated status. The fundamental objective is to avoid compromising designated heritage assets, such that any potential 'harm' from a development must be balanced against the potential advantages of the public benefits that may outweigh any harm (paragraphs 201-202).
- 7.12. The 'designated heritage asset' status of the identified Listed Buildings and Conservation Areas requires that any potential 'harm' must be weighted and balanced against the potential advantages of the particular development. It is thus necessary to establish whether the effects of the proposals outweigh any perceived harm, in the context of the statutory duties set out above.
- 7.13. Local planning authorities may identify non-designated heritage assets. These are buildings, monuments, sites, places areas or landscapes identified as having a degree of significance meriting consideration in planning decisions, but which are not formally designated heritage assets.

Local Planning Policy

- 7.14. Extant policies DC18.1 and DC19.1 of the UDP and Policies EN3 and CC9 of the Core Strategy are relevant to this assessment. These policies seek to preserve and enhance the setting of buildings and areas of architectural or historic interest.

Other Relevant Planning policies and Guidance

- 7.15. Alberton House is located within the Parsonage Gardens Strategic Regeneration Framework Area. The St. Mary's Parsonage Strategic Regeneration Framework (SRF) was endorsed by the council on 3rd July 2020.

- 7.16. The purpose of the SRF is to encourage commercially-led development to facilitate the creation of a range of new employment and enterprise opportunities within the defined area, which includes Alberton House, supported by a unique retail and leisure offer and hotel accommodation, to enhance the area's attractiveness to residents, tourists, shoppers and visitors.
- 7.17. The SRF is not a planning policy document, but it has been drafted in the context of supporting future development proposals that will deliver Manchester's strategic priorities – economic, social and environmental – as well as complementing the City's other regeneration initiatives.

Assessment Methodology and Significance Criteria

- 7.18. This assesses the effect of the Proposed Development on designated built heritage assets, both within the Application Site and within a 250m study area. The study area was identified utilising professional experience and having regard to the presence of the development within the townscape.
- 7.19. The settings of any additional heritage assets which have the potential to be affected by the Proposed Development have been incorporated into the impact assessment where necessary, for example where key views to heritage assets are likely to be disrupted by the Proposed Development.

Methods of Baseline Data Collection

- 7.20. Baseline data of the study area was collected utilising Historic England's Online Mapping tool and Manchester Council's online data. Google earth was also utilised as part of the baseline data collection.

Survey and Data Sources

- 7.21. On-site surveys of the Site and surrounding area were undertaken in September 2021. This informed both the appraisal of the Site as a component of the historic environment and its contribution to the setting of surrounding heritage assets.
- 7.22. Principal sources of baseline information therefore included Historic England's National Heritage List for England (NHLE); Non-designated Heritage Assets as identified during pre-application discussions. The Conservation Area Appraisals on Manchester City Council's website were also a primary data source.

Assessment Methodology

- 7.23. The assessment methodology for the Historic Environment is a synthesis of established guidance, best practice and professional judgement. In accordance with an adapted form of the methodology set out in the ICOMOS Guidance on 'Heritage Impact Assessments (Jan.2011)', in which the value of heritage attributes is assessed in relation to statutory designations, and priorities or recommendations set out in national research agendas, and ascribed values. Professional judgement is then used to determine the importance of the resource. The baseline which might be affected by the Proposed Development are valued and the impact on them is assessed in order to give a significance of effect. The following Historic England (formerly English Heritage) guidance has also been utilised for the assessment:
- Historic England's Conservation Principles, Policies and Guidance (2008);
 - Historic England's Good Practice Advice Note 3: The Setting of Heritage Assets (2017);
 - Historic England. Advice Note 4: Tall Building Guidance (2022); and
 - Historic England (2019). Understanding Place: Conservation Area Designation, Appraisal and Management.
- 7.24. The aims of this assessment have been:

- To establish the baseline environment regarding designated heritage assets related to the historic built environment, i.e. Listed Buildings and Conservation Areas.
- Assessment of the significance of the known resource.
- Evaluation of the magnitude of impacts on identified resources.
- Identification of mitigation in the form of further surveys, investigation and recording to be undertaken in light of the identified impacts.

Significance Criteria

- 7.25. Criteria have been established to appraise a heritage asset's significance. Statutory criteria, as set out in the '*Principles of Selection for Listing Buildings*', DCMS, 2018, provides a list of principles of assessing significance based on architectural and historic interest, age and rarity, aesthetic merits, selectivity and national interest. Historic England (formerly English Heritage)'s criteria outlined in '*Conservation Principles, Policies and Guidance*,' are also considered in this assessment.
- 7.26. Evaluation of significance has been informed primarily by the designation of the assets at an international, national, regional or local level as well as their ability to contribute to an understanding of the past. This value rating had also been applied when considering sensitivity of views containing heritage assets. Indicative definitions for each of these ratings are outlined in Table 7.1 below:

Table 7.1 Significance Criteria for determining the value of heritage assets

Significance / sensitivity	Definition of receptor
High	- Grade I and Grade II* listed buildings. - Other buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade. - Conservation Areas containing very important buildings.
Medium	- Grade II listed buildings. - Historic buildings that can be shown to have exceptional qualities in their fabric or historical associations. - Conservation areas containing buildings that contribute significantly to its historic character.
Low	- Locally listed buildings. - Historic buildings of modest quality in their fabric or historical association.
Negligible	- recorded on the HER in record form or as 'Find Sites' - buildings, structures, or designed landscape features, which detract from the architectural design, historic, communal, or townscape interest of the principal heritage asset.

Baseline Conditions

Brief History and Development

- 7.27. Alberton House stands beside St. Mary's Parsonage and backs onto the River Irwell. It was designed by the architectural practice of Leach, Rhodes and Walker and built in 1973. Parts of the building were built on the site of the former Albert Street Police Station, which itself was built on the site of the Albert Street Gas Works.
- 7.28. In 1859 the site of the gas works was redeveloped to form the Albert Street A Division Police Station, which was constructed in 1859. The police station contained 7 cells, a parade ground, parade room and

lodging for 36 police officers. The station closed in the 1930s following the construction of the new Bootle Street Police Station.

- 7.29. However, during the Second World War (1939-45) the location of Alberton House and the immediate area surrounding it was severely destroyed by enemy bombing raids. Following the end of the War, the area was largely cleared of damaged and destroyed buildings, and subsequently became the focus for major post-war redevelopment in the city.
- 7.30. The area around the Site was the focus of radical redevelopment plans as part of the post-war planning programme which transformed Manchester. This resulted in the complete transformation of the St. Mary's Parsonage area and led to the removal of 'Albert Street' and the establishment of the current street-layout and 'Motor Square'.

Current Baseline Conditions

- 7.31. The baseline assessment was undertaken using a combination of desk-based review of plans, maps, records and other documents followed by on-site surveys in order to identify and assess the heritage significance of the designated and non-designated heritage asset receptors. It also establishes the way in which the settings and the Site contribute to the heritage significance of these assets.
- 7.32. Consideration has also been given to the historical development, non-designated heritage assets, building types and materials, key views to the notable historic buildings which contribute to the identification of the built form, and understanding of the special interest of the area.
- 7.33. The above receptors are valued and the impact on them assessed giving a significance of effect. In order to predict the magnitude and significance of effect of the potential visual impact of the Proposed Development, the following criteria is considered:
- The sensitivity and proximity of receptors;
 - The nature of the existing views;
 - The degree of change to existing views and visibility of the Proposed Development; and
 - The availability and amenity of alternative views
- 7.34. The assessment has identified 15 listed buildings, 4 conservation areas and 3 non-designated heritage assets within the 250m Study Area (Table 7.2 below). The Flat Iron Conservation Area has been scoped out of assessment due to existing built form restricting views. Please refer to Figure 7.1 for approximate locations of heritage assets around the site.

Value/Importance of Heritage Assets

- 7.35. The relative 'value' and importance attributed to the identified heritage assets largely coincides with their national or local status. In line with ICOMOS terminology, Grade I buildings are considered to be of very high significance; Grade II* of high significance; Grade II of medium and Locally Listed buildings are comparatively of low heritage significance. The heritage statement (Appendix 7.1) has been written in this context.

Table 7.2 identified heritage assets and their value

Heritage Asset (No. on Figure 7.1)	Value / sensitivity
3 St Marys Parsonage (Grade II)	Medium

Heritage Asset (No. on Figure 7.1)	Value / sensitivity
31-33 King Street West (Grade II)	Medium
Arkwright House (Grade II)	Medium
National Buildings (Grade II)	Medium
98-116, Deansgate (Grade II)	Medium
Albert Bridge (Grade II)	Medium
Former Hydraulic Power Station (Grade II)	Medium
Masonic Temple (Grade II)	Medium
Sawyers Arms (Grade II)	Medium
John Rylands Library (Grade I)	High
105-113 Deansgate (Grade II)	Medium
4-14 King Street (Grade II)	Medium
Haywards Building (Grade II)	Medium
Blackfriars Bridge (Grade II)	Medium
The Crown Tavern (Grade II)	Medium
Parsonage Gardens CA	Medium
Deansgate / Peter Street CA	High-to-medium
St Ann's Square CA	High
Albert Bridge House NDHA	Low
55-69 Bridge Street NDHA	Low
Bridge Tavern NDHA	Low

Identification and Evaluation of Significant Effects

- 7.36. Impacts may be beneficial or adverse. If the Proposed Development will enhance heritage values or the ability to appreciate them, as expressed in the first stage of the assessment, then the impact on heritage significance will be deemed to be beneficial; however, if they fail to sustain heritage values or impair their appreciation then the impact will be deemed to be adverse.

Determining magnitude of impact and significance of effect

- 7.37. Table 7.3 below summarises the factors to be taken into account when assessing the magnitude of impact. The criteria are not intended to be prescriptive and the weighting to be accorded to each requires professional judgement.

Table 7.3 Significance Criteria for determining the value of heritage assets (adapted from ICOMOS Guidance)

Magnitude of Impact	Criteria for Assessing impact
Major beneficial	The development considerably enhances the heritage values of the heritage assets, or the ability to appreciate those values.
Moderate beneficial	The development enhances to a clearly discernible extent the heritage values of the heritage assets, or the ability to appreciate those values.
Minor beneficial	The development enhances to a minor extent the heritage values of the heritage assets, or the ability to appreciate those values.
Negligible beneficial	The resultant difference will be imperceptible but have a positive impact on the understanding or appreciation of the heritage asset.
Neutral	This does not necessarily mean that there will be no physical or visual change, rather that the resultant difference will be imperceptible or appropriately balanced
Negligible adverse	The development would not diminish the value of the heritage assets' significant physical fabric, their settings or significance to any appreciable degree.
Minor adverse	The development erodes to a minor extent the heritage values of the heritage assets, or the ability to appreciate those values.
Moderate adverse	The development erodes to a clearly discernible extent the heritage values of the heritage assets, or the ability to appreciate those values.
Major adverse	The development severely erodes the heritage values of the heritage assets, or the ability to appreciate those values.

- 7.38. Derived by combining the significance rating of the resource with the magnitude of impact for each asset, Table 7.4 illustrates how information on the significance of the asset and the magnitude of the impact has been combined to arrive at an assessment of the significance of effect. The matrix is not intended to 'mechanise' judgment of the significance of effect but act as a check to ensure that judgments regarding value, magnitude of impact and significance of effect are reasonable and balanced.

Table 7.4: Significance of effect matrix

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

Moderate	Major –Moderate Adverse/Beneficial	Moderate –Minor Adverse-Beneficial	Minor Adverse/Beneficial
Minor	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor- Negligible Adverse/Beneficial
Negligible	Negligible Adverse/Beneficial	Negligible Adverse/Beneficial	Negligible Adverse/Beneficial
Neutral	Neutral	Neutral	Neutral

Construction Phase

- 7.39. The assessment methodology and approach to the relative impact on heritage assets during the construction phase is based on evidence-based assumptions in relation to common issues such as demolition, dust, noise, site hoarding and scaffolding. It is understood the proposals seek to demolish the existing building upon the Site (Alberton House), which will incur a temporary adverse impact on the settings of nearby heritage assets.
- 7.40. During the construction phase the setting of the Grade II listed '3 St Marys Parsonage' in particular, will be impacted, as will the setting of Arkwright House (Grade II), 31-33 King Street West and the National Buildings (Grade II). The proposed mass clearance of the 1970s office block will result in a moderate temporary adverse effect upon the setting of these heritage assets; including the setting of the St Marys Parsonage Conservation Area. It should be noted the building proposed to be cleared has no heritage status.
- 7.41. Impacts will be related to construction traffic, noise, dust, site hoarding/ scaffolding etc. The potential effects of the demolition and construction phase will result in temporary, localised moderate adverse effects on the ability to understand and appreciate the setting of the heritage assets.

Completed and Operational Phase

- 7.42. The assessment methodology and approach to the relative impact on heritage assets during the completed / operational phase has been assessed utilising the suite of application plans, drawings and fully rendered visuals of the Proposed Development and professional judgement.
- 7.43. The assessment methodology and approach to the relative impact on heritage assets during the completed / operational phase has been assessed utilising the suite of application plans, drawings and fully rendered visuals of the Proposed Development and professional judgement.
- 7.44. It will be clear that the proposals will result in instances of both beneficial and adverse visual impact upon the built historic environment. The fully-rendered images of the proposals indicate the Proposed Development would incur a moderate beneficial impact upon the settings of 3 St Marys Parsonage and 31-33 King Street West through improvements to their streetscape setting. The height and scale of the development would however, also incur instance of minor adverse impact upon the setting of Arkwright House (Grade II), the National Buildings (Grade II) and Albert Bridge House (NDHA).
- 7.45. The perceived impact upon the setting of the Parsonage Conservation Area derives from the dominance of the Proposed Development in key views from the central greenspace. Whilst there will be instances of adverse impact due to the relative mass and scale of the proposals; it will be clear the quality of the façade and its response to the historic context provides a moderate enhancement. The Proposed Development will preserve the significant character and appearance of the Conservation Area. Overall, the resultant impact on the designated area has been identified as suitably balanced (neutral).

Completed Development

- 7.46. The Proposed Development will result in the permanent loss of Alberton House, which has been assessed against Listing Selection Guide criteria for post-war office buildings and has been identified as yielding no heritage value at local or national level. The existing building is within the immediate setting of a number of designated and non-designated heritage assets, of which it has been identified as being a negative contributor. The loss of the building will thus result in a neutral direct impact upon the built historic environment, with potential for beneficial impact subject to a suitable alternative.
- 7.47. The proposals seek to demolish the existing building and introduce new office block of c. 19 storeys in height (including ground floor with mezzanine, and excluding basement). The design proposals for the elevations were developed following facade studies of the surrounding listed buildings, in which the rhythm of fenestration was aimed to be consistent with architectural typologies found elsewhere within the Parsonage SRF area. The proposed copper coloured material concept is derived from the site's historic use as a Brass and Copper Works. The proposals take inspiration from the rich, eclectic character of the surrounding area, from the Venetian Gothic warehouse at 3 St Mary's Parsonage to the vertical glazing of the Grade II listed Kendals building; this approach has sought to consolidate the emerging character of the St Marys Conservation Area. Please refer to the DAS produced by EPR architects for further detail.
- 7.48. The Proposed Development will create active frontages around a new, landscaped spaces around the immediate streetscapes to St Marys Parsonage and improved interconnectivity with the Riverside.
- 7.49. The Heritage Impact Assessment has demonstrated the proposed redevelopment of the Site would likely result in a **minor adverse impact** upon the settings of nearby heritage assets, as the proposals will introduce a building of greater height and scale which will in turn impact key views from within the Parsonage Gardens Conservation Area. Despite the impact incurred by the height and scale of the proposed building, the design takes cues from the brass and copper works which historically occupied the site in the early 19th century and utilises red brick and crittal windows. This is reflected in the instances of 'moderate' and 'minor' beneficial impact to the settings of listed buildings closest to the Site.
- 7.50. The visuals do however demonstrate in a number of views, that despite the increase in height, mass and scale, the crittal glazing and use of Farnham red brick positively respond to the existing aesthetic and material quality of historic buildings within the Conservation Area. The retention of the gas works plaque has also been incorporated into the current design. Moreover, the enhancement to Riverside views and improvements to public realm around Motor Square will further enhance the experience and appreciation of nearby heritage assets and the character and appearance of the Conservation Area. On balance, therefore, it is considered the Proposed Development would have an overall neutral (balanced) impact upon the St Marys Parsonage Conservation Area.
- 7.51. The potential heritage impacts of the Proposed Development during the operation phase are presented below in Table 7.5

Table 7.5 Likely Designated and Non-Designated Effects at Completion and Operational Stage

Receptor(s)	Significance / sensitivity value	Scale of Impact	Significance of Effect
Construction			
3 St Marys Parsonage (Grade II)	Medium	Moderate	Moderate adverse (temporary)
31-33 King Street West (Grade II)	Medium	Moderate	Moderate adverse (temporary)

Receptor(s)	Significance / sensitivity value	Scale of Impact	Significance of Effect
Arkwright House (Grade II)	Medium	Moderate	Moderate adverse (temporary)
National Buildings (Grade II)	Medium	Moderate	Moderate adverse (temporary)
St Marys Parsonage Conservation Area	Medium	Moderate	Moderate adverse (temporary)
Albert Bridge House (non-designated heritage asset)	Low	Moderate	Minor adverse (temporary)
Operational			
3 St Marys Parsonage (Grade II)	Medium	Moderate	Moderate beneficial
31-33 King Street West (Grade II)	Medium	Moderate	Moderate beneficial
Arkwright House (Grade II)	Medium	Minor-to-moderate	Minor adverse
National Buildings (Grade II)	Medium	Minor-to-moderate	Minor adverse
98-116, Deansgate (Grade II)	Medium	Minor-to-moderate	Minor adverse
Albert Bridge (Grade II)	Medium	Minor	Minor beneficial
Former Hydraulic Power Station (Grade II)	Medium	Negligible	Neutral
Masonic Temple (Grade II)	Medium	Minor	Minor beneficial
Sawyers Arms (Grade II)	Medium	Neutral	Neutral
John Rylands Library (Grade I)	High	Neutral	Neutral
105-113 Deansgate (Grade II)	Medium	Neutral	Neutral
4-14 King Street (Grade II)	Medium	Neutral	Neutral
Haywards Building (Grade II)	Medium	Neutral	Neutral

Receptor(s)	Significance / sensitivity value	Scale of Impact	Significance of Effect
Blackfriars Bridge (Grade II)	Medium	Minor change	Minor beneficial
The Crown Tavern (Grade II)	Medium	No change	Neutral
Parsonage Gardens CA	Medium	Moderate	Neutral
Deansgate / Peter Street CA	High-to-medium	Negligible	Negligible
St Ann's Square CA	High	Negligible	Negligible
Albert Bridge House NDHA	Low	Moderate	Minor adverse
55-69 Bridge Street NDHA	Low	Negligible	Neutral
Bridge Tavern NDHA	Neutral	n/a	Neutral

Mitigation Measures

- 7.52. Heritage considerations have been integral to the design of the proposals. Enlisting appropriate specialists and consultation with the local authority has informed the design development and assessment process to ensure potential adverse visual impacts on the identified heritage assets are minimised.
- 7.53. In line with Historic England's 2017 Guidance on assessing 'the setting of heritage assets', it will be clear for "some developments affecting setting, the design of a development may not be capable of sufficient adjustment to avoid or significantly reduce the harm, for example where impacts are caused by fundamental issues such as the proximity, location, scale, prominence or noisiness of a development. In other cases, good design may reduce or remove the harm, or provide enhancement" (HE, GPA3. 2nd Edition 2017 - Para.39).
- 7.54. Despite the impact incurred by the height and scale of the proposed building, the design takes cues from the brass and copper works which historically occupied the site in the early 19th century and utilises red brick and crittel windows. This is reflected in the instances of 'moderate' and 'minor' beneficial impact to the settings of listed buildings closest to the Site.
- 7.55. Whilst it will be clear the Proposed Development will incur some considerable, visual change within the setting of the designated heritage assets around Parsonage Gardens, the impact upon Arkwright House (Grade II) and the National Buildings (Grade II), is identified to be minor adverse. When assessed as a whole, the degree of change incurred by the new development would not diminish the significance of the listed buildings, or the ability to appreciate their contribution to the character and appearance of the Conservation Area.

Demolition and Construction

- 7.56. Recommended measures, to be included within a Construction Environmental Management Plan include:
- Use of high quality hoardings

- Dust management
- Vibration monitoring
- Regular cleaning of roads and the public realm surrounding the Site;
- Edge protection to be affixed whilst concreting operations are in place;
- Implementation of a traffic management plan;
- Vibration monitoring.

Cumulative Effects

- 7.57. The cumulative impact is considered as direct (physical) and indirect (visual) to help disaggregate the type and degree of change. This can be cumulative, temporary and permanent, reversible or irreversible, visual, physical, social and cultural, even economic.
- 7.58. The overall cumulative effects of these committed developments have been tested alongside the Proposed Development. It will be clear the consented Kendal's scheme (29251/FO/2021 & 129252/LO/2021) will result in considerable, cumulative change to the St Marys Parsonage Gardens Conservation Area, is not however, considered to cause any additional significant impact on the baseline historic built environment.

Residual Effects

- 7.59. Consideration to mitigating the impacts on the identified heritage assets has been made throughout the development of the proposals. Consequently, the residual effects will be the same as the potential effects discussed. A summary of the potential and residual effects is set out below in Table 7.6 below.

Table 7.6 – Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Construction			
3 St Marys Parsonage (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
31-33 King Street West (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
Arkwright House (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
National Buildings (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
St Marys Parsonage Conservation Area	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Albert Bridge House (non-designated heritage asset)	Minor adverse	Construction methodology and programme	Minor adverse (temporary)
Operational			
3 St Marys Parsonage (Grade II)	Moderate beneficial	n/a	Moderate beneficial
31-33 King Street West (Grade II)	Moderate beneficial	n/a	Moderate beneficial
Arkwright House (Grade II)	Minor adverse	Public benefits and responsive design approach	Minor adverse
National Buildings (Grade II)	Minor adverse	Public benefits and responsive design approach	Minor adverse
98-116, Deansgate (Grade II)	Minor adverse	Public benefits and responsive design approach	Minor adverse
Albert Bridge (Grade II)	Minor beneficial	n/a	Minor beneficial
Former Hydraulic Power Station (Grade II)	Neutral	n/a	Neutral
Masonic Temple (Grade II)	Minor beneficial	n/a	Minor beneficial
Sawyers Arms (Grade II)	Neutral	n/a	Neutral
John Rylands Library (Grade I)	Neutral	n/a	Neutral
105-113 Deansgate (Grade II)	Neutral	n/a	Neutral
4-14 King Street (Grade II)	Neutral	n/a	Neutral
Haywards Building (Grade II)	Neutral	n/a	Neutral
Blackfriars Bridge (Grade II)	Minor beneficial	n/a	Minor beneficial
The Crown Tavern (Grade II)	Neutral	n/a	Neutral

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Parsonage Gardens CA	Neutral (balanced)	Public benefits and responsive design approach	Neutral (balanced)
Deansgate / Peter Street CA	Negligible	n/a	Negligible
St Ann's Square CA	Negligible	n/a	Negligible
Albert Bridge House NDHA	Minor-to-moderate adverse	Public benefits and responsive design approach	Minor adverse
55-69 Bridge Street NDHA	Neutral	n/a	Neutral
Bridge Tavern NDHA	Neutral	n/a	Neutral

Reference List

7.60. This ES Chapter has been prepared by reference to the following:

- Highways Agency. 2007. Design Manual for Roads and Bridges, Volume 11, Section 3, Part 2 HA 208/07 – Cultural Heritage;
- DCMS's Principles of Selection for Listing Buildings (2018);
- Historic England's Conservation Principles, Policies and Guidance (2008);
- Historic England's Good Practice Advice Note 2: Managing Significance in Decision-Taking in the Historic Environment (March 2015);
- Historic England's Good Practice Advice Note 3: The Setting of Heritage Assets (2017);
- Historic England's Good Practice Advice Note 4: Tall Buildings (2022); and
- Historic England's Understanding Place: Conservation Area Designation, Appraisal and Management (2019).

Figure 7.1 – Heritage Assessment Map

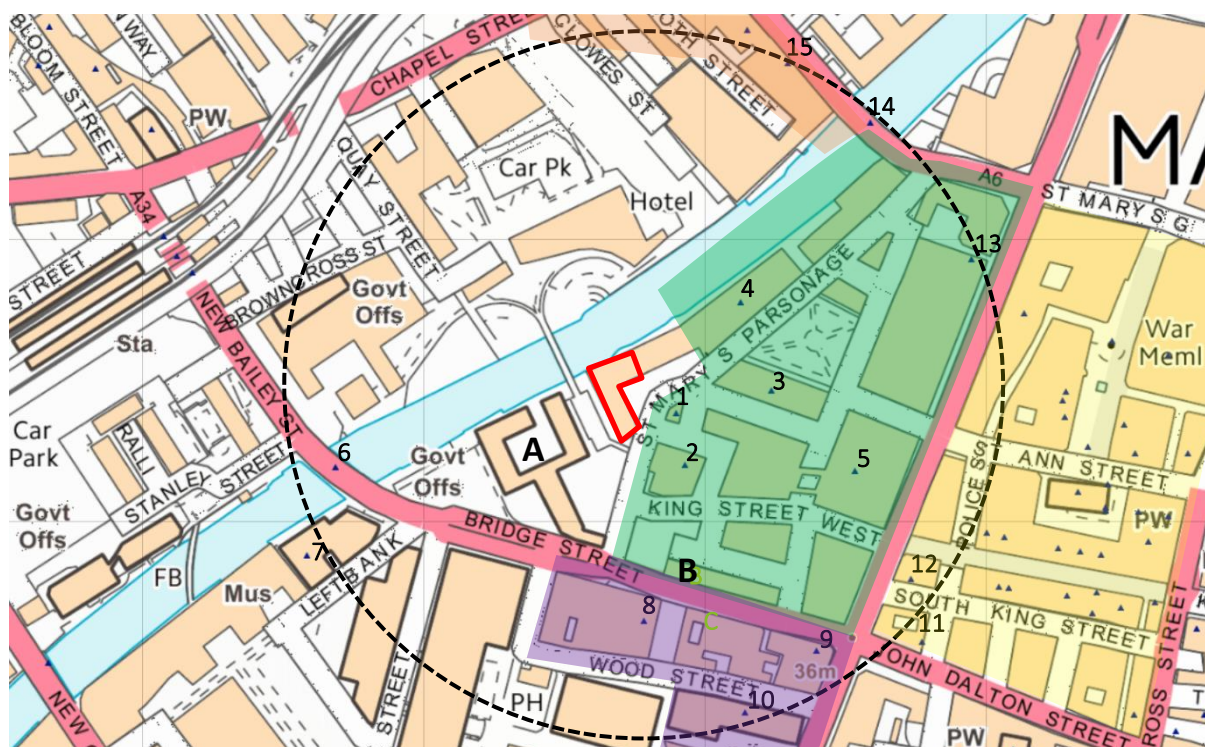


Figure 7.1: Heritage Asset Map:

Approximate Site indicated by red line. The black dotted line identifies the 250m radius which has provided a baseline scope for analysis. Listed Buildings scoped in are numbered and identified by blue triangles. The extent of the Parsonage Gardens Conservation Area is identified in green, and the extent of the Deansgate / Peter Street Conservation Area is identified in purple. The St Ann's Square Conservation Area is denoted in yellow. The Flat Iron Conservation Area (Salford) is identifiable in orange, this designated area has been scoped out due to abundance of existing built form / restricted views.

Source: Historic England and MCC/ Salford council website mapping sources.

8. Ground Conditions

Introduction

- 8.1. This Chapter of the ES has been prepared by Curtins and assesses the likely impacts of the Proposed Development upon the Site and surrounding area with respect to ground conditions and ground contamination. 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.
- 8.2. This Chapter is accompanied by two technical appendices submitted as part of the Environmental Statement Volume 2:
- Appendix 8.1: Phase 1 Preliminary Risk Assessment (Desktop Study)
 - Appendix 8.2: Phase 2 Ground Investigation Report
- 8.3. This assessment has been undertaken by Niall Farnworth BSc (Hons) MCIWEM and checked by Rob Allen BSc (Hons) MSc FGS MCIWEM C.WEM CEng on behalf of Curtins.

Limitations and Assumptions

- 8.4. This assessment uses both desk-based research and field surveys, comprising a pre demolition ground investigation. The pre demolition ground investigation was limited in coverage due to the presence of the existing building (Alberton House) covering a significant portion of the Site. Further post demolition investigation is recommended which may find varying ground conditions to those outlined herein.

Legislative and Policy Context

Legislation & Best Practice

- 8.5. The legislative framework for contaminated land is set out principally in Part 2A of the Environmental Protection Act (EPA), 1990 (Ref.1). The legislation endorses the principle of a 'suitable for use' approach for contaminated land, where remedial action is only required if there are unacceptable risks to health or the environment, considering the use of the land and its environmental setting.
- 8.6. The statutory guidance, Circular 01/2006: Part 2A, EPA (Ref.2), describes a risk assessment methodology in terms of 'significant pollutants' and 'significant pollutant linkages' within the source-pathway-receptor model of the Site. The model comprises:
- The principal pollutants hazards associated with the Site (the sources);
 - The principal receptor at risk from the identified hazards; and
 - The existence, or absence, of plausible pathways which may exist between the identified hazards and receptor.
- 8.7. For the land to be determined as 'contaminated' in a regulatory sense, and thereby requiring remediation (or a change to a less sensitive use), all three elements (source-pathway-receptor) of a significant pollutant linkage must be present.
- 8.8. The legislation endorses the principle of a 'suitable for use' approach for contaminated land, where remedial action is only required if there are unacceptable risks to health or the environment, considering the use of the land and its environment setting.

- 8.9. Environment Agency: Land Contamination Risk Management (LCRM) 2020 (Ref.5) can be used to develop a robust methodology for assessing and evaluating the significance of effects, and it states:

"Use Land Contamination Risk Management (LCRM) to:

- *Identify and assess if there is an unacceptable risk;*
- *Assess what remediation options are suitable to manage the risk;*
- *Plan and carry out remediation;*
- *Verify that remediation has worked;*

You can use LCRM in a range of regulatory and management contexts. For example, voluntary remediation, planning, assessing liabilities or under the Part 2A contaminated land regime."

- 8.10. The presence of contamination can present risks to human health and the environment, which adversely affect or restrict the beneficial use of land, but development presents an opportunity to deal with these risks successfully.

National Planning Policy

- 8.11. The National Planning Policy Framework (Ref.3), with specific relevance to this assessment, states:

"To prevent unacceptable risks from pollution and land instability, planning policies and decisions {Planning Authorities} should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area of Proposed Development to adverse effects from pollution, should be considered. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner."

- 8.12. Planning policies and decisions should also ensure that:

- The site is suitable for its use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation.
- After remediation, as a minimum, land should be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
- Adequate site investigation information, prepared by a competent person, is presented." (Para. 120, 121)

- 8.13. The guidance given in Planning Policy Statement 23: Planning and Pollution Control (Ref.4), although this document has been formally revoked, it can still provide useful guidance with relevance to this assessment, states:

"The following matters should be considered in the preparation of development plan documents and may also be material in the consideration of individual planning applications where pollution considerations arise:

- *The possible impact of potentially polluting development (both direct and indirect) on land use, including effects on health, the natural environment or general amenity;*
- *The potential sensitivity of the area to adverse effects from pollution and the need to protect natural resources;*
- *The environmental benefits that the development might bring; and*
- *The remediation of past contamination."*

Local Planning Policy

- 8.14. Local Planning Policy: Manchester's Core Strategy is the key Development Plan Document in the Local Development Framework (Ref.6) and covers a period of 15 years from 2012 to 2027. It sets out the long-term strategic policies for Manchester's future development and will form the frameworks that planning applications will be assessed against.
- 8.15. Policy EN 18 within the framework relates to Contaminated Land and Ground Stability, it states:
- 8.16. "The Council will give priority for the remediation of contaminated land to strategic locations as identified within this document. Any proposal for development of contaminated land must be accompanied by a health risk assessment."
- 8.17. Policy H1 relating to housing, states:
- 8.18. "The Council's target is for 90% of new development to be on previously developed land. This is in line with historical trends across Manchester and will ensure a sustainable approach is taken regarding the use of land as a limited resource."

Assessment Methodology and Significance Criteria

- 8.19. This assessment uses the above legislation, policy and best practice guidance to aid in establishing risk ratings.
- 8.20. The assessment objective is to identify and evaluate the likely significant effects arising from the Proposed Development by assessing the magnitude of change caused by an impact and assessing the receptor sensitivity. Table 8.1 and 8.2 below detail the criteria for determining impact magnitude and receptor sensitivity.

Table 8.1- Methodology for Determining Impact Magnitude

Magnitude of Change	Criteria for assessing magnitude of change caused by an impact
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 8.2 – Methodology for Determining 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.
Moderate	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.

- 8.21. Whilst there would be a degree of professional judgement involved in determining the significance of effect related to the Site's ground conditions, they can broadly be determined by the interaction of the sensitivity of the receptor and the magnitude of change as detailed in Table 8.3 below.

Table 8.3 – Impact Significance Matrix

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

- 8.22. The assessment criteria will be used to identify and evaluate significant effects potential changes to ground conditions associated with the proposed development may cause to human health and the environment, during construction and during the operational phase of the building.
- 8.23. Cumulative effects of the Proposed Development and other committed developments will be considered.
- 8.24. Where adverse impacts are identified mitigation measures will be put forward and the residual impacts shown following implementation of remedial measures.
- 8.25. The following testing scenarios will be considered:
- Existing site (baseline)
 - Existing site (baseline) with committed developments
 - Existing site (baseline) with Proposed Development
 - Existing site (baseline) with Proposed Development and mitigation

- Existing site (baseline) with Proposed Development and committed developments

Baseline Conditions

- 8.26. The following sections outlines the existing soil, geological and hydrogeological and land-use baseline conditions at the Site and within its immediate surroundings.

Existing Baseline (2022)

Site History

- 8.27. A review of the available historical mapping information for the Site (as presented within Curtins Phase 1 Ground Conditions Report as presented in Appendix 8.1) has been undertaken with specific reference to potential sources of contamination. The assessment assumes that the historical maps reviewed provide a reasonable indication of the potential for ground contamination beneath the Site. However, it is possible that ground contamination may exist beneath the Site, arising from land uses or events not revealed on or adjacent to the Site by the available mapping.
- 8.28. Earliest mapping (1840's) shows the Site as developed with a copper and brass works in the north of the Site with Albert Street splitting the Site from a gas works encroaching the south of the Site. By 1891, the metal works was no longer shown and the north of the Site appears to be used for warehouse buildings later identified for yarn and cork. The gas works was also demolished at this time and a police station constructed on the southern part of the Site.
- 8.29. The police station was demolished on the southern boundary by 1938 and by 1948 the warehouses are marked as Ruins after WWII. Albert Street was de-constructed by 1962, and the Site fully re-developed with Alberton House buildings by 1973 with associated car parking areas. The Site remains in a similar lay out to the present day.
- 8.30. The surrounding area is re-developed with Albert Bridge House immediately west of the Site by 1962. By 1980's, almost all industrial land use surrounding the site is re-developed for commercial businesses, office space and multistorey car parking. By 1996, Trinity Bridge was constructed within 10m northwest of the Site.

Geology

- 8.31. While Made Ground is not indicated to be present on BGS mapping, the Site's history suggests that there is potential for localised Made Ground deposits to be present.
- 8.32. Published mapping indicates the Site is not underlain by any superficial deposits but is underlain by bedrock of the Chester Formation comprising weathered sandstone.
- 8.33. Curtins pre-demolition ground investigation (Appendix 8.2) encountered made ground from ground level to depths up to 3.45m bgl. Deposits indicative of Glaciofluvial Deposits were encountered below the Made Ground in two exploratory holes. Indicative cohesive Glaciofluvial deposits were encountered underlying made ground to maximum depths of 2.00m and 4.45m bgl. Deposits indicative of granular Glaciofluvial deposits were encountered at 2.00m and 9.50m bgl. The Chester Formation sandstone bedrock was encountered in one exploratory hole from 9.50m to 30.50m bgl.
- 8.34. The Site is located within a Coal Mining reporting area but not located within a Development High-Risk Area and there are no recorded mine entries, coal workings or probable coal workings within 1km of the Site.
- 8.35. The Site is located in a low probability radon area where <1% of homes are estimated to be at or above the radon Action Level.

Hydrogeology

- 8.36. Environment Agency data indicates the Chester Formation Sandstone is designated as a Principal Aquifer.
- 8.37. The Site is not located within a Source Protection Zone (SPZ). There are 6 no. groundwater abstraction points within 500m of the Site. The nearest being 169m southwest of the Site which is for industrial usage. There are three groundwater abstractions for potable water supplies located within 1km of the Site. The nearest being 805m northeast of the Site and used by Interbrew UK Ltd.
- 8.38. Curtins pre demolition ground investigation identified a groundwater table at the top of the bedrock at around 10.6-11m bgl. Minimal groundwater was encountered in the shallow deposits.

Land Gas

- 8.39. UK Radon Mapping confirms the PDS is situated in an area where <1% of homes are above the radon action level.
- 8.40. Made ground soils on Site were identified as a potential a source of gas generation. Putrescible content may generate hazardous gases including carbon dioxide and methane. The potential for Volatile Organic Compounds (VOC's) to be present in made ground soils was also identified given the Site history.
- 8.41. There are no BGS recorded landfill sites within 250m of the Site. There are no historical landfill sites recorded within 500m of the Site.
- 8.42. There are no potentially infilled land features within 250m of the Site; both water and non-water features, and therefore there are no potentially gas generating features within influencing distance of the Site.
- 8.43. Curtins pre demolition ground investigation identified typically low concentrations of hazardous gases. The maximum recorded concentration of carbon dioxide of 0.4% v/v. Methane (CH₄) was recorded below the limit of detection of the monitoring instrument throughout the monitoring period except for a maximum concentration of 1.4% v/v on the sixth monitoring visit. However, methane concentrations quickly stabilised below the detection limit after a period of 3 seconds. The highest peak gas flow rate was recorded in RH01 (8.5 l/hr) on the third monitoring visit, this reduced to a steady state of <0.1 l/hr within 1 minute. The highest calculated borehole hazardous gas flow rates were taken as the gas screening value indicative of a Low Risk (CS1 classification) not requiring protection measures.
- 8.44. A Low risk from volatile contamination was also identified in Curtins Pre Demolition Ground investigation based on the chemical testing of soils and groundwater.

Hydrology

- 8.45. The nearest surface water feature identified by Site is 1m to the north which is the River Irwell, river quality E with a southwest flow direction.
- 8.46. There are no recorded pollution incidents to controlled waters in the past 20 years within 1km.
- 8.47. There are no surface water abstractions within 1km.
- 8.48. There are three active discharge consents within 250m of the Site and three within 250 to 500m from the Site, all relate to United Utilities Water Ltd storm water overflow outages into the River Irwell.

Potential Contamination Sources

- 8.49. There is potential for contamination to have arisen from the historical production of town gas on Site as well as from metal manufacturing works on Site. Contamination may include coal tar, heavy metals, ammonium compounds and cyanide compounds. The Site has been subject to various phases of development since, however the extent of contamination remaining is unknown. These historical uses of the Site, along with various historical on-site warehouses and off-site garages may have also resulted in localised contamination from fuel or chemical spills.

- 8.50. Made Ground of unknown composition from uncontrolled deposition of historical construction/demolition waste onsite associated with the previous developments on the Site and historical/present site uses, could result in contamination of soils including ash, asbestos, fuels and oils.
- 8.51. Curtins pre demolition ground investigation identified limited evidence of contamination in site soils. The environmental chemistry soil results have been compared with the Generic Assessment Criteria (GAC) for soils with respect to human health against the 'Commercial' threshold. No exceedances have been noted with respect to the thresholds. No asbestos containing materials (ACMs) were identified laboratory screening.
- 8.52. Curtins pre demolition ground investigation identified elevated concentrations of halocarbons (sum of Tetrachloroethene and Trichloroethene) above UK Drinking Water Standards in groundwater at depth beneath the Site. It was concluded that the Site soils are unlikely to be the source given no evidence of gross contamination was identified and TCE was recorded below Limits of Detection in soil samples obtained.

Unexploded Ordnance

- 8.53. Risk maps place the UXO's in a High-risk area. High-risk regions are those with a bombing density of greater than 50 bombs per 1000 acres.
- 8.54. A Detailed Unexploded Ordnance Risk Assessment was procured for the Site by a specialist which summarised multiple high explosive and incendiary bombing incidents were reported within the vicinity of the Site, and post-WWII OS mapping, photography, and damage mapping appear to confirm the Site sustained significant damage as a result. Furthermore, it is anticipated both access and groundcover would have reduced following bombing incidents and damage, which may increase the likelihood that indicators of UXO would have been obscured and missed.
- 8.55. The risk of UXO remaining is considered to be mitigated at the location of and down to the depth of any post-war redevelopment on Site. For example, the risk from deep buried UXO will only have been mitigated in areas of post-war foundations or deep excavations for basement levels.
- 8.56. Any risk mitigation required as part of any future developments will be assessed as part of the Construction Design and Management Regulations 2015 (Ref.7), regardless of the considerations of this ES and as such is not considered further herein.

Identification and Evaluation of Significant Effects

- 8.57. Table 1.4 outlines a summary of the receptors which may be affected at construction and operational phases and therefore requiring assessment.

Table 8.4 Receptors Identified as Requiring Assessment

Receptor	Phase of Development
Construction Workers, Neighbours & General Public Passing Site	
Controlled Waters (River Irwell & Principal Aquifer)	Construction

Receptor	Phase of Development
Site End Users, Site Maintenance Workers & Neighbours	Operational
Water Supply Pipes	
Controlled Waters	
(River Irwell & Principal Aquifer)	

- 8.58. Construction phase impacts are assessed below on the relevant receptors followed by Operational phase impacts.

Construction Phase Impacts

Impact upon Construction Workers and Neighbours from Contamination During Construction

- 8.59. Although the Pre demolition Ground Investigation (Appendix 8.2) identified concentrations of contamination below 'Commercial' screening criteria the risk during construction is inherently higher due to on site activities likely to generate waste materials and dust, a potential pollutant linkage may therefore be plausible over a temporary short-term basis. There is the potential that materials within the Made Ground may pose a risk to construction workers (direct contact/ingestion and inhalation) and neighbours (from dust emissions), over a temporary short-term basis.
- 8.60. Therefore, without mitigation procedures the sensitivity is assessed as 'Moderate' and the impact magnitude 'Minor'.
- 8.61. This results in a 'Minor Adverse' impact significance of harm to site construction workers during the operational phase of the development. This effect will occur over a temporary short-term basis. Mitigation measures are therefore required as discussed later in this Chapter.

Impact upon Construction Workers from Ground Gases During Construction

- 8.62. Although Curtins ground gas risk identified a low risk to end users from ground gas, due to specialist activities by construction workers such as confined space working the risk is inherently higher and a potential pollutant linkage may be plausible over a temporary short-term basis.
- 8.63. Therefore, without mitigation procedures the sensitivity is assessed as 'Moderate' and the impact magnitude 'Minor'.
- 8.64. This results in a 'Minor Adverse' impact significance of harm to site construction workers during the operational phase of the development. This effect will occur over a temporary short-term basis. Mitigation measures are therefore required as discussed later in this Chapter.

Impact upon Controlled Waters During Construction

- 8.65. There is potential for contamination to be mobilised during the construction phase including through spillages and leakages of on-site plant and fuel storage through vertical and horizontal migration into the Principal Aquifer and the River Irwell, as well as through forming of piled foundations and contamination migrating vertically into the Principal Aquifer.
- 8.66. The sensitivity of the receptors are likely to be reduced somewhat due to their city centre locations.
- 8.67. Therefore, without mitigation procedures the sensitivity is assessed as 'Moderate' and the impact magnitude 'Minor'.

- 8.68. This results in 'Minor Adverse' impact significance of harm to Controlled Waters during the construction phase of the development. This effect will occur over a temporary short-term basis. Mitigation measures are therefore required as discussed later in this Chapter.

Operational Phase Impacts

Impact upon Controlled Waters from Contamination During Operational Phase

- 8.69. Curtins pre demolition ground investigation identified a single exceedance of UK Drinking Water Standards thresholds for Sum of Tetrachloroethene and Trichloroethene in a groundwater sample obtained from bedrock aquifer. The Site soils are considered unlikely to be the source given no evidence of gross contamination was identified and these contaminants were identified at concentrations below the laboratory's limits of detection where tested for in soils. No exceedances of Water Framework Directive Environmental Quality Standards were identified. No plausible pollutant linkage between the site soils and controlled waters (Principal Aquifer and River Irwell) is currently considered to exist.
- 8.70. A potential pollutant linkage exists between spills and leaks of oil and fuel, from any plant rooms and controlled waters through vertical and migration into groundwater (Principal Aquifer associated with bedrock deposits) and the adjacent River Irwell, via the drainage system. The probability of potential pollutant linkages being realised is considered Low.
- 8.71. The sensitivity of the receptors are likely to be reduced somewhat due to their city centre locations.
- 8.72. Therefore, the sensitivity is assessed as 'Moderate' and the impact magnitude 'Minor'.
- 8.73. This results in a 'Minor Adverse' impact significance of harm to controlled water during the operational phase of the development. This effect will occur over a permanent long term basis. Further investigation/assessment is proposed to confirm this assessment post demolition as discussed later in this chapter.

Impact upon Water Supply Pipes During Operational Phase

- 8.74. A potential pollutant linkage exists between water supply pipes (and the water within) and potential contaminants in the Made Ground (and any contamination within it), this may lead to human health impacts through drinking contaminated water. A water supply pipe risk assessment is required in accordance with the water suppliers requirements (United Utilities). Where the risk assessment identifies a risk, mitigation is required in the form of contaminant resistant water supply pipes.
- 8.75. Therefore, the sensitivity is assessed as 'Moderate' and the impact magnitude 'Minor'.
- 8.76. This results in a 'Minor Adverse' impact significance of harm to water supply pipes and human health during the operational phase of the development. This effect will occur over a permanent long term basis. Mitigation measures are therefore required as discussed later in this chapter.

Impact upon Site End Users from Ground Gases During Operational Phase

- 8.77. Curtins ground gas risk assessment identified a Low risk of the potential pollutant linkage being realised between end-users of the Proposed Development and ground gas generating sources within the Made Ground (and any contamination within it), corresponding with a Characteristic Situation 1 (CS1) classification in accordance with BS8485:2019, not requiring gas protection measures.
- 8.78. Therefore, without mitigation procedures the sensitivity is assessed as 'Moderate' and the impact magnitude 'Negligible'.
- 8.79. This results in a 'Negligible' impact significance to site end-users during the operational phase of the development. No mitigation measures are therefore required.

Impact upon Site End-Users and Site Maintenance Workers from Contamination During Operational Phase

- 8.80. The Pre demolition Ground Investigation identified concentrations of contamination below relevant 'Commercial' screening criteria including for volatile contamination. Furthermore, the operational Site will be covered predominantly with hardstanding and building slabs, which will break most of the plausible linkages to future maintenance workers and users (such as ingestion and dermal contact) in these areas. That said given the site's industrial history it is possible that gross contamination in areas that have not yet been characterised through pre demolition ground investigation.
- 8.81. Therefore, without mitigation procedures the sensitivity is assessed as 'Moderate' and the impact magnitude currently 'Minor'.
- 8.82. This results in a 'Minor Adverse' impact significance of harm to site end-users and maintenance workers during the operational phase. This effect will occur over a permanent long term basis. Mitigation measures/ further investigation is proposed to confirm this assessment post demolition as discussed later in this chapter.

Mitigation Measures

- 8.83. This section outlines the extent of mitigation measures required to protect receptors where an adverse impact significant has been identified above.

Construction Phase

Impact to Construction Workers & Neighbours

- 8.84. There is the potential that materials within the Made Ground may pose a risk to construction workers (through direct contact with contaminated soils or from ingestion/inhalation of dust emissions), neighbours (both commercial and residential) and general public passing by (from ingestion/inhalation of dust emissions). This would occur over a temporary short-term basis, during the excavation of Made Ground materials.
- 8.85. There is also the potential that working in soils may pose a risk to construction workers through inhalation where working in confined spaces.
- 8.86. During the redevelopment of the Site it will be necessary to implement measures to protect construction workers, neighbours and general public passing by from exposure to any contaminated material which is encountered. Measures may include but not be limited to; dust suppression methods, ensuring covered wagons transport material and ensuring suitable PPE is provided and worn on site.
- 8.87. These measures will be required of the Contractor under the Construction Design Management Regulations and will be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP).

Impact to Controlled Waters

- 8.88. There is the potential that materials within the Made Ground may pose a risk to controlled waters over a temporary short-term basis, during the disturbance and driving through Made Ground materials and through spillages and leakages of fuels/oils associated with construction plant.
- 8.89. During the redevelopment of the Site it will be necessary to implement measures to protect controlled waters. Measures may include but not be limited to; ensuring fuels and chemicals are suitably stored on site and bunded, ensuring spill kits are easily accessible and ensuring any contaminated material excavated is suitably managed stored on and covered by impermeable membranes.
- 8.90. These measures will be required of the Contractor under the Construction Design Management Regulations and will be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP).

- 8.91. A Piling Risk Assessment is anticipated to be a required to discharge pre-commencement and pre-occupation planning conditions relating preventing ground contamination being entrained to the Principal aquifer.

Operational Phase

Impact to Site End Users and Site Maintenance Workers

- 8.92. There is the potential that materials within the Made Ground may pose a risk to site end users, maintenance workers (through direct contact/ingestion and inhalation) and neighbours (horizontal migration followed by direct contact/ingestion and inhalation), over a permanent long-term basis. Although testing results and quantitative risk assessments to date show acceptable levels of contaminants in soils further post demolition ground investigation is recommended to confirm contaminant concentrations in uncharacterised areas of the site.
- 8.93. Following post demolition investigation quantitative risk assessments will be updated. This will be a planning requirement to discharge pre-commencement planning conditions relating to ground contamination.
- 8.94. Where updated quantitative risk assessments identify an elevated risk design and implementation of any remedial measures will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination. Requirements would be detailed in a Phase 3 Remediation report Strategy and records of completion included in a Phase 4 verification report.

Impact to Controlled Waters From Contamination

- 8.95. There is the potential that potential contaminants within the Made Ground and may pose a risk to controlled waters over a permanent long-term basis. Although testing results and quantitative risk assessments to date show the site soils as unlikely to be a source of contamination further post demolition ground investigation is recommended to confirm contaminant concentrations in uncharacterised areas of the site.
- 8.96. There is the potential that potential contaminants within the Made Ground and potential spills and leaks of oil and fuel from any plant rooms, may pose a risk to controlled waters over a permanent long-term basis.
- 8.97. Following post demolition investigation quantitative risk assessments will be updated. This will be a planning requirement to discharge pre-commencement planning conditions relating to ground contamination.
- 8.98. Where updated quantitative risk assessments identify an elevated risk design and implementation of any mitigation measures will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination.
- 8.99. Plant rooms and equipment will be designed to contain any spills through bunds and prevent infiltration into ground. It is currently proposed that plant will be housed in the basement which will have a concrete floor.

Impact to Water Supply Pipes

- 8.100. There is potential that potential contaminants in Made Ground soils may present a risk to water supply pipes (and the water within) over a permanent long-term basis, this may lead to human health impacts through drinking contaminated water.
- 8.101. A united utilities water supply pipe risk assessment should also be undertaken to further assess the risk of contaminants entering the water supply and ensure contaminant resistant water supply pipes to be used where required. This is expected to be a requirement of United Utilities.

Cumulative Effects

- 8.102. Although developments within the vicinity of the Site are occurring and are likely to occur, the magnitude of impact on ground conditions at the Site is Negligible. The probability of other nearby developments impacting the same receptors is also assessed as Minor and even if such effects were to arise the cumulative effect in combination with the Proposed Development would also be Low. As such risk is determined to be Minor-Negligible.

Residual Effects

- 8.103. The current assessment has identified potential minor adverse effects associated with ground conditions in the operational and construction phases.
- 8.104. Potential minor adverse conditions associated with ground conditions in the Construction phase are expected to be mitigated by the contractor under Health and Safety law, specifically the Construction Design Management Regulations as well as planning requirements. It's expected that associated risks would therefore be reduced to Negligible.
- 8.105. Similarly minor adverse conditions associated with ground conditions in the Operational phase are anticipated to be mitigated by further site assessment and recommendations for mitigation/remedial measures in accordance with current best practice. This process is a planning requirement. It's expected that following this process associated risks would be reduced to Negligible, and no residual effects would remain associated with ground conditions.
- 8.106. These residual impacts are shown in Table 8.4 below.

Table 8.4 – Residual Impacts Table

Description / Receptor	Pre-Mitigation Significance	Mitigation Method	Means Of Implementation	Post-Mitigation Significance and Duration
Construction				
Impact to Construction Workers, Neighbours and General Public Passing By	Minor Adverse	Contractor to implement measures to protect construction workers and neighbours from exposure to any contaminated material which is encountered.	To be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP) in accordance with CDM requirements.	Negligible
Impact to Controlled Waters	Minor Adverse	Contractor to implement measures to protect controlled waters. Undertake Piling Risk Assessment (PRA)	To be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP)) in accordance with CDM requirements. PRA required to discharge pre commencement planning conditions.	Negligible

Description / Receptor	Pre-Mitigation Significance	Mitigation Method	Means Of Implementation	Post-Mitigation Significance and Duration
Operational				
Impact to End Users, Maintenance Workers & Neighbours	Minor Adverse	Undertake updated quantitative risk assessments following post demolition ground investigation. Where an elevated risk is found design and implementation of remedial measures will be required.	Updated Phase 2 Ground Investigation report required. Phase 3 Remediation Strategy and Phase 4 Verification report may be required subject to findings of updated Phase 2. Required as part of planning conditions relating to contamination.	Negligible
Impact to Controlled Waters	Minor Adverse	Undertake updated quantitative risk assessments following post demolition ground investigation. Where an elevated risk is found design and implementation of remedial measures will be required. Building design to consider potential for leakages and spillages in plant areas.	Updated Phase 2 Ground Investigation report required. Phase 3 Remediation Strategy and Phase 4 Verification report may be required subject to findings of updated Phase 2. Required as part of planning conditions relating to contamination.	Negligible
Impact to Water Supply Pipes	Minor Adverse	Undertake United Utilities water supply pipe risk assessment and include contaminant resistant pipes where risk is identified.	Required to meet water utility providers requirements (United Utilities)	Negligible

Reference List

8.107. This ES Chapter has been prepared by reference to the following:

1	Department for Environment, Farming and Rural Affairs (1990) Environmental Protection Act: Part 2A
2	Department for Environment, Farming and Rural Affairs (Circular 01/2006) Environmental Protection Act: Part 2A (1990), Contaminated Land
3	Department for Communities and Local Government (2012) National Planning Policy Framework

4	Department for Communities and Local Government (2004) Planning Policy Statement 23: Planning and Pollution Control
5	Environment Agency (2020) Land Contamination Risk Management (LCRM)
6	Manchester City Council (2012) Manchester's Local Development Framework, Core Strategy Development Plan
7	The Construction (Design and Management) Regulations, April 2015
8	Curtins Phase 1 Preliminary Risk Assessment, Dated 28th September 2021, Ref. 077764-CUR-00-XX-DR-GE-001-V01 (Included in Appendix 8.1)
9	Curtins Pre Demolition Phase 2 Ground Investigation, Dated 05 May 2022, Ref. 077764-CUR-00-XX-RP-GE-001-V01 (Included in Appendix 8.2)

9. Climate Change

Introduction

- 9.1. This Chapter of the ES has been prepared by Ramboll and assesses the likely Climate Change impacts of the Proposed Development upon the Site and surrounding area. This Chapter also describes the methodology 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. This Chapter is accompanied by four technical appendices, a Climate Change Resilience (CCR) Assessment (Appendix 9.1), an In-Combination Climate Change Impacts (ICCI) Assessment (Appendix 9.2), an Embodied Carbon Review (Appendix 9.3) and the Operational Energy Assessment (Appendix 9.4).
- 9.2. This assessment has been undertaken by Thomas Mitchell MEnvSci (Hons) GradIEMA, checked by Ben Alston BSc (Hons) PIEMA, and approved by Natalia Fernandez Ferro BEng (Hons) MSc PIEMA on behalf of Ramboll.

Legislative and Policy Context

- 9.3. A review of relevant legislation and policy has been undertaken to ensure that the Proposed Development complies with national and local legislation and policy.

International Legislation

The Paris Agreement

- 9.4. The Paris Agreement which builds upon the United National Framework Convention on Climate Change (UNFCCC). The Paris agreement is a legally binding international treaty on climate change that was adopted by 196 Parties at COP 21 on 12 December 2015 and entered into force on 4 November 2016. The Paris agreement aims to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

Kyoto Protocol

- 9.5. The Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) was adopted on 11 December 1997 and ratified on 16 February 2005, there are 192 Parties signed up to the Kyoto Protocol. The protocol commits industrialized countries and economies in transition to limit and reduce GHG emissions in accordance with agreed individual targets. The protocol binds developed countries such as the United Kingdom and places a heavier burden on them under the principle of “common but differentiated responsibility and respective capabilities”. This is because the protocol recognizes that they are largely responsible for the current high levels of GHG emissions in the atmosphere.

National Legislation and Planning Policy

The Climate Change Act

- 9.6. The Climate Change Act 2008 (2050 Target Amendment) Order (2019) provides a framework to meet the UK's GHG emission reduction goals through legally binding national carbon emission caps within five-year periods. The Climate Change Act 2008 (2050 Target Amendment) Order notes that United Kingdom carbon emissions must be reduced by 100% (net zero) by 2050, relative to the 1990 baseline.
- 9.7. The Climate Change Act includes UK Carbon Budgets (2019) which set out the five-yearly, legally binding, carbon budgets from 2008 to 2037 to achieve net zero GHG emissions by 2050.

UK's Nationally Determined Contribution

- 9.8. On 12 December 2020, the UK communicated its new Nationally Determined Contribution (NDC) to the UNFCCC under the Paris Agreement to the UNFCCC. The NDC commits the United Kingdom to reducing economy-wide GHG emissions by at least 68% by 2030, compared to 1990 levels. As well as the NDC, the UK has published an Adaptation Communication and a Biennial Finance Communication. These are complementary to the NDC and also required under the Paris Agreement.

UK Climate Change Risk Assessment: Government Report

- 9.9. As required by the Climate Change Act 2008, the UK government has undertaken the third five-year assessment of the risks of climate change on the UK. This is based on the Independent Assessment of Climate Change Risk (2021), the statutory advice provided by the Climate Change Committee (CCC), commissioned by the UK government and devolved administrations. The risk assessment considers sixty-one UK-wide climate risks and opportunities cutting across multiple sectors of the economy.

National Planning Policy Framework (2021)

- 9.10. The revised National Planning Policy Framework (NPPF) summarises in a single document, the Government's planning policies for England and how these are expected to be applied. The NPPF was updated in July 2021, superseding the previous version published in February 2019.
- 9.11. The NPPF introduces the presumption in favour of sustainable development at the heart of the framework, where Section 2, Paragraph 11 states that local planning authorities should promote a sustainable pattern of development when creating plans, and assessing and determining development proposals. Paragraph 152 of the NPPF states that:

"the planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure."

Planning Practice Guidance (2019)

- 9.12. The Planning Practice Guidance (PPG) was published in March 2014 to provide more in-depth guidance to the NPPF. The PPG aims to make planning guidance more accessible, and to ensure that the guidance is kept up to date.
- 9.13. PPG: Climate Change (last updated in March 2019) advises how to identify suitable mitigation and climate adaptation measures to incorporate into the planning process. It states:

"effective spatial planning is an important part of a successful response to climate change as it can influence the emission of greenhouse gases... Planning can also help increase resilience to climate change impact through the location, mix and design of development."

A Green Future: Our 25 year Plan to Improve the Environment (2019)

- 9.14. The 25 Year Environment Plan, published in January 2018 and updated in 2019, sets out the actions the UK Government will take to help the natural world regain and retain good health. It sets out how the Government will work with communities and business to improve the environment over the next 25 years. The goals include clean air, minimising waste and mitigation against climate change.
- 9.15. The Plan states:

"We will take all possible action to mitigate climate change, while adapting to reduce its impact. We will do this by:

Continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases. The UK Climate Change Act 2008 commits us to reducing total greenhouse gas emissions by at least 80 per cent by 2050 when compared to 1990 levels.

Making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century. Implementing a sustainable and effective second National Adaptation Programme."

Regional Planning Policy

Greater Manchester Combined Authority Five-Year Environment Plan

- 9.16. Greater Manchester Combined Authority Five-Year Environment Plan. This plan sets out Greater Manchester Combined Authority's long-term environmental vision. The two main aims of the Plan in relation to climate include:

"Aim for our mitigation of climate change: For our Manchester city region to be carbon neutral by 2038 and meet carbon budgets that comply with international commitments; and

Aim for resilience and adaptation to climate change: To be prepared for the impacts of climate change and already be adapting to the future changes from any increase in climate shocks and stresses."

Local Planning Policy

Manchester City Council Core Strategy

- 9.17. Manchester City Council (MCC) Core Strategy 2012 – 2027 (2012) is a key document in the Manchester Local Plan that sets the out the long term strategic policies for Manchester's future development and forms the framework that planning applications will be assessed against.
- 9.18. The following policies of the Strategy are of particular relevance to climate:
- **Policy EN 4:** All development must follow the principle of the Energy Hierarchy, being designed:
 - Wherever possible new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies.
 - Where possible new development and retrofit projects will be used as a mechanism to help improve energy efficiency and provide low and zero carbon energy supplies to existing buildings.
 - Where appropriate new development and retrofit projects will be required to connect to and/or make contributions to low or zero carbon energy schemes and/or to incorporate provision to enable future connection to any existing / potential decentralised energy schemes.
 - The use of building materials with low embodied carbon in new development and refurbishment schemes.
 - **Policy EN 8:** All new development will be expected to be adaptable to climate change in terms of the design, layout, siting and function of both buildings and associated external spaces. In achieving developments which are adaptable to climate change developers should have regard to the following, although this is not an exhaustive list:
 - Minimisation of flood risk by appropriate siting, drainage, and treatment of surface areas to ensure rain water permeability

- Reduction in urban heat island effect through the use of Green Infrastructure such as green roofs, green walls, increased tree cover and waterways
- The need to control overheating of buildings through passive design
- The opportunity to provide linked and diverse green space to enhance natural habitats which will assist species adaptation
- **Policy EN 6:** Applications for residential development of 10 or more units and all other development over 1,000 m² will be expected as a minimum to meet the target shown below, unless this can be shown not to be viable. This should be demonstrated through an energy statement, submitted as part of the Design and Access Statement. Such a statement will be expected to set out the projected regulated energy demand and associated CO₂ emissions for all phases of the development.
 - Network development area: CHP/district heating anchor or connection or where not feasible, a 15% increase on Part L 2010;
 - Electricity intense buildings: +10% increase on Part L 2010;
 - Micro generation area: +15% increase on Part L 2010

Manchester City Council Sustainability Appraisal Report

- 9.19. The purpose of the MCC Sustainability Appraisal Report (2011) is to promote sustainable development through better integration of sustainability (economic, social and environmental) considerations in the preparation and adoption of plans. The SA was prepared to fulfil SA requirements arising from the Planning and Compulsory Purchase Act 2004, and Strategic Environmental Assessment (SEA) requirements arising from the SEA Directive.

Manchester Climate Change Framework 2020 – 2025

- 9.20. Manchester Climate Change Framework 2020 – 2025 (2020) is a strategy prepared jointly by the Manchester Climate Change Agency and Manchester Climate Change Partnership. With the aim of making Manchester a thriving, zero carbon, climate resilient city by 2038. Furthermore, the strategy includes four objectives to be met by 2025:
- Staying within our carbon budgets;
 - Climate adaptation and resilience;
 - Health and wellbeing; and
 - Inclusive, zero carbon and climate resilient economy.

Assessment Methodology and Significance Criteria

Assessment Scope

- 9.21. For assessing climate within this chapter, a combination of professional judgement, consideration of IEMA guidance, and technical experience has been used throughout the assessment.
- 9.22. Account has been taken of all applicable guidance and policy.

Technical Scope

- 9.23. The Environmental Impact Assessment (EIA) Regulations require an assessment of the likely significant effects of a project on climate and vice versa. A climate assessment in the context of EIA comprises three separate assessments:

- a) CCR Assessment – considers the vulnerability of the Proposed Development to extreme weather and projected climate change;
- b) ICCI Assessment – considers how extreme weather and projected climate change could have an additive effect on impacts identified by other technical disciplines as a result of the Proposed Development; and
- c) GHG Emissions Assessment – considers the potential for significant effects to arise from the Proposed Development in terms of GHG emissions during the demolition, construction, operational and end of life stages.

9.24. As outlined in Chapter 2: EIA Methodology and as required by the EIA Scoping Opinion (Appendix 2.1), an assessment of human health has been scoped out of the Environmental Statement (ES) on the basis that any impacts associated with human health will be considered within the Climate Change ES Chapter. Appendix 9.1 CCR Assessment has considered human health as a receptor and provided a description of existing design and mitigation measures, as well as additional mitigation measures required to account for climate change and extreme weather. Due to the nature of a climate assessment, it is necessary to define a separate study area, baseline and methodology for each assessment to ensure proportionate identification of effects and the potential significance of these.

Spatial Scope

Climate Change Resilience

9.25. The study area for the CCR assessment has not gone beyond the boundary of the Site. This is to capture the risks to the Proposed Development itself from climate change.

In-Combination Climate Change Impacts

9.26. The study area for the ICCI assessment has matched that of the relevant environmental discipline. This is to take account of the additive effect of climate change of each discipline cumulatively.

Greenhouse Gas Emissions

9.27. The study area for the GHG emissions assessment includes emissions arising from construction and operational activities within the boundary of the Site, emissions associated to transport and disposal of materials, and emissions associated to waste disposal and treatment.

Temporal Scope

Climate Change Resilience

9.28. The CCR assessment has considered the impacts of climate change during the demolition and construction stage (the Proposed Development works are anticipated to be undertaken over 2.5 years, considered to be short-term) and the operational stage (with an anticipated opening year of Q1 2025 and a 60-year design life, considered to be long-term).

9.29. Adverse effects associated with climate change are likely to be in the medium to long-term and so the focus within this assessment is on the operational stage, although extreme weather events during demolition and construction have also been considered. A future baseline has been used to ensure the potential effects associated with climate change are considered over the proposed design life of the Proposed Development (60 years for structures).

In-Combination Climate Change Impacts

9.30. The temporal scope for the ICCI assessment matches that of the relevant discipline. This is to take account of the fact the assessment looks at considers the additive effect of climate change on each discipline.

Greenhouse Gas Emissions

9.31. The GHG assessment has considered impacts arising during the demolition and construction stage (the development works are anticipated to be undertaken over 2.5 years, considered to be short-term) and the completed development stage (with an anticipated opening year of Q1 2025 and a 60-year design life, considered to be long-term).

Baseline Characterisation Method

Desk Study

9.32. In order to establish baseline climate change conditions in the study area, relevant data was reviewed and assessed.

Climate Change Resilience and In-Combination Climate Change Impacts

9.33. For the CCR and ICCI assessments, data has been obtained from the following sources:

- a) Met Office Historic Climate data; and
- b) UKCP18 climate projections.

Greenhouse Gas Emissions

9.34. For the GHG assessment, data was obtained from the following sources:

- c) Local Authority (MCC) and national carbon dioxide emissions statistics;
- d) UK Carbon Budgets (2019);
- e) Alberton House Energy Performance Certificate (2019 – 2029); and
- f) Alberton House Baseline Water Consumption (2022).

Demolition and Construction Assessment

Climate Change Resilience and In-Combination Climate Change Impacts

9.35. The approach for the demolition, construction and end of life stages assessment is the same as that for the operational stage and therefore covered below under the Operational Assessment sub-heading to avoid repetition.

Greenhouse Gas Emissions

9.36. The sources of GHG emissions associated with the demolition and construction stage of the Proposed Development included within the scope of the assessment are summarised in Table Table **Error! No text of specified style in document.**. GHG emissions are measured in CO2e. This is a measure used to compare the emissions from various GHG emissions based upon their global warming potential.

9.37. For each of the items presented within Table Table **Error! No text of specified style in document.**, input data provided by the Design Team, or reasonable assumptions made using professional judgement, has been used in calculations along with GHG emissions factors to estimate the GHG emissions associated to the construction and demolition stage.

Table **Error! No text of specified style in document.**1 Demolition and Construction GHG Assessment Scope

Item	Description	Input Data	Emissions Factors
Materials	GHG emissions which are emitted during the extraction and	Estimated volumes of construction materials.	eToolLCD EPDs

	manufacture of materials used in the construction works.	Alberton House Interim Stage 3 Embodied Carbon Review	Manufacturer data
Waste disposal	GHG emissions associated with the disposal of waste from demolition works, excavation works and construction process.	Volumes of waste arisings and RICS guidance (for demolition) Alberton House Interim Stage 3 Embodied Carbon Review	eToolLCD and RICS guidance.
On-site activities	GHG emissions from the direct on-site construction works	Estimated usage of construction plant using RICS guidance Alberton House Interim Stage 3 Embodied Carbon Review	eToolLCD
Transport	GHG emissions associated with vehicles transporting resources to and from the construction site.	Estimated usage of construction plant using RICS guidance. Alberton House Interim Stage 3 Embodied Carbon Review	eToolLCD

9.38. The GHG assessment will provide a professional judgement on whether GHG emissions associated with the Proposed Development are likely to be significant in the context of the Greater Manchester, buildings and UK carbon budgets.

Operational Assessment

Climate Change Resilience

9.39. The CCR assessment has considered how current and future climate trends in the study area could affect the Proposed Development. The CCR assessment has comprised:

- Identification of sensitive receptors;
- A review of current climate in the study area and future trends using data from the Met Office and UKCP18 and assessment of projected changes on climate variables;
- A qualitative assessment, based on professional judgement and IEMA guidance, of extreme weather and climate change impacts that could affect the Proposed Development during the demolition and construction, operational and end of live stages;
- A summary of design and mitigation measures to improve resilience to extreme weather and future climate trends; and
- Identification of any residual effects.

9.40. The CCR assessment has provided a judgement on whether any projected climate change impacts and associated effects are likely to be significant.

In-Combination Climate Change Impacts

9.41. Climate change may have an additive effect in respect of the individual environmental effects reported for other technical assessments undertaken as part of the EIA. These effects may individually be insignificant, but when combined or added, could result in significant effects requiring additional design and/or mitigation measures.

9.42. All chapters included as part of this ES, as well as the standalone technical planning reports have been considered for the ICCI assessment. This has been completed as a high-level overview providing the following:

- A review of current climate in the study area and future trends using data from the Met Office and UKCP138 and assessment of projected changes on climate variables;
- Review of potential effects associated with the Proposed Development which could be exacerbated by the impacts of climate change;

- Review of design and mitigation measures that have been identified;
- Qualitative assessment, based on professional judgement, of the implications of extreme weather and potential future climate change on effects identified by the other technical assessments during the demolition, construction and operational stages;
- Additional mitigation that may be required to address the effects of climate change; and
- Identification of any residual effects taking account of climate change.

9.43. The ICCI assessment has provided a qualitative judgement on whether climate change is likely to alter the significance of any of the effects identified in the impact assessment. To ensure the assessment is proportionate, individual negligible effects have not been considered in this assessment.

Greenhouse Gas Emissions

9.44. The GHG emissions assessment considers the GHG emissions associated with the operation of the Proposed Development based on typical annual consumption.

9.45. The sources of GHG emissions, associated with the operation of the Proposed Development, included within the scope of the assessment are summarised in Table 9.2. For each of the items presented within Table 9.2, input data provided by the Design Team, or reasonable assumptions made using professional judgement, have been used in calculations along with GHG emissions factors to estimate the GHG emissions associated to the operational stage.

Table 9.1 Operational Proposed Development GHG Assessment Boundaries

Item	Description	Input Data	Emissions Factors
Use of Proposed Development	GHG emissions users of the building.	RICS guidance Alberton House Operational Energy Assessment	Standard Assessment Procedure (SAP) 2012
Materials associated to repairs of Proposed Development	GHG emissions associated with the repair of the main building.	Estimated volumes of construction materials and average distance travelled by demolition and construction vehicles Alberton House Interim Stage 3 Embodied Carbon Review	Standard Assessment Procedure (SAP) 2012
Materials associated to maintenance of Proposed Development	GHG emissions associated with the maintenance of the main building.	Estimated volumes of construction materials and average distance travelled by demolition and construction vehicles Alberton House Interim Stage 3 Embodied Carbon Review	Standard Assessment Procedure (SAP) 2012
Proposed Development regulated energy demands	GHG emissions from regulated energy demands which includes heating, cooling, domestic hot water, auxiliary power (pumps, fans etc.) and lighting.	Kilowatt hours of energy consumption Alberton House Operational Energy Assessment	Standard Assessment Procedure (SAP) 2012
Proposed Development unregulated energy demands	GHG emissions from unregulated energy demands which includes plug-in systems not in the main building heating, ventilation, air conditioning (HVAC) and lighting.	Kilowatt hours of energy consumption Alberton House Operational Energy Assessment	Standard Assessment Procedure (SAP) 2012
Water consumption	GHG emissions associated with water consumption	Based on KPIs from the RICS guidance. Alberton House Water Calculation Design Notei	Standard Assessment Procedure (SAP) 2012
Waste associated to use of the	GHG emissions associated with the processing and transport of waste	BS5906:2005 Waste management in buildings	UK Government Greenhouse Gas

Item	Description	Input Data	Emissions Factors
Proposed Development	from the use of the Proposed Development	Greater Manchester Combined Authority recycling rates	Reporting: Conversion Factors 2021

- 9.46. The GHG assessment provides a professional judgement on whether GHG emissions associated with the Proposed Development are likely to be significant in the context of UK and MCC carbon budgets.

Assessment Criteria

General

Climate Change Resilience

- 9.47. The potential for climate change to affect the Proposed Development includes effects related to more extreme weather events, such as hotter summers, more intense storms, fluvial and surface water flooding, increased energy demand and damage to infrastructure.
- 9.48. The criteria used to assess if an effect is significant or not is set out in subsequent sub-sections. This is determined by consideration of the sensitivity of the receptor, magnitude of impact and scale of the effect. In considering the significance of an effect, consideration has been given to the duration of the effect, the geographical extent of the effect and the application of professional judgement.

In-Combination Climate Change Impacts

- 9.49. Climate change can also result in additive effects for the other topics assessed in the EIA. For example, drought conditions could increase the production of dust during construction, worsening local air quality. Similarly, higher temperatures could lead to failure of mitigation planting and re-instatement of soft landscaping features.
- 9.50. The basis of this assessment is to review the identified effects, the receptors and embedded mitigation measures for each discipline contained within the ES. Professional judgement has been used to assess whether projected climate change could increase the scale of the effects as identified by the disciplines, change the sensitivity of the receptors, or reduce the effectiveness of embedded mitigation measures.

Greenhouse Gas Emissions

- 9.51. The potential for the Proposed Development to contribute to GHG emissions levels is determined by the construction works of the Proposed Development, and the way the office space is used during operation.
- 9.52. For the construction stage, the GHG emissions have included embedded carbon in the materials used, as well as vehicle and plant emissions.
- 9.53. For the operational stage, GHG emissions have resulted from the annual operation, activities and services of the Proposed Development, upon completion. This has included the operational energy usage, such as heating and lighting.
- 9.54. In line with the updated IEMA guidance, the GHG assessment seeks to evaluate the significance of GHG emissions based on the whole life GHG emissions of the Proposed Development and how these align with the UK's net zero compatible trajectory. Therefore, the crux of significance for the GHG assessment is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050.

Receptor Sensitivity/Value Criteria

Climate Change Resilience

9.55. In line with IEMA guidance, the sensitivity of receptors to potential climate change impacts should be considered. In determining the sensitivity of receptors, the following factors have been considered as well as the value or importance of the receptor:

- Susceptibility of the receptor (e. g. ability to be affected by a change); and
- Vulnerability of the receptor (e. g. potential exposure to a change).

9.56. Table 9.3 provides the criteria for sensitive receptors to be 'scoped in' to this assessment.

Table 9.3 Summary of Sensitive Receptors

Receptor	Sensitivity
Buildings and infrastructure receptors (including equipment, materials and building operations)	High
Human health receptors (e. g. construction workers, occupants and site users)	High
Environmental receptors (e. g. integrity of landscape features, habitats and species)	High

9.57. To ensure a proportionate response, professional judgement has been used in determining sensitivity. The assessment focusses on receptors that are of high sensitivity. For example, human receptors are of high sensitivity because of the importance of their safety and welfare, whilst the Proposed Development itself is of high sensitivity because of the importance of the integrity of the building structures and fabric.

In-Combination Climate Change Impact

9.58. The ICCI assessment focuses on the potential for climate change to exacerbate the effects on receptors identified by individual environmental disciplines. For this reason, the sensitivity of the receptors is considered the same as that specified by the individual environmental assessments in the ES.

Greenhouse Gas Emissions

9.59. GHG emissions associated with the Proposed Development would be released to the global atmosphere. Therefore, the global atmosphere is considered to be the receptor and is considered to be of high sensitivity. In line with standard practice, the sensitivity of human and natural receptors is not considered within this assessment.

Impact Magnitude Criteria

Climate Change Resilience

9.60. The magnitude of impact has been assessed using professional judgement as a combination of both the probability (likelihood) of the impact and the consequence.

Probability of Climate Impact

9.61. In line with IEMA guidance, the probability of the impact refers to the likelihood of a climate impact occurring and having an impact on the Proposed Development, over its lifespan. This includes consideration of existing and embedded mitigation measures within the design. The probability of the impact is classified as unlikely, possible (as likely as not) and likely in accordance with the criteria set out in Table 9.4.

Table 9.4 - CCR Probability of Impact Criteria

Likelihood Level		
Unlikely	Possible (as likely as not)	Likely
The climate impact is not anticipated to occur during the lifetime of the Proposed Development (60 years)	The climate impact may occur a limited number of times during the lifetime of the Proposed Development (60 years)	The climate impact may occur multiple times during the lifetime of the Proposed Development (60 years)

Consequence of Climate Impact

- 9.62. In line with IEMA guidance, consequence takes into account the geographical extent of the effect, or the number of receptors affected (e. g. scale), the complexity of the effect, degree of harm to those affected and the duration, frequency and reversibility of effect. The consequence of the impact is classified as very low, low, medium, high and very high in accordance with criteria set out in Table 9.5.

Table 9.5 - CCR Impact Consequence Criteria

Consequence Level	Health and Safety	Public Perception	Disruption to Construction / Operations	Cost
Very High	Multiple fatalities	Extensive and prolonged negative reporting nationally and or public disputes with key stakeholders	Site-wide disruption lasting more than one week	>10 % of the Proposed Development construction value
High	Single fatality / multiple long-term injuries	Extensive and prolonged negative reporting national and/or public disputes with key stakeholders	Site-wide disruption lasting more than one day but less than one week	8-10 % of the Proposed Development construction value
Medium	Long-term injury or illness, prolonged hospitalisation or inability to work	Prolonged negative local and/or regional report	Partial disruption across elements of the site / Proposed Development lasting more than one day but less than one week	4-8 % of the Proposed Development construction value
Low	Lost time injury or medical treatment required, short term impact on persons affected	Negative local media reports and/or localised stakeholder concern over sustained period	Partial disruption across elements of the site / Proposed Development lasting less than a day	1-3 % of the Proposed Development construction value
Very Low	Minor harm or near miss	Short-term negative local stakeholder	Disruption to an isolated section of the site /	<1 % of the Proposed Development

Consequence Level	Health and Safety	Public Perception	Disruption to Construction / Operations	Cost
		reaction, e. g. isolated complaints	Proposed Development lasting less than a day	construction value

9.63. Climate change impacts have been assessed on the basis of the likelihood of impact and consequence as presented in matrix shown in Table 9.6.

Table 9.6 CCR Impact Magnitude Criteria

Consequence Level	Likelihood of Impact		
	Unlikely	Possible	Likely
Very High	Medium	High	High
High	Medium	High	High
Medium	Low	Medium	High
Low	Low	Low	Medium
Very Low	Low	Low	Medium

In-Combination Climate Change Impacts

9.64. In line with the IEMA guidance, the ICCI assessment has been completed based on the likely environmental effects as identified and defined by the individual environmental assessments in the ES. Additional mitigation has been identified to address the potential for climate change to exacerbate these environmental effects.

Greenhouse Gas Emissions

9.65. In line with IEMA guidance, it should be noted that the crux of significance for the GHG assessment is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050. Contextualisation of the carbon footprint of a scheme determines whether or not it supports or undermines the trajectory towards net zero. Therefore, the total GHG emissions associated with the Proposed Development have been compared to the carbon budget for the UK and for Manchester to provide national and regional context, as well as to the buildings sector carbon budgets. Additional mitigation has been identified to reduce GHG emissions where necessary.

Scale of Effect Criteria

Climate Change Resilience

9.66. As stated within IEMA guidance, there is no legislative definition of 'significance'. The significance of effects has therefore been assessed using professional judgement on the basis of the value/sensitivity of receptors against the magnitude of impact (see Table 9.6). On the basis that receptors are considered to be of high sensitivity, any impacts that are of high magnitude are 'significant' in EIA terms.

9.67. Additional mitigation has been identified for those climate resilience affects which are considered significant.

In-Combination Climate Change Impacts

9.68. As stated within IEMA guidance, there is no legislative definition of 'significance'. The ICCL assessment describes each potential climate impact and uses professional judgement to determine whether there is potential for climate change to increase the significance of the residual effect.

Greenhouse Gas Emissions

9.69. In line with the updated IEMA guidance, the scale of effects for the GHG assessment has been described as either major, moderate, minor, negligible or beneficial, as presented in Table 9.7.

Table 9.2 Greenhouse Gas Scale of Effect Criteria

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

Nature of Effect Criteria

Climate Change Resilience and In-Combination Climate Change Impacts

9.70. The nature of the effect has been described as either adverse, neutral or beneficial as follows:

- Beneficial – An advantageous effect to a receptor;
- Neutral – An effect that on balance, is neither beneficial nor adverse to a receptor; or

- Adverse – A detrimental effect to a receptor.

Greenhouse Gas Emissions

9.71. In line with the updated IEMA guidance, the nature of effects for the GHG assessment has been described as either adverse, negligible or beneficial, as follows:

- Adverse – when the project follows a 'business-as-usual' or 'do nothing' approach and is not compatible with the UK's net zero trajectory or follows accepted aligned practice or area-based transition targets. Similarly, a project that is compatible with the budgeted, science-based 1.5°C trajectory (in terms of rate of emissions reduction) and which complies with up-to-date policy and 'good practice' reduction measures to achieve that can also be considered to have an adverse effect.
- Negligible – when the project achieves emissions mitigation that goes substantially beyond the UK's GHG reduction trajectory, or substantially beyond existing and emerging policy compatible with that trajectory and has minimal residual emissions.
- Beneficial – when the project causes GHG emissions to be avoided or removed from the atmosphere. Only projects that actively reverse (rather than only reduce) the risk of severe climate change can be judged as having a beneficial effect.

Limitations and Assumptions

Climate Change Resilience

- 9.72. The assessment has relied on data provided by the Met Office and United Kingdom Climate Projections 18 (UKCP18). It has been assumed that these data sets have been reported correctly.
- 9.73. Climate projections can be used to determine likely future trends in climate conditions in the locality of the Proposed Development through its lifetime. The climate trends included in this assessment are based on a range of greenhouse gas (GHG) emissions scenarios which are subject to a degree of uncertainty. How the climate would react to different levels of emissions is also uncertain. There are three key sources of uncertainty within climate projections:
- Natural climate variability: either from natural external influences on climate (e. g. change in atmospheric particulates due to volcanic activity), or changes in the energy received from the sun;
 - Incomplete understanding of Earth system processes and their imperfect representation in climate models (modelling uncertainty); and
 - Uncertainty in future man-made emissions of GHGs and other pollutants.
- 9.74. However, the use of data for the high emissions scenario (RCP 8.5) is likely to have provided a more conservative assessment of potential climatic changes.

In-Combination Climate Change Impacts

- 9.75. The ICCI assessment has relied on the data and professional judgement of other chapters within this report.

Greenhouse Gas Emissions

- 9.76. The GHG emissions assessment presented in this chapter considers the demolition, construction, operational and end of life GHG emissions. It has been assumed that the design life of the Proposed Development is 60 years.

- 9.77. The typical GHG emissions associated with the demolition of the existing structures, which equates to 3.4 kgCO₂e/m² GIA, have been based on the gross internal area (GIA) of the existing building and the Royal Institution of Chartered Surveyors (RICS) guidance.
- 9.78. The GHG emissions included within the 'Identification and Evaluation of Significant Effects' section of this ES Chapter are sourced from Hilson Moran's, Interim Stage 3 Embodied Carbon Review (Appendix 9.3) , which contains a Lifecycle Assessment (LCA). Table 2 of the Embodied Carbon Review provides an overview of the building elements that are scope in and out of the assessment as per the RICS Professional Statement 'Whole life carbon assessment for the built environment'.
- 9.79. The GHG emissions were estimated based on:
- Generic market average values based on the eToolLCD 'United Kingdom LCI – V17 – Life Cycle Strategies' generic construction templates representative of the project's constructions. Additional construction templates were created in order to account for bespoke design solutions.
 - Environmental Product Declarations (EPD) were used for product specific items to provide potential reduction in carbon emissions.
 - Self-declaration Embodied carbon data received from manufacturers.
- 9.80. The Embodied Carbon Review (Appendix 9.3) was carried out following a number of project assumptions comprising:
- A GIA of 30,549 m² (RIBA Stage 2 Proposed Development floor area)
 - A piling reinforcement of 30 kg/m³.
 - An external wall insulation of 25mm of Expanded Polystyrene (EPS) insulation and a lowest floor insulation of 300mm of polyurethane (PUR).
 - All façade quantities for the baseline assessment were based on Cost Plan Rev2 received from RLB in October 2021.
- 9.81. Operational energy emissions for the existing Alberton House were calculated using the UK Government Carbon Conversion Factors and the operational energy usage as recorded in the Alberton House Energy Performance Certificate (2019 – 2029).
- 9.82. Operational energy emissions for the Proposed Development House were calculated using the UK Government Carbon Conversion Factors and the expected operational energy usage as recorded in Hilson Moran's, Alberton House Operational Energy Assessment (issued 27th May 2022) (Appendix 9.4), which is being submitted in support of this planning application. As part of the Operational Energy Assessment, low, medium and high energy consumption scenarios were presented. For the purposes of this ES Chapter, a worst case scenario has been used, assuming that the high energy consumption scenario will be required for the Proposed Development.
- 9.83. The Operational Energy Assessment (Appendix 9.4) has been based on the RIBA Stage 3 Proposed Development floor area of 31,032 m² GIA.
- 9.84. The operational traffic GHG emissions have been scoped out of this assessment. This is due to the Proposed Development having no on-site parking proposed and is therefore a car free development, whereas the existing development provides 20 parking spaces. In addition, as the existing and proposed buildings are both office space, the net change in terms of operational traffic emissions is minimal.
- 9.85. Estimated water consumption of the existing building and of the Proposed Development were provided by Hilson Moran. The GHG emissions associated with water consumption have been calculated using the UK

Government Carbon Conversion Factors. No water recovery has been assumed for the Proposed Development.

- 9.86. It is anticipated that the Proposed Development will be built under Part L (2013) of the Building Regulations, as the Proposed Development has been registered under Part L (2013) regulations instead 2022 regulations. The estimated annual energy consumption for the Proposed Development has been calculated using the Chartered Institution of Building Services Engineers (CIBSE) TM 54 methodology.
- 9.87. In line with the Institute of Environmental Management and Assessment (IEMA) guidance, emissions from the “do something” scenario, i.e. the construction and operation of the Proposed Development, have been compared with the “do nothing” scenario, i.e. the existing development remains in operation.
- 9.88. Waste arisings associated to the operation of the Proposed Development have been based on waste benchmarks presented within BS5906:2005 Waste management in Buildings - Code of Practice. Additionally, waste density conversion factors from the Environment Agency have been utilised as well as landfill diversion rates achieved by the Greater Manchester Combined Authority in 2021. It has been assumed that waste processing plans would be 10 miles away from the Proposed Development.

Baseline Conditions

- 9.89. To determine the likely future climate conditions there is a need to apply climate projections to understand what local conditions are likely to be during the lifetime of the Proposed Development. Climate projections are a prediction of the response of the climate system to a given concentration of GHG emissions or atmospheric GHG concentration scenarios. Good practice in the UK uses projections based on UKCP18. Therefore, the climate change resilience and ICCI assessments have set out the local climate baseline using Met Office Historic Climate Data and the future baseline using UKCP18.

Existing Baseline

Climate Change Resilience

- 9.90. This section contains information about average and extreme climate variables. The CCR assessment includes risks associated with changes in seasonal or annual average temperature and rainfall as well as risks associated with extreme events (e.g., intense rainfall events or heatwaves).
- 9.91. Average monthly climate data for Ringway climate station (nearest possible representative weather station) for the period 1991-2004 is summarised in Table 9.3.

Table 9.3 Average Monthly Climate Data for Ringway Climate Station

Month	Maximum temperature (°C)	Minimum temperature (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm)
January	6.57	1.19	10.39	45.78	68.39
February	7.06	1.20	9.84	66.05	53.44
March	9.42	2.69	5.71	102.76	57.72
April	12.08	4.40	2.07	140.25	54.01
May	15.74	7.37	0.16	186.81	60.26
June	18.48	10.14	0	181.09	65.25

Month	Maximum temperature (°C)	Minimum temperature (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm)
July	19.97	12.08	0	170.25	63.38
August	19.86	11.96	0	162.65	76.85
September	17.30	10.02	0	125.42	73.28
October	13.72	7.22	1.02	96.88	82.62
November	9.44	3.77	4.62	55.68	80.07
December	7.25	1.89	8.56	42.03	79.99
Annual	13.09	6.17	3.52	114.82	67.89

9.92. Table 9.9 shows the average monthly temperature for the Ringway climate station, north-west England and north Wales regions, and for the UK between 1991-2020. It shows that north-west and Wales England regions are slightly colder as compared to UK average, and the area around the Proposed Development is warmer as compared to both the north-west England and north Wales regions and rest of the UK.

Table 9.9 Maximum Average Temperatures

Season	Maximum Average Temperature (°C)		
	Ringway climate station	North-west England/ north Wales region	UK
Summer	19.43	18.53	18.87
Winter	6.96	6.94	6.95
Annual	13.09	12.66	12.79

Greenhouse Gas Emissions from the Proposed Development

- 9.93. The Site currently comprises a part 12 (ground +11), part 4 storey (ground +3) office building, which has an L-shaped footprint with its main entrance set back from the street edge of St Mary's Parsonage. The 12 storey (including ground) part of the building abuts the River Irwell on its north western edge and back of house servicing access is provided off St Mary's Parsonage along the Site's south western edge.
- 9.94. The operational GHG emissions of the existing development have been referred to as the "Do Nothing" scenario and are presented within this ES Chapter.
- 9.95. The existing development operational energy GHG emissions total 508.75 tCO₂e per year and the existing development water consumption GHG emissions total 0.76 tCO₂e per year.
- 9.96. Using the national carbon dioxide emissions statistics, which are published by the UK Government and contain historic emissions data covering 2007-2017 for all Local Authorities and Councils, it can be seen that the total emissions from MCC were 2,019.8 kt CO₂ in 2019. This total can be broken down into 716.8

kt CO₂ recorded from Transport, 599.1 kt CO₂ recorded from Domestic sources, 172.7 kt CO₂ recorded from the Public Sector, 362.0 kt CO₂ recorded from Commercial, and 172.7 kt CO₂ recorded from industry. In 2019, MCC achieved an approximate 60% reduction target compared to the 2005 baseline of 3,273.4 kt CO₂.

Carbon Budgets

- 9.97. The UK Government has set six-yearly carbon budgets which currently run until 2037. The UK national GHG emission fourth carbon budget of 1,950 Mt CO₂e covers the five-year period of 2023-2027. This carbon budget covers the majority to the demolition and construction period of the proposed development which is expected to be between 2022 and 2025 (30 months). As shown in Table 9.4 This carbon budget also covers the majority of the anticipated opening year of the Proposed Development in Q1 2025.

Table 9.4 UK and Greater Manchester third, fourth, fifth and sixth carbon budgets

Carbon Budget	National Carbon budget level (MtCO ₂ e)	Recommended Greater Manchester budget level (MtCO ₂ e)
Third (2018-2022)	2,544	36
Fourth (2023-2027)	1,950	17
Fifth (2028-2032)	1,725	8
Sixth (2033-2037)	965	Not released

- 9.98. The Tyndall Centre has provided recommended regional budgets for Greater Manchester, to ensure that Greater Manchester meets its target of being carbon neutral by 2038. This has been specified as 36 MtCO₂e for 2018-2022, 17 MtCO₂e for 2023-2027, and 8 MtCO₂e for 2028-2032. The regional carbon budgets for Greater Manchester have not been released beyond 2032. As the opening year of the Proposed Development is expected to be 2025, the Greater Manchester Fourth Budget for 2023 – 2027 has been used.
- 9.99. The Climate Change Committee's Sixth Carbon Budget provides data on projected emissions pathways for the buildings sector through to 2050. The Balanced Net Zero Pathway is aligned with reaching net zero by 2050 and is compatible with global efforts to limit the rise in global average temperature to well below 2°C and to pursue efforts to limit warming to 1.5°C, as set out in the Paris Agreement. Therefore, this emissions pathway has been used to calculate a projected carbon budget for the building sector, to contextualise the GHG emissions of the Proposed Development. This results in estimated projected carbon budgets of 456 MtCO₂e for 2018-2022; 419 MtCO₂e for 2023-2027; 334 MtCO₂e for 2028-2032; and 237 MtCO₂e for 2033-2037.

Future Baseline

Climate Change Resilience

- 9.100. Future climate projections are published by the Met Office through the UKCP18 website. Climate projections can be used to determine the likely future climate conditions in the locality of the Proposed Development through its operational life.
- 9.101. Climate projections take into account uncertainty due to natural variability and an incomplete understanding of the climate system and its imperfect representation in models. The projections do this by giving the probabilities of a range of possible outcomes, as estimated by scientific methodology. Good practice in the UK uses UKCP18 projections and published literature such as UK Climate Change Risk

Assessment 2022. UKCP18 includes projections of a range of climate variables for different time slices until the end of the century.

- 9.102. The probabilistic projections in the UKCP18 provide local low, central and high changes across the UK, corresponding to various probability levels (e. g. 10 %, 50 % and 90 %). There are also a number of Representative Concentrations Pathways (RCPs) available for UKCP18 with each pathway resulting in a different range of global mean temperature increases over the 21st century. IEMA Guidance recommends the use of RCP 8.5 at the 50 % percentile, for the 2080 timeline to ensure a suitably conservative approach.
- 9.103. The general climate trends for the UK are summarised within the UKCP18 Factsheet projections and have been provided in Table 9-5 below.

Table 9-5 UKCP18 Projections

Climate parameter	Description
Temperature	Median warming will be at least 1 to 2°C throughout the year across the whole of the UK. Winter cool days will warm by 1 to 1.5°C across the country, whilst temperatures on warmer winter days increase by less than 1°C. In summer both hot and cool days will warm by 1.5 to 2°C across England.
Precipitation	Changes in precipitation are uncertain but suggest slightly wetter winters and drier summers.
Wind	Wind speed is not available for the UKCP18 probabilistic projections as it did not pass the UKCP credibility checks. However global, regional, and derived projections are available. UKCP18 show a wide spread of future changes in mean surface wind speed. However, there is large uncertainty in projected changes in circulation over the UK and natural climate variability contributes much of this uncertainty. It is therefore difficult to represent regional wind extreme winds and gusts within regional climate models.
Humidity	Climate change will lead to an increase in humidity.

- 9.104. As shown in Figure UKCP18 projections indicate for North West England an increased likelihood of warmer, drier summers for the future assessment period in comparison to the UKCP18 baseline.
- 9.105. As shown in iFigure 9.1 UKCP18 projections indicate for North West England increased likelihood of milder, wetter winters for the future assessment period in comparison to the UKCP18 baseline. However, due to natural variability, some cold and dry winters will still occur.

Greenhouse Gas Emissions

- 9.106. The future GHG emissions associated to the use of energy, without the Proposed Development, would be the same as the existing baseline, 508.75 tCO₂e per year, until 2029 as per the Alberton House Energy Performance Certificate. It has been assumed that the existing GHG emissions associated to the water consumption of the existent building (0.76 tCO₂e per year) would be the same in the future.
- 9.107. Beyond 2029 it would be expected that the operational GHG emissions of the existing development would decrease. This is due to the amount of coal in the UK electricity mix has substantially decreased in recent years and low and zero carbon technologies (including photovoltaic, wind and nuclear energy) have been increasingly used to generate a larger portion of the UK's electricity. This has resulted in a reduction of

carbon emissions generated from grid supplied electricity. As the grid decarbonises, the lower amounts of emissions created through using on-Site electricity will result in a lower carbon impact.

- 9.108. Also, as the UK has committed to becoming net-zero carbon by 2050, that means GHG emissions would be dramatically reduced and any remaining emissions offset, neutralising environmental impact from GHG emissions and slowing climate change.

Identification and Evaluation of Significant Effects

Demolition and Construction

Climate Change Resilience

- 9.109. The Climate Change Resilience assessment relating to demolition and construction can be found within Appendix 9.1. The CCR assessment for the Proposed Development has not identified any significant effects for the demolition and construction stage once existing design mitigation measures are taken into account. All effects would be of low magnitude and would therefore be Not Significant.

In-Combination Climate Change Impacts

- 9.110. The In-Combination Climate Impacts and Effects assessment relating to construction can be found within Appendix 9.2. The ICCI assessment for the proposed development has identified no new significant effects as a result of climate change during the demolition and construction stage given existing design mitigation measures. Accordingly the conclusion of the assessment is that in-combination climate effects would be Not Significant.

Greenhouse Gas Emissions

- 9.111. The demolition and construction GHG emissions are reported in tonnes of CO₂e for the duration of the 2.5 years demolition and construction works. The results of the GHG assessment are summarised in
- 9.112. Table 9-6.

Table 9-6 Demolition and Construction GHG Assessment Summary

Item	Estimated GHG emissions (tCO ₂ e) during demolition and construction stage
Demolition	24
Construction materials	15,407
Construction site impacts	1,657
Transportation	2,515
Total	19,603

- 9.113. The demolition and construction stage of the Proposed Development is expected to contribute to 0.0000009% of the UK's third carbon budget for 2018-2022 and 0.00007% of Greater Manchester's carbon budget for 2018-2022. The demolition and construction of the Proposed Development is expected to contribute to 0.001% of the UK's fourth carbon budget for 2023-2027 and 0.115% of Greater Manchester's carbon budget for 2023-2027. The demolition and construction of the Proposed Development is expected to contribute 0.00001% of the projected building's sector carbon budget for 2018 to 2022 and 0.00467% of the projected buildings sector carbon budget for 2023 to 2027. All GHG

emissions contribute towards climate change, however, emissions from the Proposed Development are low in comparison the UK's, Greater Manchester's and buildings sector carbon budgets.

- 9.114. Due to the low percentage of the demolition and construction GHG emissions in comparison to the national, regional and projected buildings sector carbon budgets, the Proposed Development is assessed as compatible with the budgeted, science-based 1.5 °C trajectory in terms of rate of emissions reduction. As the Proposed Development's GHG emissions impacts have been partially mitigated at this stage and meet the applicable existing and emerging policy requirements, the Proposed Development is considered to be Minor Adverse (Not Significant).

Operation

Climate Change Resilience

- 9.115. In line with IEMA guidance, mitigation (including existing design measures) has been considered within this assessment and a summary of the significance has been provided. The assessment is based on professional judgment and presented in Appendix 9.1. The CCR assessment for the Proposed Development has not identified significant effects for the completed development stage taking into account embedded mitigation measures. All effects have been considered to be Not Significant.

In-Combination Climate Impacts

- 9.116. A summary of potential ICCI and effects during the completed development stage is provided in Appendix 9.2. The assessment is based on professional judgment informed by a review of individual technical assessments within the ES. The ICCI assessment for the Proposed Development has not identified any significant effects for the completed development stage once existing design mitigation measures are taken into account. All effects are therefore considered to be Not Significant.

Greenhouse Gas Emissions

- 9.117. The operational GHG emissions have been reported in tonnes of CO₂e for estimated design life (60 years) of the operational stage. However, it is expected GHG emissions would continue to decrease year on year, primarily due to increasing generation of electricity from sources that produce less GHG emissions and the development of cleaner fuels. The results of the GHG assessment have been summarised in Table 9.7.

Table 9.7 Operational Proposed Development GHG Assessment Summary

Item	Estimated GHG Emissions (tCO ₂ e) for the Expected Design Life (60 years)
Use, Maintenance, Repair, Replacement and Refurbishment	6,534
Energy Consumption	83,682
Water Consumption	127
Waste	2,548
TOTAL for Proposed Development	92,891

- 9.118. The operation of the Proposed Development is expected to contribute 0.00022% of the UK's carbon budget for 2023-2027, 0.00045% of the UK's carbon budget for 2028-2032 and 0.00080% of the UK's carbon budget for 2033-2037. The operation of the Proposed Development is expected to contribute 0.02504% of Greater Manchester's carbon budget for 2023-2027, 0.09676% of Greater Manchester's

carbon budget for 2028-2032 and 0.19352% of Greater Manchester's carbon budget for 2033-2037. The operation of the Proposed Development is expected to contribute 0.00101% of the projected buildings sector carbon budget for 2023 to 2027, 0.00232% of the project buildings sector carbon budget for 2028-2032, and 0.00327% of the project buildings sector carbon budget for 2033-2037.

Table 9.8 Operational Net GHG Assessment Summary

Item	Estimated Operational GHG Emissions (tCO ₂ e) for the Expected Design Life (60 years)	Estimated Operational GHG Emissions (tCO ₂ e/m ²) for the Expected Design Life (60 years)
TOTAL for Proposed Development	92,891	2.99
TOTAL for existing building	30,571	4.94
TOTAL net emissions (Proposed Development – existing building)	62,366	n/a

- 9.119. When comparing the “do something” scenario against the “do nothing” scenario, i.e. the operational emissions of the existing development, the net contribution of the Proposed Development during operation is expected to contribute to 0.00014% of the UK's carbon budgets for 2023-2027, 0.00030% of the UK's carbon budget for 2028-2032, and 0.00054% of the UK's carbon budget for 2033-2037. The operation of the Proposed Development is expected to contribute to 0.01605% of Greater Manchester's carbon budget for 2023-2027, 0.06492% of Greater Manchester's carbon budget for 2028-2032 and 0.12983% of Greater Manchester's carbon budget for 2033-2037. The operation of the Proposed Development is expected to contribute 0.00065% of the projected buildings sector carbon budget for 2023 to 2027, 0.00155% of the project buildings sector carbon budget for 2028-2032, and 0.00219% of the project buildings sector carbon budget for 2033-2037.
- 9.120. The IEMA guidance indicates GHG emissions should be considered as ‘significant’ if they are not compatible with the budgeted, science-based 1.5°C trajectory in terms of rate of emissions reduction and do not comply with up-to-date policy and ‘good practice’ reduction measures.
- 9.121. As part of the Proposed Development design, the following equipment efficiency measures have been included at this stage (see Alberton House Energy Strategy, which supports this planning application, for further information):
- High efficiency artificial lighting
 - The efficiency performance of mechanical has been carefully assessed and selected to exceed Part L2A:2013 minimum compliance requirements.
 - Smart meters are planned for the development to enable a demand-led response
 - Use of highly efficient Air Source Heat Pumps (ASHPs) and of highly efficient Water Source Heat Pumps (WSHPs) for the hot water to work in parallel with the ASHP.
 - The office spaces are cooled by Fan Coil Units (FCU) with very efficient terminal specific fan powers (SFP) that should incorporate variable speed fans.
- 9.122. Additionally, regarding operational emissions for embodied carbon and building emissions, the amount of coal in the UK electricity mix has substantially decreased in recent years and low and zero carbon

technologies (including photovoltaic, wind and nuclear energy) have been increasingly used to generate a larger portion of the UK's electricity. This has resulted in a reduction of carbon emissions generated from grid supplied electricity. As the grid decarbonises, the lower amounts of emissions created through using on-site electricity will result in a lower carbon impact. Also, as the UK has committed to becoming net-zero carbon by 2050, that means GHG emissions would be dramatically reduced and any remaining emissions offset, neutralising environmental impact from GHG emissions and slowing climate change. Table 9 16 demonstrates that the Proposed Development's GHG emissions impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. Therefore, the Proposed Development is fully in line with measures necessary to achieve the UK's trajectory towards net zero.

Table 9-9 Energy performance targets for buildings targeting net zero carbon for operational energy

Scope	Metric	Interim Targets			Paris Proof Target	Proposed Development		
		2020-2025	2025-2030	2030-2035	2035-2050	Low	Central	High
Whole building energy	kWh/m ² (NLA)/ year	160	115	90	70	121.38	190.87	292.57
	kWh/m ² (GIA)/ year	130	90	70	55	87.82	138.09	211.67
Base building energy	kWh/m ² (NLA)/ year	90	70	55	35	45.07	65.67	99.6
	kWh/m ² (GIA)/ year	70	55	45	30	32.61	47.51	72.06
Tenant energy	kWh/m ² (NLA)/ year	70	45	35	35	33.07	66.79	119.34
NLA = Net Lettable Area, GIA = Gross Internal Area								

9.123. Due to the low percentage of the GHG emissions in comparison to the national, regional and projected buildings sector carbon budgets, the Proposed Development is assessed as compatible with the budgeted, science-based 1.5 °C trajectory in terms of rate of emissions reduction. Furthermore, as the Proposed Development's GHG emissions impacts have been partially mitigated at this stage but meet the applicable existing and emerging policy requirements and would fully contribute to decarbonisation in line with MCC's and UK's policy goals for projects of this type, the Proposed Development is considered to be Minor Adverse (Not Significant).

9.124. Contextualisation of the Proposed development GHG emissions against carbon budgets

9.125. The total GHG emissions from the demolition, construction, operation and end of life of the Proposed Development, based on a 60-year design life, is 114,725 tCO₂e.

9.126. Table 9-10 shows a contextualisation of the results of the net GHG emissions assessment for all stages of the Proposed Development against the national, regional and sectoral carbon budgets.

Table 9-10 Contextualisation of estimated net GHG emissions for all stages of the Proposed Development against the UK, Greater Manchester and building sector carbon budgets

Item	2018-2022 (3rd Carbon Budget)	2023-2027 (4th Carbon Budget)	2028-2032 (5th Carbon Budget)	2033-2037 (6th Carbon Budget)
Estimated Net GHG emissions (tCO ₂ e)	24	22,308	5,193	5,193
UK Carbon Budget (tCO ₂ e)	2,544,000,000	1,950,000,000	1,725,000,000	965,000,000
Percentage of UK Carbon Budget	0.000001	0.0001%	0.0002%	0.0005%
Building's Sector Projected Budget (tCO ₂ e)	456,348,943	419,484,776	334,204,192	236,731,666
Percentage of Buildings Sector Projected Budget	0.000005	0.005%	0.0016%	0.0022%
Greater Manchester Carbon Budget (tCO ₂ e)	36,000,000	17,000,000	8,000,000	4,000,000
Percentage of Greater Manchester Carbon Budget	0.000065%	0.0161%	0.0341	0.0298

- 9.127. When comparing the “do something” scenario against the “do nothing” scenario, i.e. the operational emissions of the existing development, the net contribution of the proposed development during demolition, construction and operation is expected to contribute to 0.001% of the UK’s carbon budgets for 2023-2027, 0.0002% of the UK’s carbon budget for 2028-2032, and 0.0005% of the UK’s carbon budget for 2033-2037. The demolition, construction and operation of the Proposed Development is expected to contribute 0.005% to the buildings sector carbon budget for 2023 to 2027, 0.0016% for 2028 to 2032, and 0.0022% for 2033 to 2037. The demolition, construction and operation of the Proposed Development expected to contribute to 0.0161% of Greater Manchester’s carbon budget for 2023-2027, and 0.0341% of Greater Manchester’s carbon budget for 2028-2032, and 0.0298% of the Greater Manchester’s carbon budget for 2033-2037.
- 9.128. Due to the low percentage of the demolition, construction and operation net GHG emissions in comparison to the national, regional and projected buildings sector carbon budgets and embedded mitigation measures, the Proposed Development is assessed as compatible with the budgeted, science-based 1.5 °C trajectory in terms of rate of emissions reduction. Furthermore, as the Proposed Development’s GHG emissions impacts have been partially mitigated at this stage but meet the applicable existing and emerging policy requirements and would fully contribute to decarbonisation in line with MCC’s and UK’s policy goals for projects of this type, the Proposed Development is considered to be Minor Adverse (Not Significant).

Mitigation Measures

- 9.129. The ES chapter has provided details of the proposed mitigation as detailed in other ES chapters for both the construction and operational stages as well as any additional mitigation that may be required as a result of the CCR, ICCI and GHG assessments.

Climate Resilience Assessment

- 9.130. Good practice and potentially embedded measures that would be considered during the demolition and construction stage have been included within Table 1 of Appendix 9.1: Climate Change Resilience Assessment. A non-exhaustive list of mitigation measure has also been included below:

- The contractor/s would conduct a high-level risk assessment of severe weather impacts, considering the UKCP18, on the construction process to inform any required mitigation. Any receptors and/or construction related operations and activities potentially sensitive to severe weather events would be considered in the assessment.
- The contractors would use a short to medium range weather forecasting service from the Met Office (or other approved meteorological data and weather forecast provider), to inform short to medium term programme management, environmental control and impact mitigation measures.
- The main contractors' Environmental Management System (EMS) would consider all measures deemed necessary and appropriate to manage severe weather events and would, as a minimum, cover training of personnel and prevention and monitoring arrangements. As appropriate, construction method statements would also consider severe weather events where risks have been identified.
- The contractors would, as far as is reasonably practicable, use construction materials with superior properties that offer increased tolerance to fluctuating temperatures, heavy precipitation and other extreme weather events such as storms.

9.131. Good practice and potentially embedded measures that would be considered during the operation stage have been included within Table 2 of Appendix 9.1: Climate Change Resilience Assessment.

In-combination Climate Change Impacts

9.132. Good practice and potentially embedded measures that would be considered include minimising dust pollution and airborne contaminants as far as reasonably practicable such as through effective transportation and storage of materials, for example dampening down of dusts particularly where material is stockpiled and adopting a monitoring regime.

Greenhouse Gas Emissions from the Proposed Development

9.133. Potential mitigation measures for GHG emissions during the construction stage could include:

- A requirement for energy efficient, low carbon design in buildings/new assets using low carbon materials to reduce GHG emissions from embodied carbon in materials. Including the following as explored within the Interim Stage 3 Embodied Carbon Review (Appendix 9.3):
 - Best practice options for concrete, reinforcement steel and structural steel;
 - The use of glazed terracotta or brick slips as façade materials; and
 - The use of anhydrite screed or screed board.
- Follow the embodied carbon reduction structure (do not build, build less, design clever, construct efficiently and offset and sequester) for working through and identifying potential opportunities and interventions from early stage.
- Measures to reduce construction waste arisings through sustainable procurement, designing out waste, recycling onsite, reusing landfill materials, balancing the cut and fill and setting waste targets in order to minimise GHG emission from the transportation of waste.
- Minimising water use during construction.
- Carbon offset payments to ensure the demolition and construction is net zero.
- Potential mitigation measures for GHG emissions during the operational stage could include:

- Applying measures to reduce operational waste, such as providing adequate provision for internal and external waste storage and setting waste recycling targets to reduce GHG emissions from the transportation of waste.
- Reducing GHG emissions from surface access journeys by encouraging and facilitating public transport use and increasing the awareness of cycling options.
- Identifying the use of renewable energy resources and incorporating efficient energy supply and low carbon technologies. Including the following as explored within the Proposed Development Energy Strategy:
 - LED lights in lift cars; and
 - Standby/hibernation mode availability.

Cumulative Effects

Climate Change Resilience

- 9.134. The climate resilience effects identified as a result of the demolition and construction and operational stages are limited in their spatial extent to the Site boundary and the Proposed Development in isolation. Therefore, cumulative climate change resilience effects with other schemes have been considered.

In-combination Climate Change Impacts

- 9.135. The climate change chapter has considered potential in-combination cumulative climate impacts affecting environmental receptors identified by other topic chapters. It includes consideration of existing potential impacts on environmental receptors that could be intensified by climate change as well as environmental impacts that could potentially emerge in the future.
- 9.136. The ICCI's resulting from the demolition and construction, and operational stages would be limited in their spatial extent to the relevant technical assessments in the ES for the Proposed Development. Therefore, ICCI cumulative effects have not been considered with other cumulative schemes.

Greenhouse Gas Emissions from the Proposed Development

- 9.137. The atmospheric concentration of GHGs and resulting effect on climate change is affected by all sources and sinks globally, anthropogenic and otherwise. As GHG emission impacts and resulting effects are global rather than affecting one localised area, the approach to cumulative effects assessment for GHGs differs from that for many EIA topics where only projects within a geographically bounded study area of, for example, 10km would be included.
- 9.138. Therefore, effects of GHG emissions from specific cumulative projects have not been individually assessed. However, GHG emissions, have been contextualised within the UK and Manchester City Council and relevant sector-based carbon budgets.

Residual Effects

- 9.139. The CCR and ICCI assessments for the demolition and construction, and operational stages of the Proposed Development have not identified significant effects, taking into account embedded mitigation measures.
- 9.140. Due to the low percentage of the demolition and construction GHG emissions in comparison to the national, regional and projected buildings sector carbon budgets and incorporation of the proposed mitigation measures, which include a net zero carbon offset payment, the Proposed Development is assessed as compatible with the budgeted, science-based 1.5 °C trajectory in terms of rate of emissions reduction. Therefore, whilst all GHG emissions are significant (due to their cumulative contribution to climate change), the scale of effect of the Proposed Development on the likelihood of avoiding severe

climate change, aligning with a science-based 1.5 °C compatible trajectory and achieving net zero by 2050, is considered to be Minor Adverse (not significant).

- 9.141. Due to the low percentage of the operational GHG emissions in comparison to the national, regional and projected buildings sector carbon budgets, the Proposed Development is assessed as compatible with the budgeted, science-based 1.5 °C trajectory in terms of rate of emissions reduction. Furthermore, as the Proposed Development's GHG emissions impacts have been partially mitigated at this stage but meet the applicable existing and emerging policy requirements and would fully contribute to decarbonisation in line with MCC's and UK's policy goals for projects of this type, the Proposed Development is considered to be Minor Adverse (Not Significant).

Table 9.17 – Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Demolition and Construction			
Climate Change Resilience			
Buildings	Heavy rainfall leading to stockpile erosion and siltation of drainage assets	None required	Not significant
Buildings	Heavy rainfall leading to inability to undertake demolition / construction activity and programme delays	None required	Not significant
Environmental and human health receptors	Heavy rainfall spreading contaminated soil during ground excavations	None required	Not significant
Human Health	Heatwaves and high temperatures affecting site personnel welfare	None required	Not significant
Human Health	Heatwaves and high temperatures leading to increased dust generation	None required	Not significant
Buildings	Heatwaves and high temperatures leading to inability to undertake demolition / construction activity and programme delays	None required	Not significant
Buildings	Strong winds leading to damage of stockpiles	None required	Not significant
Human Health	Strong winds leading to site personnel and nearby pedestrian harm	None required	Not significant
Human Health	Strong winds affecting on-site crane operations	None required	Not significant
Buildings	Strong winds leading to damage to site hoardings	None required	Not significant
In-Combination Climate Change Impact			

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Townscape and Visual Impact Assessment	Potential interactions of climate change with the identified townscape and visual effects	None required	Not significant
Built Heritage	Potential interactions of climate change with the identified built heritage effects	None required	Not significant
Ground Conditions	Potential interactions of climate change with the identified ground conditions effects	None required	Not significant
Greenhouse Gas Emissions			
Global Climate	GHG Emissions	Carbon offset payments to ensure the demolition and construction is net zero.	Minor Adverse (not significant)
Operational			
Climate Change Resilience			
Buildings	Increased frequency of intense rainfall leading to overwhelming of drainage assets and potential flooding	None required	Not significant
Buildings	Wetter winters and increased frequency of intense rainfall leading to elevated groundwater levels and potential flooding	None required	Not significant
Building and human health receptors	River level rise leading to flooding	None required	Not significant
Environment	Drought conditions affecting landscape design and planting	None required	Not significant
Building	Increased mean temperatures and heatwaves leading to failure of M&E equipment	None required	Not significant
Human Health	Increased mean temperatures and heatwaves leading to overheating in residential element	None required	Not significant
Building and Human Health	Drought conditions affecting potable water availability	None required	Not significant
Human Health	Windstorm events and extreme winds leading to damage to the development	None required	Not significant
In-Combination Climate Change Impact			

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Townscape and Visual Impact Assessment	Potential interactions of climate change with the identified townscape and visual effects	None required	Not significant
Built Heritage	Potential interactions of climate change with the identified built heritage effects	None required	Not significant
Ground Conditions	Potential interactions of climate change with the identified ground conditions effects	None required	Not significant
Greenhouse Gas Emissions			
Global Climate	GHG Emissions	The Proposed Development's GHG emissions impacts have been partially mitigated at this stage but meet the applicable existing and emerging policy requirements and would fully contribute to decarbonisation in line with MCC's and UK's policy goals for projects of this type.	Minor Adverse (Not significant)

Reference List

9.142. This ES Chapter has been prepared by reference to the following:

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Figure 9.1 Summer Mean Temperature Projected for North West England 2060-2079 (RCP 8.5 and 50th percentile)

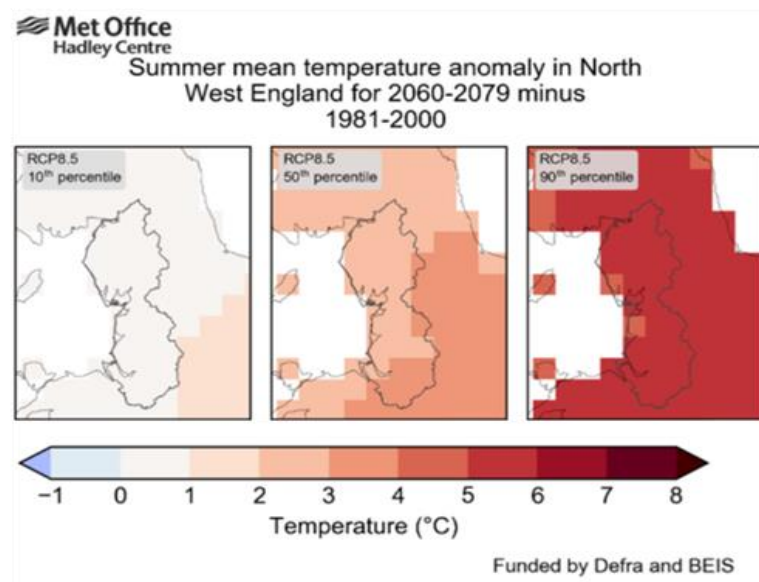


Figure 9.2 Summer Precipitation Projected for North West England 2060-2079 (RCP 8.5 and 50th percentile)

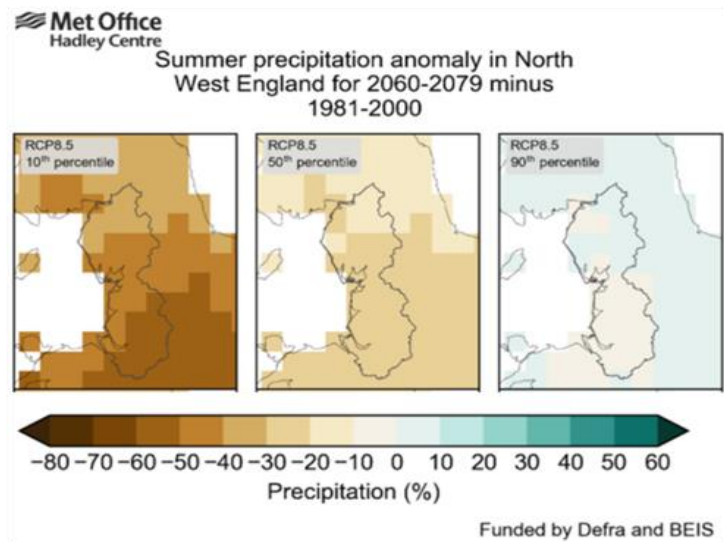


Figure 9.3 Winter Mean Temperature Projected for North West England 2060-2079 (RCP 8.5 and 50th percentile)

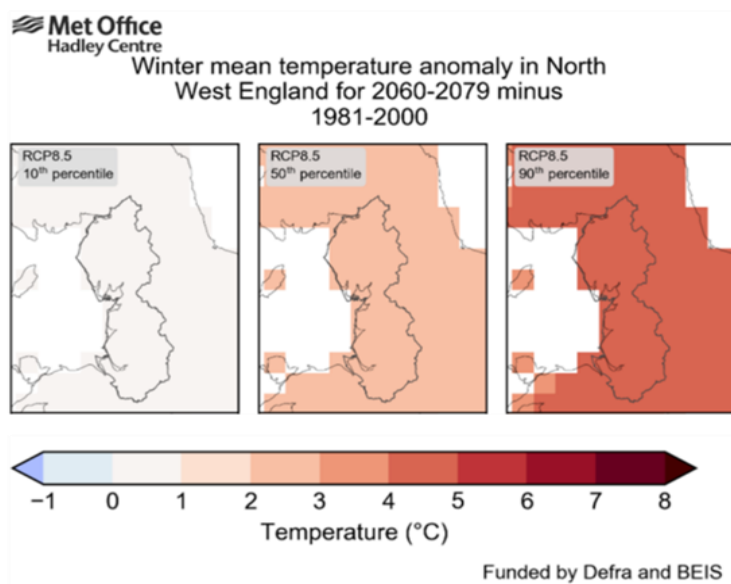
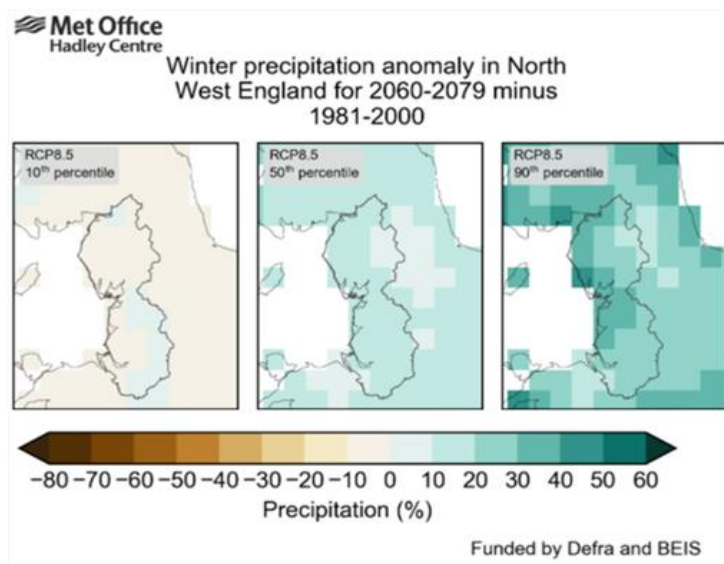


Figure 9.4 Winter Precipitation Projected for North West England 2060-2079 (RCP 8.5 and 50th percentile)



10. Summary of Residual Effects

10.1. This section contains a summary of the residual effects of the Proposed Development.

Townscape and Visual Impact

Table 10.1 – TVIA Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

(Note. Where townscape (T) and visual receptor (VR) significance of effect values are the same, one shared value is provided. Where they are different, a value is provided for both categories. Abbreviations: Mod = Moderate; Min = Minor ; Neg = Negligible)

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
1 Footbridge over River Irwell				
Sensitivity (VR)	Low	Not Significant	Ramada Plot 28	Minor beneficial
Sensitivity (T)	Low			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial			
Significance of effect	Minor Beneficial			
2 Bridge Street				
Sensitivity (VR)	Low	Not Significant	Kendals & Fraser 39 Deansgate	Minor beneficial
Sensitivity (T)	Low			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial			
Significance of effect	Minor Beneficial			
3 Quay Street				
Sensitivity (VR)	Low	Not Significant	None	Minor beneficial
Sensitivity (T)	Low			
Magnitude (VR)	Mod Beneficial			
Magnitude (T)	Mod Beneficial			
Significance of effect	Minor Beneficial			

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
4 Trinity Bridge				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Low Mod Beneficial Min Beneficial Minor Beneficial	Not Significant (T) Significant (VR)	None	Minor beneficial
5 Riverside Walkway (West side)				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Low Medium Low Mod Beneficial Mod Beneficial Mod Beneficial	Significant	T2 St Johns Trinity Islands	Moderate beneficial
6 Blackfriars Bridge				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Medium Mod Beneficial Mod Beneficial Mod Beneficial	Significant	T2 St Johns Trinity Islands	Moderate beneficial
7 Cathedral Approach				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Medium Min Beneficial Min Beneficial Min Beneficial	Not Significant	T2 St Johns Trinity Islands Ramada Renaissance	Negligible beneficial
8 Parsonage Lane				
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect (VR) Significance of effect (T)	Low Medium Min Beneficial Min Beneficial Neg Beneficial Min Beneficial	Not Significant	None	Neg beneficial Min beneficial
9 Parsonage Gardens				

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Medium Mod Beneficial Mod Beneficial Mod Beneficial	Significant	Kendals & Fraser	Mod beneficial
10 Motor Square Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Medium Medium Mod Beneficial Mod Beneficial Mod Beneficial	Significant	Kendals & Fraser	Minor beneficial
11 Crown Court Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	No change	Not Significant	Kendals & Fraser	No change
12 Princess Street Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	No change	Not Significant	None	No change
13 St Ann Street Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	High High Min Beneficial Min Beneficial Mod Beneficial	Significant	Kendals & Fraser	Minor beneficial
14 St Ann Square Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	High High Min Beneficial Min Beneficial Min Beneficial	Not Significant	Kendals & Fraser	Negligible beneficial

Location (/ Receptor)	Development Only (included Residual Impact)	EIA significance	Relevant Cumulative Scheme	Cumulative Effect
15 New Quay Street Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Low Low Mod Beneficial Mod Beneficial Min Beneficial	Not Significant	Ramada Renaissance	Minor beneficial
16 Bridge Street Sensitivity (VR) Sensitivity (T) Magnitude (VR) Magnitude (T) Significance of effect	Low Medium Neg Beneficial Neg Beneficial Neg Beneficial	Not Significant	None	Negligible beneficial

Built Heritage

Table 10.2 – Built Heritage Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Construction			
3 St Marys Parsonage (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
31-33 King Street West (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
Arkwright House (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
National Buildings (Grade II)	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)
St Marys Parsonage Conservation Area	Moderate adverse	Construction methodology and programme	Moderate adverse (temporary)

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Albert Bridge House (non-designated heritage asset)	Minor adverse	Construction methodology and programme	Minor adverse (temporary)
Operational			
3 St Marys Parsonage (Grade II)	Moderate beneficial	n/a	Moderate beneficial
31-33 King Street West (Grade II)	Moderate beneficial	n/a	Moderate beneficial
Arkwright House (Grade II)	Minor adverse	Public benefits and responsive design approach	Minor adverse
National Buildings (Grade II)	Minor adverse	Public benefits and responsive design approach	Minor adverse
98-116, Deansgate (Grade II)	Minor adverse	Public benefits and responsive design approach	Minor adverse
Albert Bridge (Grade II)	Minor beneficial	n/a	Minor beneficial
Former Hydraulic Power Station (Grade II)	Neutral	n/a	Neutral
Masonic Temple (Grade II)	Minor beneficial	n/a	Minor beneficial
Sawyers Arms (Grade II)	Neutral	n/a	Neutral
John Rylands Library (Grade I)	Neutral	n/a	Neutral
105-113 Deansgate (Grade II)	Neutral	n/a	Neutral
4-14 King Street (Grade II)	Neutral	n/a	Neutral
Haywards Building (Grade II)	Neutral	n/a	Neutral
Blackfriars Bridge (Grade II)	Minor beneficial	n/a	Minor beneficial
The Crown Tavern (Grade II)	Neutral	n/a	Neutral
Parsonage Gardens CA	Neutral (balanced)	Public benefits and responsive design approach	Neutral (balanced)
Deansgate / Peter Street CA	Negligible	n/a	Negligible
St Ann's Square CA	Negligible	n/a	Negligible

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Albert Bridge House NDHA	Minor-to-moderate adverse	Public benefits and responsive design approach	Minor adverse
55-69 Bridge Street NDHA	Neutral	n/a	Neutral
Bridge Tavern NDHA	Neutral	n/a	Neutral

Ground Conditions

Table 10.3 – Ground Conditions Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Description / Receptor	Pre-Mitigation Significance	Mitigation Method	Means Of Implementation	Post-Mitigation Significance and Duration
Construction				
Impact to Construction Workers, Neighbours and General Public Passing By	Minor Adverse	Contractor to implement measures to protect construction workers and neighbours from exposure to any contaminated material which is encountered.	To be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP) in accordance with CDM requirements.	Negligible
Impact to Controlled Waters	Minor Adverse	Contractor to implement measures to protect controlled waters. Undertake Piling Risk Assessment (PRA)	To be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP)) in accordance with CDM requirements. PRA required to discharge pre commencement planning conditions.	Negligible

Description / Receptor	Pre-Mitigation Significance	Mitigation Method	Means Of Implementation	Post-Mitigation Significance and Duration
Operational				
Impact to End Users, Maintenance Workers & Neighbours	Minor Adverse	Undertake updated quantitative risk assessments following post demolition ground investigation. Where an elevated risk is found design and implementation of remedial measures will be required.	Updated Phase 2 Ground Investigation report required. Phase 3 Remediation Strategy and Phase 4 Verification report may be required subject to findings of updated Phase 2. Required as part of planning conditions relating to contamination.	Negligible
Impact to Controlled Waters	Minor Adverse	Undertake updated quantitative risk assessments following post demolition ground investigation. Where an elevated risk is found design and implementation of remedial measures will be required. Building design to consider potential for leakages and spillages in plant areas.	Updated Phase 2 Ground Investigation report required. Phase 3 Remediation Strategy and Phase 4 Verification report may be required subject to findings of updated Phase 2. Required as part of planning conditions relating to contamination.	Negligible
Impact to Water Supply Pipes	Minor Adverse	Undertake United Utilities water supply pipe risk assessment and include contaminant resistant pipes where risk is identified.	Required to meet water utility providers requirements (United Utilities)	Negligible

Climate Change

Table 10.4 – Climate Change Summary of Receptors, Likely Significant Effects, Mitigation Measures, and Residual Effects

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Demolition and Construction			
Climate Change Resilience			
Buildings	Heavy rainfall leading to stockpile erosion and siltation of drainage assets	None required	Not significant
Buildings	Heavy rainfall leading to inability to undertake demolition / construction activity and programme delays	None required	Not significant
Environmental and human health receptors	Heavy rainfall spreading contaminated soil during ground excavations	None required	Not significant
Human Health	Heatwaves and high temperatures affecting site personnel welfare	None required	Not significant
Human Health	Heatwaves and high temperatures leading to increased dust generation	None required	Not significant
Buildings	Heatwaves and high temperatures leading to inability to undertake demolition / construction activity and programme delays	None required	Not significant
Buildings	Strong winds leading to damage of stockpiles	None required	Not significant
Human Health	Strong winds leading to site personnel and nearby pedestrian harm	None required	Not significant
Human Health	Strong winds affecting on-site crane operations	None required	Not significant
Buildings	Strong winds leading to damage to site hoardings	None required	Not significant
In-Combination Climate Change Impact			
Townscape and Visual Impact Assessment	Potential interactions of climate change with the identified townscape and visual effects	None required	Not significant
Built Heritage	Potential interactions of climate change with the identified built heritage effects	None required	Not significant

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Ground Conditions	Potential interactions of climate change with the identified ground conditions effects	None required	Not significant
Greenhouse Gas Emissions			
Global Climate	GHG Emissions	Carbon offset payments to ensure the demolition and construction is net zero.	Minor Adverse (not significant)
Operational			
Climate Change Resilience			
Buildings	Increased frequency of intense rainfall leading to overwhelming of drainage assets and potential flooding	None required	Not significant
Buildings	Wetter winters and increased frequency of intense rainfall leading to elevated groundwater levels and potential flooding	None required	Not significant
Building and human health receptors	River level rise leading to flooding	None required	Not significant
Environment	Drought conditions affecting landscape design and planting	None required	Not significant
Building	Increased mean temperatures and heatwaves leading to failure of M&E equipment	None required	Not significant
Human Health	Increased mean temperatures and heatwaves leading to overheating in residential element	None required	Not significant
Building and Human Health	Drought conditions affecting potable water availability	None required	Not significant
Human Health	Windstorm events and extreme winds leading to damage to the development	None required	Not significant
In-Combination Climate Change Impact			
Townscape and Visual Impact Assessment	Potential interactions of climate change with the identified townscape and visual effects	None required	Not significant
Built Heritage	Potential interactions of climate change with the identified built heritage effects	None required	Not significant
Ground Conditions	Potential interactions of climate change with the identified ground conditions effects	None required	Not significant

Receptor(s)	Likely Significant Effects	Mitigation Measures	Residual Effects
Greenhouse Gas Emissions			
Global Climate	GHG Emissions	The Proposed Development's GHG emissions impacts have been partially mitigated at this stage but meet the applicable existing and emerging policy requirements and would fully contribute to decarbonisation in line with MCC's and UK's policy goals for projects of this type.	Minor Adverse (Not significant)

11. Type 1 Cumulative Effects

Introduction

- 11.1. This section gives consideration to 'Type 1' cumulative effects.
- 11.2. The assessment is informed by the results of the technical assessments as set out in Chapter 6 - 13 of the ES.
- 11.3. Type 1 cumulative effects are also known as 'intra-project' effects, which are the combined effects arising from the Proposed Development upon a set of defined sensitive receptors. An example would be where a local resident is affected by dust, noise and a loss of visual amenity during the construction of a scheme, with the result being a greater nuisance than each individual effect alone.
- 11.4. Type 2 cumulative effects are considered within the ES technical Chapters. The technical Chapters also had regard to the potential for Type 1 cumulative effects, however for robustness the results of a standalone assessment of these is provided below.

Legislation, Policy and Guidance

Legislation

- 11.5. There is no legislation outlining how cumulative effects should be assessed or determined as significant. However, there is a requirement in Part 1, Schedule 4 of the EIA Regulations to consider cumulative effects. Cumulative is not defined in the EIA Directive or Regulations however a dictionary definition is 'increasing by one addition after another'.
- 11.6. The EIA Regulations require 'a description of the likely significant effects', including cumulative effects.
- 11.7. In the context of this assessment, 'cumulative effects' refers to the interactions between different likely residual effects resulting from the Proposed Development (Type 1). Both positive and negative effects are considered across the construction and operational phases.

Policy

- 11.8. As this Chapter considers the cumulative effects of the technical areas within the ES, all relevant policy has already been reviewed within the individual technical Chapters.

Guidance

- 11.9. A number of guidance documents which relate to assessing cumulative effects have been used to inform the assessment and include:
 - European Commission (EC) Environment DG (May 1999), 'Study on the Assessment of Indirect and Cumulative Impacts as well as Impact Interaction', Hyder Consulting; and
 - Institute of Environmental Management and Assessment (1992), Guidelines for the Environmental Assessment of Road Traffic.
- 11.10. The EC guidelines 'are not intended to be formal or prescriptive, but are designed to assist EIA practitioners in developing an approach which is appropriate to a project'.
- 11.11. Paragraph 24 of the National Planning Practice Guidance (NPPG) (Reference ID: 4-024-20170728) outlines the consideration to be given to cumulative effects in the context of EIA:

“Each application (or request for a screening opinion) should be considered on its own merits. There are occasions, however, when other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a Proposed Development. The local planning authorities should always have regard to the possible cumulative effects arising from any existing or approved development.”

Assessment Methodology and Significance Criteria

Methodology

- 11.12. This assessment is primarily concerned with where there is a likelihood of significant Type 1 cumulative effects occurring, in accordance with EIA practice and the NPPG guidance.
- 11.13. The assessment is based on experience and professional judgement, drawing upon relevant guidance set out above and the residual environmental effects identified within the results of the EIA technical assessments. The assessment has been undertaken by suitably qualified and experienced EIA practitioners.
- 11.14. The assessment has primarily focused on sensitive receptors identified within close proximity to the Site (e.g. local residents and businesses located in close proximity to the Site), likely cumulative effects, and their capacity to accommodate changes that will occur as a result of the combined residual environmental effects.
- 11.15. Relevant guidance has been reviewed, and an approach has been developed which uses the residual environmental effects identified within the ES. An exercise which tabulates the residual effects against receptors or receptor groups has then been carried out in order to identify the potential for Type 1 cumulative effects.
- 11.16. Negligible or neutral residual effects have been excluded from the assessment as, by their nature, they are considered to be imperceptible. Therefore, only minor, moderate or major effects have been given consideration during the assessment.
- 11.17. For the purposes of the assessment, receptor groups have been identified as those surrounding the Site and those identified within the individual technical assessments.

Significance Criteria

- 11.18. The following terms have been used to define the significance of the effects identified:
- Major effect: where the Proposed Development could be expected to have a very significant effect (either positive or negative) cumulatively;
 - Moderate effect: where the Proposed Development could be expected to have a noticeable effect (either positive or negative) cumulatively;
 - Minor effect: where the Proposed Development could be expected to result in a small, barely noticeable effect (either positive or negative) cumulatively; and
 - Negligible: where no discernible effect is expected as a result of the Proposed Development cumulatively.
- 11.19. The significance level attributed to each effect has been assessed based on the magnitude of change due to the combination of residual effects and the sensitivity of the affected receptor/receiving environment to change, as outlined in Chapter 2 of the ES. Magnitude of change is assessed on a scale of major, moderate, minor and negligible and the sensitivity of the affected receptor/receiving environment is assessed on a scale of high, medium, low and negligible.

Limitations and Assumptions

- 11.20. Due to the reliance on qualitative data and subjective opinion, there are limitations related to the range and depth in which the cumulative effects have been investigated. It must be realised that analysing the cumulative effects of developments is often speculative and cannot be predicted as clearly as individual effects such as the effects upon traffic of a development, which relies heavily upon quantitative data to inform the assessment. As a result, a number of assumptions have been made throughout in terms of the outcome of the accumulation of effects and based upon professional judgement. This section and the assessment process of identifying the likely significant Type 1 cumulative effects have, however, provided a reasoned consideration of and insight into the potentially significant Type 1 cumulative effects of the Proposed Development.

Identification of Likely Significant Type 1 Cumulative Effects

- 11.21. Based on the methodology detailed above, Table 11.1 presents the results of the review of the potential for interactions of individual effects during the construction phase of development. The potential effect interactions are then discussed further.

Construction Phase

Table 11.1: Construction Phase Type 1 Cumulative Effects

Sensitive Receptor Group	Construction Phase Residual Effects (after mitigation)	Likely Significant Cumulative Effects
Designated heritage assets identified (including conservation area)	Moderate adverse (temporary)	No likely significant Type 1 cumulative effects.
Non-designated heritage asset identified	Minor adverse (temporary)	No likely significant Type 1 cumulative effects.

- 11.22. The table above illustrates there are no Type 1 potential cumulative effects.

Operational Phase

- 11.23. Based on the methodology detailed above, Table 11.2 presents the results of the review of the potential for interactions of individual effects during the operational phase of development. The potential effect interactions are then discussed further.

Table 11.2: Operational Phase Type 1 Cumulative Effects

Sensitive Receptor Group	Operational Phase Residual Effects (after mitigation)	Likely Significant Cumulative Effects
Views, visual setting, Site and townscape character	Minor - moderate beneficial	No likely significant Type 1 cumulative effects.
Designated heritage assets identified (including conservation areas)	Neutral (balanced)	No likely significant Type 1 cumulative effects.

11.24. The table above illustrates there are no Type 1 potential cumulative effects.

Mitigation Measures

11.25. There are no Type 1 potential cumulative effects; therefore no mitigation measures are proposed.

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