



**Environmental Statement Volume 2:
Main Text**

**Proposed Residential-Led Development
Land to the West of Deansgate, Manchester**

October 2021

Environmental Statement Volume 2 – Main Text

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1. Introduction

Introduction

- 1.1 Deansgate SOF Alliance LeaseCo Limited (hereafter referred to as the 'Applicant') is seeking to obtain planning permission for a residential-led development on land to the west of Deansgate, Manchester (hereafter referred to as 'the Site'). The Site is located within the administrative authority of Manchester City Council (MCC). The planning application to which this Environmental Statement (ES) directly relates is a full planning application for a proposed residential development at the Site.
- 1.2 The planning application boundary is shown edged red on an Ordnance Survey (OS) base map presented in **Volume 2a: Main Text Figures - Figure 1.1**. The Site is described in detail in Chapter 3: Site Description. A detailed description of the development is provided in Chapter 5: The Proposed Development, which is supported by a series of plans and drawings.
- 1.3 Avison Young, who are competent EIA experts have been commissioned by the Applicant to co-ordinate the Environmental Impact Assessment (EIA) process and produce the ES for the proposed development. As such, this ES has been coordinated by Avison Young's Environmental Planning team who are members of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark. This voluntary scheme demonstrates excellence in the field of Environmental Impact Assessment (EIA). Accreditation was achieved following the critical review of various Environmental Statements (ES) prepared by Avison Young and a raft of in-depth interviews regarding the Team's professional experience, activities, business functions and contribution to innovation in the sector. On-going accreditation will be subject to continued independent evaluation by IEMA and the fulfilment of ongoing professional commitments.

The Site

- 1.4 The Site is irregular in shape and occupies approximately 0.35 hectares ('ha') in area. The Site is bound by Deansgate to the east, Blackfriars Street to the south, Victoria Bridge Street to the north and the Renaissance Hotel and the River Irwell to the west.
- 1.5 The Site is located within the Renaissance hotel complex which comprises the former Renaissance hotel, Premier House office block, and NCP car park. It has long been earmarked for comprehensive development, including most recently within the adopted Ramada Complex Strategic Regeneration Framework ('SRF'), adopted by MCC in May 2018¹. Premier House is a four-storey vacant office building with over 100 metres of inactive frontage to Deansgate. The Renaissance Hotel is a vacant 15-storey, 203-bedroom hotel building. The Site was recently

¹ http://www.manchester.gov.uk/download/downloads/id/26611/ramada_complex_srf_may_2018.pdf

acquired by the Applicant as part of a joint venture between Property Alliance Group and Starwood Capital Group, with a view to redeveloping the wider site. The Proposed Development has been designed in line with the broad aspirations of the adopted SRF.

- 1.6 The area surrounding the Site is characterised by a range of uses including hotels, restaurants, and commercial developments.

Development Proposals

Outline of the Proposed Development

- 1.7 The planning application seeks full planning permission for a residential development on land to the west of Deansgate, Manchester. Planning permission is being sought for a high-density, apartment led development for 300 residential dwellings within a high-rise ground floor plus 26-storey tower (hereafter referred to as the 'Proposed Development').

- 1.8 The Proposed Development sought for approval as part of the planning application is as follows:

- 300 residential dwellings (Use Class C3);
- Ground floor retail and residential amenity space;
- Public Realm including leisure/ food and beverage space (Class E/Sui Generis)
- Landscaping;
- Car parking; and
- Infrastructure, Services and Utilities.

- 1.9 The full description of development on the planning application form is:

"Full planning application for the erection of a part ground + 13 storey, part ground + 26 storey building to form 300 no. residential apartments and ground floor retail/ leisure floorspace (Class E/ Sui Generis), together with private amenity space for residents, new public realm including riverside walkway and leisure/ food and beverage space (Class E/ Sui Generis), new landscaping, parking, servicing, supporting infrastructure and associated works."

- 1.10 Environmental constraints and potential adverse effects have been identified throughout the EIA process and, as a result, mitigation measures have been incorporated into the proposals through design. Where environmental mitigation measures have not been integrated into the proposals through design, it is expected that the requisite mitigation measures will be secured by appropriate planning conditions where relevant. These have been identified, where appropriate, in each technical chapter of this ES (Chapters 6-12) and summarised in Chapter 13: Summary of Mitigation and Residual Effects.

- 1.11 A detailed description of the Proposed Development can be found in Chapter 5: Proposed Development of this ES.

The Planning Application and Environmental Impact Assessment

EIA Context

- 1.12 EIA is a systematic process by which information about the scope and likely environmental effects of a proposed development are assessed and presented to the Local Planning Authority (LPA), relevant stakeholders and the public to inform the decision on whether the development should be granted planning permission.
- 1.13 The Proposed Development constitutes 'EIA development' under the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2017 (SI 2017/571) (hereafter referred to as the 'EIA Regulations'). Criteria for establishing the need for an EIA are set out in Schedules 1 and 2 of the EIA Regulations. The Proposed Development falls under Schedule 2, Category 10 'Infrastructure Projects', Subsection (b) 'Urban Development Projects'.
- 1.14 This document is the ES which reports the findings of the EIA and supports the planning application for the proposed development. It has been prepared by Avison Young with technical contributions from a range of specialist consultants experienced in EIA (see **Appendix 1.1**). This ES provides sufficient environmental information to enable MCC to make an informed decision on whether to grant planning permission.
- 1.15 This ES relates to the planning application which is defined by the description of the development and the detailed plans for development that accompany the application.

The Planning Application Package

- 1.16 The planning application package consists of the following documents:
- Covering Letter;
 - Application form, relevant land ownership certificate (duly signed) and relevant planning application fee;
 - Full set of application drawings for approval;
 - Air Quality Assessment;
 - Archaeology Assessment;
 - Broadband Connectivity Assessment;
 - Construction Management Plan;
 - Crime Impact Statement;
 - Daylight and Sunlight Assessment;

- Design and Access Statement, including:
- Servicing Strategy;
- Ventilation and Extraction Details;
- Drainage Strategy (including SuDS Strategy);
- Ecology Appraisal, including:
 - Bat Activity Survey Report
- Environmental Standards Statement, including:
 - Circular Economy Statement;
- Fire Strategy/ Safety Assessment;
- Flood Risk Assessment;
- Local Labour Agreement;
- Noise Assessment;
- Planning Statement, including:
 - Statement of Community Involvement;
 - Affordable Housing Statement;
 - Blue and Green Infrastructure Statement;
- Ground Conditions Report including:
 - Phase I Geoenvironmental Site Assessment;
 - Phase II Geoenvironmental Site Assessment
- Tall Buildings Statement;
- Transport Assessment;
- Travel Plan;
- Tree Survey;
- TV Reception Survey;
- Townscaper and Visual Impact Assessment;
- Utility Statement;
- Viability Assessment;
- Water Safety Management Plan Pro-forma; and,
- Environmental Statement.

The Environmental Statement

1.17 The ES is divided into three volumes and the contents outlined below:

- **Volume 1: Non-Technical Summary** – A document providing a synopsis of the ES without utilising technical language. The summary includes a description of the Proposed Development, the potential environmental effects associated with the Proposed Development and the measures proposed to mitigate these effects.
- **Volume 2: Main Text** - This volume contains the main body of text of the ES, split into chapters. It provides an introduction, the approach to assessment, the assessment of alternatives, a description of the Proposed Development, a series of technical assessments relating to specific environmental topics including cumulative and combined effects and a summary of residual effects.
- **Volume 2a: Main Text Figures** – This volume contains the figures associated with the chapters in Volume 2: Main Text.
- **Volume 3: Appendices** – This volume contains supporting information and a collection of technical reports upon which the conclusions of the ES are based.

Environmental Statement Availability

1.18 The Non-Technical Summary, ES and Appendices are available for viewing at MCC Offices and on the MCC website². Further copies of the ES and Appendices are available on CD at a cost of £25 from Avison Young. Contact details are as follows:

Avison Young
Norfolk House
7 Norfolk Street
M2 1DW

Contact: Richard Kevan

Tel: 0161 834 7187

Manchester City Council
Floor 6 Town Hall Extension
Albert Square
Manchester
M60 2LA

Contact: Angela Leckie

Tel: 0161 234 4651

² <https://pa.manchester.gov.uk/online-applications/>

2. Approach

Introduction

- 2.1 This chapter describes the methodology used to undertake the EIA in accordance with the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2017 (SI 2017/571) and National Planning Practice Guidance (NPPG).
- 2.2 The chapter begins with a description of the general approach to assessment and EIA regulatory compliance, including how the planning applications and EIA are linked. EIA procedure and methodology is presented, then the stakeholder consultation process is explained, and the consultees listed, before the spatial and temporal scope of the assessment is discussed.
- 2.3 Following this, the criteria used for impact prediction, assessing significance and implementing and securing mitigation measures are explained, along with any limitations and assumptions. With regard to the methodologies and assumptions for the technical assessments, each chapter has its own specific assessment methodology and assumptions, which are explained within the relevant sections.
- 2.4 A wide range of experience, resources and skills have been coordinated in order to bring together these applications and the project team, along with their professional roles, is presented at the end of this chapter.

EIA Procedure and Methodology

EIA and Regulatory Compliance

- 2.5 The EIA Regulations, supported by UK case law, provide the legal framework for the process of EIA and contents of Environmental Statements. The planning application is submitted in full and the application description of development, plans and schedule of accommodation provides sufficient detail to identify, predict and assess the significance of any potential environmental impacts.

Basis of Assessment

- 2.6 The EIA is based on the written description of the Proposed Development including construction timescales and construction management plans, the Site red line application boundary (**Figure 1.1**) and the quantum of development (see: Chapter 5: The Proposed Development). These parameters, along with detailed plans and elevations submitted for approval as part of the application, allow the likely significant effects of the proposals to be fully assessed and appropriate mitigation measures secured.

- 2.7 The Design and Access Statement produced by John Matthews Architects (2021) which accompanies the planning application, presents further information about the Proposed Development.

Screening

- 2.8 Regulation 6 of the 2017 EIA Regulations makes provision for a developer to request a 'Screening Opinion' from the Local Planning Authority (LPA) to ascertain whether an EIA is required if a development is classed as a Schedule 2 development. This decision is based on the likelihood of significant environmental effects arising in relation to the development proposals.
- 2.9 It has been assumed for the purposes of the applications that an EIA will be required based on the scale of the proposals and therefore the Applicant has undertaken an EIA. It is accepted that the Proposed Developments fall within Schedule 2, Category 10 'Infrastructure Projects' Subsection (b) 'Urban Development Projects' in accordance with the EIA Regulations, and that the development is likely to give rise to at least some significant environmental effects.

Scoping

- 2.10 Scoping is a process that, through research and consultation, identifies the environmental issues that require assessment as part of the EIA. This essentially refines the focus of the EIA on the environmental aspects which are likely to result in significant environmental impacts whilst also ensuring that no potentially significant areas are overlooked.
- 2.11 In accordance with Regulation 15 of the 2017 EIA Regulations, a formal request for a Scoping Opinion was made to MCC on 17th June 2021, accompanied by an EIA Scoping Report.
- 2.12 A formal Scoping Opinion was issued by MCC on 20th August 2021. Responses received as part of the scoping exercise are noted in Table 2.1 below. A copy of the EIA Scoping Report can be found at **Appendix 2.1** and a copy of the Scoping Opinion and associated scoping responses received from MCC and statutory consultees can be found at **Appendix 2.2**.
- 2.13 The scoping process concluded that there were potentially significant environmental effects in relation to the below topics and that these should be included in the EIA:
- Townscape and Visual;
 - Heritage;
 - Wind Microclimate;
 - Socioeconomics;
 - Health; and

- Climate Change.
- 2.14 The approach to the assessment of Wind Microclimate was updated following the submission of the EIA Scoping Report. The original methodology included wind tunnel testing of the Proposed Development, however, new wind consultants (GIA) were brought onto the project following the submission of the EIA Scoping Report who proposed instead to undertake Computational Fluid Dynamics (CFD) testing to assess the potential impacts of the scheme with regards to wind. A letter which was submitted to MCC justifying the change to the approach to the assessment is presented at **Appendix 2.3**.
- 2.15 MCC's Scoping Opinion confirmed that the proposed approach to each assessment was acceptable. A summary of the comments provided in the Scoping Opinion and where these are addressed in the ES is set out in Table 2.1.
- 2.16 A number of other topics were scoped out of the EIA and identified as potentially giving rise to impacts that will be not significant. This approach was approved through MCC's Scoping Opinion (see **Appendix 2.1**). A description of these topics and reasons for scoping these out of the EIA is provided in Table 2.2.
- 2.17 At the request of MCC additional clarification points we requested with regards to scoping out the following disciplines from the EIA:
- Daylight, Sunlight and Overshadowing; and
 - Transport and Access.
- 2.18 With regards to Daylight, Sunlight and Overshadowing, an initial assessment was undertaken for to provide evidence that there would be no significant effects on surrounding sensitive receptors. The findings of this assessment were emailed to MCC on 21st July 2021 to confirm that Daylight, Sunlight and Overshadowing could be scoped out of the EIA. This email is provided at **Appendix 2.4**.

Table 2.1: Comments on EIA Scope

Consultee	Summary of Comments	Action
Manchester City Council Planning	Socioeconomic Issues The comments within your scoping report are noted and are acceptable in terms of their consideration in the ES. Townscape and Visual Impact (TVIA) The comments within your scoping report including the Receptors and Key views within Appendix II LVIA Figures are noted and are acceptable in terms of their consideration in the ES. It is essential that the ES considers the cumulative impacts of other developments in order to full understand the likely impacts of the Proposed Development. Heritage The comments within your scoping report (including the intention for consultation to be undertaken with MCC and Historic England to agree the scope of the Chapter) are noted and on this basis are acceptable in terms of their consideration in the ES. Wind and microclimate The comments within your scoping report and letter of 21st July in relation to this topic area are noted and are acceptable in terms of their consideration in the ES. Human Health The comments within your scoping report in relation to this topic area are noted and are acceptable in terms of their consideration in the ES.	Noted. Noted. An assessment of the cumulative effects with regards to TVIA is presented in Chapter 12: Cumulative Effects. Noted. Noted. Noted.

Consultee	Summary of Comments	Action
	Matters of wind microclimate, climate change and socio-economic effects have all been scoped into the ES due to these disciplines having significant environmental impacts. All of these matters affect Human Health and therefore the Proposed Development is likely to give rise to significant environmental impacts on the Human Health which should be considered and evaluated through the ES. This should include an assessment of the impact on human health with regards to any air quality considerations, climate change and quality of life, particularly during the construction process when heavy plant, machinery, dust and emissions are likely to be generated together with any noise, disturbance, traffic/transport and air quality considerations during the operational phases of the development. Climate Change It is considered that the climate change impacts of the Proposed Development are significant and require assessment through the EIA process. Matters of wind microclimate, human health and socio-economic effects have all been scoped into the ES due to these disciplines having significant environmental impacts. All of these matters affect climate change and therefore the Proposed Development is likely to give rise to significant environmental impacts on the climate which should be considered and evaluated through the ES. A broader approach and methodology for assessing the impact on climate change should be considered. Impacts and potential mitigation from the other technical chapters should feed into this assessment particularly around management of surface water, waste management, social value, green and blue infrastructure, biodiversity and ecology, travel planning and efficiency of the building fabric, an assessment of the lifecycle of the building (including management of embodied carbon) and use of renewable energy as part of promoting a low carbon development and reducing emissions and the likely environmental impacts of this.	Noted. Effects relating to wind microclimate, climate change and socioeconomics have been considered within Chapters 8, 9 and 11 of this ES. Where relevant to the health assessment, these have also been considered in Chapter 10: Health. Noted. See Chapter 10: Health for the assessment on the Proposed Developments effects on health during both the construction and operational phases. Noted. Though socioeconomic and health do not affect climate change, due to the potential effects that the Proposed Development may have on climate change and the effect climate change may have on the Proposed Development, Climate Change has been scoped into the EIA (see Chapter 11: Climate Change). Impacts and mitigation measures discussed in the standalone reports which accompany the planning application (e.g. Travel Plan, Flood Risk Assessment, Ecology Assessment etc.) have informed the climate change assessment.

Consultee	Summary of Comments	Action
	Cumulative impacts The list of cumulative sites for assessment has been considered in order to assess any cumulative impacts of developments in this part of the City Centre is acceptable in terms of consideration in the ES Matters which should be scoped in I consider that given the magnitude of the development, that there are no matters other than those detailed above which are required to be scoped into the EIA. Archaeology The Scoping Report observes that having undergone development throughout the 20th century, any archaeological remains beneath the Site will have been either removed, truncated or destroyed. A small pocket that still holds potential for 19th century archaeological remains is located in the south-west corner of the development site and in the central western part of the Site alongside the Irwell – but these will not be impacted by development works. As a result, there will be no significant effects which would require consideration and therefore archaeology can be scoped out of the ES provided the planning application is supported by an appropriate report which supports these conclusions. Daylight, Sunlight and Overshadowing The comments within the Gray Scanlan Hill e-mail dated 21st July 2021 are noted. The residential properties which could potentially be subject to loss of daylight, sunlight or overshadowing have been identified and lie to the south and south east of the development site on Deansgate (No.1 Deansgate), Blackfriars (Britannic Buildings) Victoria Bridge Street (parts of North Tower). It is noted that the initial analysis of impacts which compares the baseline (current impacts vs the Proposed Development) concludes that they are not of a level which would require an assessment as part of the ES.	Noted. Noted. Noted. A standalone Archaeological Desk-Based Assessment has been produced by Salford Archaeology (May 2021) and is submitted in support of the planning application and concludes no significant impacts are anticipated. Noted. The email referenced, dated 21st July, is located at Appendix 2.4.

Consultee	Summary of Comments	Action
	On the basis of the summary of impacts and conclusions within the above e-mail dated 21st July 2021 I accept that Sunlight, Daylight and Overshadowing impacts can be scoped out of the ES provided that a Report which supports these conclusions forms part of the supporting documents to the planning application. You will need to agree the scope and format of that Report with us prior to submission however. Water Resources (including Drainage and Flood Risk) The comments within your scoping report are noted and are generally acceptable in terms of their consideration in the ES. However, the following should be noted: Contrary to the scoping report whilst the Site is mainly located within Flood Zone 1(indicating a less than 1 in 1,000 annual probability of flooding) the western boundary and south western portion of the Site is situated within Flood Zone 3 a high probability of flooding of 1 in 100 or greater (with further Flood Zone 2 (a medium probability of flooding of between 1 in 100 and 1 in 1,000 years) encroachment within the central portion of the Site . The Site is at Very Low risk with regards to pluvial flooding. The western extent of the Site is located within an area at risk from flooding from reservoirs. This discrepancy needs to be picked up within the FRA and Drainage Strategy to be submitted to accompany the submission. Discharge point or rate has not been agreed by LLFA – nothing has been presented to them yet and this claim should be removed from any documents supporting the planning application. Aspects of the proposal, such as discharge, will be assessed by the LLFA for environmental impact in terms of pollution and flood risk, but this does not necessitate attention in the ES, provided that a flood risk assessment and drainage strategy is provided in support of the planning application. The Flood Map for Rivers and Sea can be viewed at: http://maps.environment-agency.gov.uk/. The area is situated within the Manchester Trafford Critical Drainage Area (CDA) and is a brownfield site. In accordance with the Manchester City Council SFRA surface water runoff should	Noted. At the time of writing the EIA Scoping Report, EA flood maps showed the Proposed Development located entirely within Flood Zone 1. The FRA for the Proposed Development (Shepherd Gilmour Infrastructure Ltd., October 2021) which is submitted in support of the planning application, takes into account the updated Flood Zones. See the FRA and Drainage Strategy which are submitted in support of the planning application.

Consultee	Summary of Comments	Action
	be managed through SuDS to achieve at least a 50% reduction in existing brownfield runoff rates with the aim of achieving greenfield runoff. Surface water should be managed to ensure there is no increased surface water from the Proposed Development and runoff from extreme events should be retained within the Site such that the adjacent third party land is not affected. The Government has strengthened planning policy on the provision of sustainable drainage systems (SuDS) for 'major' planning applications which was introduced on 6 April 2015 (Paragraph 103 of National Planning Policy Framework and Ministerial Statement on SuDS). As per the guidance issued by the Department of Communities and Local Government (DCLG), all 'major' planning applications being determined from 6 April 2015, must consider sustainable drainage systems. The suitability of sustainable drainage systems should be assessed in accordance with paragraphs 051, 079 and 080 of the revised NPPF Planning Practice Guidance for Flood Risk and Coastal Change (http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/). Sustainable drainage systems should be designed in line with national Non-Statutory Technical Standards for SuDS (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/415773/sustainable-drainage-technical-standards.pdf) and local policies EN08, EN14 and EN17 of the Core Strategy. Hydraulic calculations and drawings to support the design need to be provided along with proposed standards of operation and maintenance in accordance with paragraph 081 of NPPF Planning Practice Guidance. Consideration should be given to blue and green roofs and other green SuDS solutions to manage surface water runoff from the development, including swales, rain gardens, SuDS enabled tree pits.	

Consultee	Summary of Comments	Action
	If surface water is to be discharged into a United Utilities sewer this should be agreed in principle with them. On the above basis I agree that Water Resources (including Drainage and Flood Risk) can be scoped out of the ES. Noise and Vibration The comments within your scoping report are noted. The Report indicates that the Proposed Development is to be mixed use residential accommodation. The submitted Acoustic Assessment will need to include the following details and considerations: I. Internal noise levels need to meet our criteria set out in MCC's Planning Noise Guidance document (included in the link below) and consider any noise transfer from ground floor retail proposals along with the restrictions in the low frequency octave bands (63Hz and 125Hz). The location of service risers and liftshafts and sound transmission paths (structural columns and pillars for example) will need assessment and ideally not located next to any habitable rooms (bedrooms specifically) and details of how these will be suitably insulated. II. Details of any necessary mechanical ventilation for the properties will need to be assessed as residents shall not need to rely on openable windows for comfort cooling in this location. These shall be selected and designed to ensure the internal noise limit is not exceeded when in use. III. Consideration to noise break out from the retail units will also need to be assessed and details of mitigation where required. IV. Any plant to be installed (included plant located behind louvres) will need to be selected and designed and subsequently be assessed against our criteria (including kitchen extraction)	Noted. See Noise and Vibration Assessment (Fisher Acoustics, October 2021) which is submitted in support of the planning application.

Consultee	Summary of Comments	Action
	V. Construction noise impacts will be assessed and managed through measures in the CEMP which we can accept and noise and Vibration control measures including site noise and vibration levels will need to be agreed by MCC. Lighting The comments within your scoping report are noted. It is accepted that Lighting is capable of being scoped out of the ES but information on this should form part of the supporting documents to the planning application Air Quality The comments within your scoping report are noted. It is accepted that subject to an Air Quality Assessment being submitted as part of the supporting documents to the planning application to include the following details: - An assessment for future receptors (ground floor receptors and upper floor residential) and include PM₁₀ and PM_{2.5} as well as NO₂. - Assessment of fugitive dust emissions and mitigation measures during the demolition and construction phase. Reference to IAQM best practice measures shall be made and adopted through the development. Details of clean air filters should be provided where required along with their location on the building and maintenance / replacement requirements. On the above basis I agree that Air Quality can be scoped out of the ES. Ecology and nature conservation The comments within your scoping report are noted. The Site currently comprises a vacant office building and areas of hardstanding which are of limited ecological value and any potential impact on ecology is considered to be of no more than local significance. The ecological value of the development site is low with the main potential impact being on the River Irwell and it is noted that there is the potential to enhance ecology and biodiversity in this area. On this basis I accept	Noted. Noted, see Air Quality Assessment (Redmore Environmental, October 2021) which is submitted in support of the planning application.

Consultee	Summary of Comments	Action
	that an ecological assessment can be scoped out of the ES and can instead form part of the supporting documents to the planning application. Notwithstanding this the following should be submitted to support the application: • A Phase 1 Habitat Survey, which may help to inform any proposals to improve the nature conservation value of the Site / area. • A Bat survey. • Details of measures to be taken to prevent any potential impacts of the development proposal on the adjacent River Irwell. It should be noted should the planning submission be delayed beyond survey season 2021 then the survey would need to be revisited. Ground conditions The comments within your scoping report are noted. It is accepted that subject to a Phase I Geo-Environmental Assessment being submitted as part of the supporting documents to the planning application that Ground Conditions can be scoped out of the ES Waste The comments within your scoping report are noted. The approach to waste management should also cover management of residential and commercial waste with a waste assessment and a completed waste proforma will need to be provided with the application to demonstrate that the commercial and residential waste storage and collection regime will comply with the requirements of GD04. Subject to this detail and a Site Waste Management Plan ('SWMP') forming part of the supporting documents to the planning application, Waste can be scoped out of the ES.	Noted, see Phase 1 Habitat Survey and Bat Survey (Penny Anderson Associates, August 2021) which are submitted in support of the planning application. A Construction Environment Management Plan (CEMP) has been prepared and is submitted as a standalone document which includes pollution prevention measures. Noted. Noted. Details of waste management is provided in the Design and Access Statement (John Matthews Architects, October 2021).

Consultee	Summary of Comments	Action
	Accidents and disasters The comments within your scoping report are noted. It is agreed that the nature of the Proposed Development is not considered to pose risk of major accidents and/or disasters. As such, accidents and disasters can be scoped out of the ES. TV and Telecommunications There are no comments within your scoping report in relation to this however it is considered that the Proposed Development would not result in impacts which would require consideration within the ES. The application should however be supported by a report on the possible interference created by the Proposed Development on TV and radio reception within the area. Aviation There are no comments within your scoping report in relation to this however it is considered that the Proposed Development would not result in impacts which would require consideration within the ES. The application should however be supported if it exceeds the appropriate thresholds by an Aviation Risk Assessment Transport and Access The comments within your scoping report and e-mail dated 6th August 2021 are noted. I consider that Transport and Access does not need to be included as part of the EIA and on the basis of these it is agreed that Transport and Access can be scoped out of the ES. The application should however be supported by a Transport Assessment (TA) and whilst it is accepted that vehicle trips may not exceed levels that require junction analysis - person trip surveys need to be included within this to assist with vehicular / pedestrian movements in the vicinity of the Site. The TA should consider the impact of the development on the existing public transport networks in	Noted. Noted. A TV Reception Study and Broadband Connectivity Assessment have been produced by G-Tech (September 2021) and are submitted in support of the planning application. Further correspondence with MCC and National Air Traffic Services (NATS) has confirmed that an Aviation Risk Assessment should not be required. NATS note the Proposed Development is well shielded by neighbouring buildings, as well as the Axis Tower which is of a similar height. As such, they do not anticipate any impact on NATS's operation, specifically the M10 radar. Noted, see Transport Statement and Travel Plan (Focus Transport Planning, October 2021) which are submitted in support of the planning application.

Consultee	Summary of Comments	Action
	terms of extension of bus services, additional person trips. Mitigation measures should be considered where appropriate. A Framework Travel Plan for the development should accompany any future planning application. If there are any changes planned for bus infrastructure, for example relocation of existing bus stops or the creation of new bus parking areas, TfGM would request that the developer liaise directly with TfGM's bus infrastructure which can be contacted at Shelters@tfgm.com	
Natural England	Natural England state that the proposal does not appear, from the information provided, to affect any nationally designated geological or ecological sites (Ramsar, SPA, SAC, SSSI, NNR) or landscapes (National Parks, AONBs, Heritage Coasts, National Trails), or have significant impacts on the protection of soils (particularly of sites over 20ha of best or most versatile land), nor is the development for a mineral or waste site of over 5ha.	Noted.
Environment Agency	The Environment Agency (EA) state that they have no objections to the proposed scope of the EIA, for matters within planning remit and focus of the EA. They identify that the EIA Scoping Report states that the Site is located entirely within Flood Zone 1. However, they note that a review of their mapping indicates that the Proposed Development area is actually most likely to be situated within Flood Zone 2 with potential minor/partial encroachment into Flood Zone 3.	Noted. Noted – see above response to MCC.
Lead Local Flood Authority (LLFA) - MCC	The LLFA note that the site is located within Flood Zones 2 and 3. It is stated that it is acceptable for flood risk and drainage to be scoped out of the EIA provided that an FRA and Drainage Strategy are submitted with the planning application.	Noted – see above response to MCC. Noted. An FRA and Drainage Strategy have been prepared by Shepherd Gilmore Associates (October 2021) which are submitted in support of the planning application.

Consultee	Summary of Comments	Action
Environmental Health - MCC	MCC accept the approach stated in the EIA Scoping Report. With regards to noise, MCC request the following: - Internal noise levels need to meet criteria set out in MCC's Planning Noise Guidance document and consider any noise transfer from ground floor retail proposals along with the restrictions in the low frequency octave bands (63Hz and 125Hz). The location of service risers and lift shafts and sound transmission paths (structural columns and pillars for example) will need assessment and ideally not located next to any habitable rooms (bedrooms specifically) and details of how these will be suitably insulated. - Details of any necessary mechanical ventilation for the properties will need to be assessed as residents shall not need to rely on openable windows for comfort cooling in this location. These shall be selected and designed to ensure the internal noise limit is not exceeded when in use. - Consideration to noise break out from the retail units will also need to be assessed and details of mitigation where required. - Any plant to be installed (included plant located behind louvres) will need to be selected and designed and subsequently be assessed against our criteria (including kitchen extraction) - Construction noise impacts will be assessed and managed through measures in the CEMP which we can accept and noise and vibration control measures including site noise and vibration levels will need to be agreed by MCC.	Noted. Noted. A Noise Assessment has been prepared by Fisher Acoustics (October 2021) and is submitted in support of the planning application. This takes into account the requested information.
Historic England	Historic England state that the development could, potentially, have an impact upon a number of designated heritage assets and their settings in the area around the site. In line with the advice in the National Planning Policy Framework (NPPF), they expect the ES to contain a thorough assessment of the likely effects which the proposed development might have upon those elements which contribute to the significance of these assets. These have been identified in	Chapter 7: Heritage assesses the potential significant effects on designated and non-designated heritage assets in the vicinity of the

Consultee	Summary of Comments	Action
	section 7.24 of the submitted scoping report, and we are content that this, along with the cartographic representation in Appendix 4 of the report, has fully understood the heritage context of the site. They note that they would also expect the ES to consider the potential impacts on non-designated features of historic, architectural, archaeological or artistic interest, since these can also be of national importance and make an important contribution to the character and local distinctiveness of an area and its sense of place.	Site that could be affected by the Proposed Development.
Greater Manchester Archaeological Advisory Service (GMAAS)	GMAAS notes that areas of former archaeological interest on-site were severely impacted upon or completely removed by 20th century activity within the Site. A small pocket that still holds potential for 19th century archaeological remains is located in the south-west corner of the development site and in the central western part of the site alongside the Irwell – but these will not be impacted by development works. On this basis GMAAS agrees with the conclusions of the Scoping Report and recommends that archaeology is scoped out of the EIA.	Noted.

Table 2.2: Non-Significant Topics Proposed to be Scoped Out of the EIA

Discipline	Commentary
Ecology and Nature Conservation	The Site currently comprises a vacant office building and areas of hardstanding which are of limited ecological value. A Phase 1 Habitat Survey has been undertaken by Penny Anderson Associates (March 2021) and is submitted as a standalone report with the planning application. The extended Phase 1 habitat survey highlighted no features of significant nature conservation interest within the Site. A bat survey has been undertaken on site which has identified low potential roost features on site. As such, a single emergence survey has been undertaken by Penny Anderson Associates (August 2021) to identify whether the roost features are used by species of bats. The survey picked up a low to moderate level of common pipistrelle foraging and commuting activity within the Site boundary, with most calls and observations associated with the adjacent River Irwell to the west and off-site. No bats were seen to emerge from the building on site during the activity survey. No further recommendations are made in respect of roosting bats at this time. In the unlikely event that bats are found during future demolition, works should stop immediately, and advice be sought from a professional bat ecologist. Significant effects on ecology are not anticipated and as such ecology and nature conservation has been scoped out of the EIA.
Ground Conditions	A Phase I Geoenvironmental Site Assessment (September 2020) and a Phase II Geoenvironmental Site Assessment (May 2021) have been undertaken by E3P and are submitted in support of the planning application. The Site is not located within 500m from any historic or authorised landfill sites. The Site is not situated within a development high risk area. There are no mine entries recorded within 500m of the Site boundary. There are also no past shallow coal mine workings or probable shallow coal mine workings or coal outcrops within 500m of the Site boundary. The Site is not located within an area deemed to be at risk from ground instability arising from historic brine pumping activities and/or salt extraction. No hazardous installations that could potentially prejudice the proposed construction of highly sensitive residential dwellings have been identified within influencing distance of the Site. Intrusive ground investigation has been carried out which included: • 4 x mechanically excavated trial pits • 2 x wall cores, • 6 x rotary boreholes

Discipline	Commentary
	Construction of environmental monitoring installations. The assessment identified a single exceedance for asbestos. Loose chrysotile fibres were identified in the granular Made Ground at <0.001 %. No visual signs of asbestos containing material (ACM) were encountered during the ground investigation and it is, therefore, likely that only trace fibres are present. Impacted soils should be managed according to the asbestos risk mitigation conceptual site model. The installation of a suitable cover system in all landscaping and public open space will remove any potential for direct exposure to impacted soils. Chemical analysis of the natural granular deposits has identified these soils to be acceptable for use as subsoil within the proposed landscaped areas; however, further chemical validation samples will be required to confirm this. There are no suitable sources of topsoil available on the Site. Historically, the Site has been occupied by a Cotton Finishing Works, Copper Roller Works and Mills which are potential sources of mobile contamination. However, the initial soil analysis has not identified a risk to controlled waters. Trichloromethane has been recorded above the limit of detection in all three groundwater samples from the rotary boreholes which have monitoring wells set within the sandstone bedrock. All other VOCs are less than the limit of detection. It is unlikely that this relates to residual contamination from the former works and mills located on site as these land uses were historical and the compounds would have degraded. It is considered possible that this compound may have migrated from commercial sites further afield. The Site is topographically lower than the land to the east, therefore it is likely that groundwater will flow towards the Site and towards the River Irwell. The results of the groundwater analysis indicate a higher concentration of trichloromethane in the north east as opposed in the south west. An additional round of groundwater sampling and surface water analysis is recommended to further assess the risk to controlled waters. It is not considered that there will be significant effects as a result of ground conditions and as such, ground conditions has been scoped out of the EIA.
Flood Risk and Drainage	A Flood Risk Assessment (Shepherd Gilmore Associates, October 2021) has been produced and is submitted as a standalone report in support of the planning application. The Environment Agency (EA) Flood Map for Planning identifies the Site as being located within Flood Zone 1, indicating a less than 1 in 1,000 annual probability of fluvial flooding, and Flood Zone 2, indicating between a 1 in 1,000 and 1 in 100 annual probability of fluvial flooding and Flood Zone 3 indicating a greater than 1 in 100 annual probability from flooding. The Site is at Very Low risk with regards to pluvial flooding.

Discipline	Commentary
	The drainage strategy has informed the existing drainage rates on site and proposes new drainage rates which will be agreed with MCC and the United Utilities. The estimated flood level for the 100-year event with an Upper End allowance (70% climate change) would be 27.18m AOD. The upper end allowance is used for more vulnerable uses (for the Proposed Development this includes residential dwellings). For less vulnerable uses (i.e. commercial uses) the allowance for climate change is reduced to 35%. As such the estimated flood level for the 100-year event with 35% allowance for climate change is 26.03m AOD. The finished floor level (FFL) of the Proposed Development must be set at least 600mm above the estimated 100-year flood level with climate change included. This will provide the recommended freeboard (EA guidance) to safeguard the development during this flood event. Therefore, for more vulnerable uses (i.e. residential) the FFL should be set to a minimum of 27.78m AOD and for less vulnerable uses (i.e. non-residential) the FFL should be set to a minimum of 26.63m AOD. The Proposed Development is not anticipated to increase flood risk elsewhere off-site. EA maps indicate that the Site could be at risk of flooding should a catastrophic reservoir breach occur. Whilst there is a risk of flooding on site from this event, it should be noted that this is the “maximum extent” and will only occur if a reservoir completely failed and released all the water it held at once (when full). Proposing any mitigation measure to defend against such an unlikely event would be impractical and cost prohibitive. A residual risk from this source will therefore remain. It is not considered that significant environmental effects would arise as a result of flood risk. As such, drainage and flood risk has been scoped out of the EIA.
Archaeology	An archaeological desk-based assessment has been produced by Salford Archaeology (May 2021) which is submitted in support of the planning application. Extensive development took place across the Site from the medieval period through to the twentieth century. The construction of the various buildings in the nineteenth century likely removed archaeological remains dating to earlier periods, as many of these are shown on the historic maps to have had basements. Archaeological remains, if present, are likely to be limited to the area within the south-west corner of the Site. The exact scope and extent of any such further investigation of the Site will be determined by the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisor to Manchester City Council. It may be anticipated, however, that no archaeological mitigation will be required, as the Proposed Development will not affect the area of the application site containing archaeological potential. Therefore, archaeology has been scoped out of the EIA.

Discipline	Commentary
Transport and Access	A Transport Assessment and Travel Plan has been prepared by Focus Transport Planning (October 2021) and are submitted in support of the planning application. The Site represents an excellent location for residential development, being located within the city centre and within a practical walking distance of local bus, Metrolink and rail connections served by regular connections and within an acceptable walk/cycle catchment of a wide range of key everyday services, facilities and employment opportunities. Additional traffic on local roads will be generated temporarily during the construction phase. However, the number of construction vehicle movements associated with the works is not expected to be substantial and will be appropriately mitigated through the implementation of a CEMP. The development is proposing 36 car parking places. The Transport Statement has confirmed that the level of traffic generated from the development would not be significant on the local road network and as such Transport and Access has been scoped out of the EIA.
Air Quality and Dust	An Air Quality Assessment has been undertaken by Redmore Environmental (October 2021) and is submitted in support of the planning application. The Site is located within the Greater Manchester AQMA which is designated for the potential exceedance of the annual mean nitrogen dioxide (NO₂) air quality objective. During the construction phase of the development there is the potential for air quality impacts as a result of dust generation and vehicle emissions from the Site. These effects will be managed in accordance with the Institute of Air Quality and Management (IAQM) guidance. It is therefore not anticipated that there will be significant effects as a result of the Proposed Development during the construction phase. The Proposed Development will include 36 car parking spaces. The proposals are not predicted to result in significant additional traffic generation on the local road network. Users of the Site will be encouraged to travel via sustainable modes of transport. As such, vehicle emissions as a result of the Proposed Development are not anticipated to be significant. Air quality has therefore been scoped out of the EIA.
Noise and Vibration	An Acoustics Assessment has been prepared by Fisher Acoustics (October 2021) and is submitted in support of the planning application. Construction impacts will be managed through the implementation of best practice mitigation measures and set out within a CEMP and no significant effects are anticipated.

Discipline	Commentary
	Internal noise levels will be achieved through the use of standard design measures such as glazing and ventilation strategies. For these reasons noise and vibration has been scoped out of the EIA.
Lighting	Artificial lighting is provided to encourage a safe environment for a range of activities including driving, cycling and walking. It is also used to enhance the environment by means of decorative and flood lighting of areas, features and buildings. Any new lighting proposed as part of the development at the Site will be in accordance with British Standards, The Institution of Lighting Professionals ('ILP') and The Chartered Institution of Building Services Engineers ('CIBSE') which prescribes required lighting levels. The proposed lighting will be selected with reference to the following design standards and codes of practice: • BS EN 5489-1: 2003 +A2 (2008) Code of Practice for the design of road lighting: Part 1 Lighting of roads and public amenity areas; • BS EN 13201-2: 2003 Road lighting – Part 2: Performance requirements; • ILE GN01: Guidance notes for the reduction of obtrusive light; • ILE TR12: Lighting of pedestrian crossings (2007); and • ILE TR25: Lighting for traffic calming features. It is not considered that there will be any significant impacts with regards to lighting and as such this has been scoped out of the EIA.
Daylight, Sunlight and Overshadowing	A standalone daylight, sunlight and overshadowing report has been prepared by Gray Scanlan Hill (September 2021) and is submitted in support of the planning application. Overall, the Proposed Development will have an impact on daylight amenity that is considered to be appropriate and balanced, given the City Centre location and the increase in massing envisaged for the area by Planning Policy. Despite some measured reductions in Vertical Sky Component ("VSC") levels, the significant majority (93%, or 1,078 windows) of the 1,155 windows appraised in the neighbouring receptors would continue to achieve the BRE's 27% VSC target or experience a reduction in VSC of less than the 20% reduction that is accepted by the BRE on the grounds that it would not be noticed by the room occupants. In total, 95% of the rooms appraised would pass the BRE's No Sky Line ("NSL") test, experiencing either no movement in NSL, or negligible reductions in daylight distribution that would not be noticeable to the room occupants. All Site facing rooms within Britannic Buildings and City Heights Apartments will remain well daylit, as will a significant majority of windows and rooms of Premier Inn hotel. A statistical minority of windows and rooms of the Premier Inn would not achieve the BRE targets. Notwithstanding, it is considered that the impact on daylight

Discipline	Commentary
	amenity is appropriate and balanced, on the basis that architectural features of North Tower inherently limit daylight amenity in the baseline, and that City Centre hotels for business & tourist use are considered to be a low sensitivity daylight receptor. A majority of windows and rooms within No.1 Deansgate would achieve the BRE targets. A minority of No.1 Deansgate windows (20 windows; 13%) would not achieve the VSC target. Notwithstanding, it is considered that the impact on the daylight amenity of No.1 Deansgate is appropriate and balanced, on the basis that these rooms account for only a small statistical minority of No.1 Deansgate as a whole, and that their daylight amenity is inherently limited in the baseline condition by the presence of winter gardens, which reduce their capacity to receive direct daylight. No.1 Deansgate is located to the south of the Site, and the windows through which the Proposed Development will be seen are north east and north west facing. In accordance with the BRE Guidance, the windows / rooms do not need to be sunlight amenity impact appraised as they are not oriented within 90 degrees of due south. In the proposed condition, 260 rooms (93%) of the 281 rooms appraised (all rooms of City Heights Apartments and Britannic Buildings and the significant majority of rooms in Premier Inn) would continue to achieve the BRE's Winter and Annual sunlight targets, or experience reductions in sunlight that would not be noticeable to the room occupants (acceptable to the BRE on the basis that Proposed values remain at least 0.8x of Baseline values). The remaining 21 rooms (7% of all rooms appraised) are all within the Premier Inn portion of North Tower. Notwithstanding, it is considered that the impact on sunlight amenity of Premier Inn is appropriate and balanced, given the City Centre location, and that these rooms account for no more than a small, statistical minority of the Premier Inn as whole. Further, on the basis that the hotel's occupation is of transient use, by business users & tourist visitors to the City Centre, we consider is to be a low sensitivity sunlight receptor. Overall, it is considered that the impact of the Proposed Development on the sunlight amenity of these neighbouring receptors is appropriate and non-significant, given the City Centre Location and the massing envisaged for the Site by Planning Policy. With regard to the riverside external amenity area, it would not achieve the BRE target for Time in Sun. This is, however, predominantly a factor of Site limitations. The amenity area's location along the north western edge of the Site, to the immediate north of the retained hotel building, and its sunken position below street level act as inherent limitations on receipt of direct sunlight. For these reasons, daylight and sunlight amenity has been scoped out of the ES.

Discipline	Commentary
Waste	Given the nature of the Proposed Development, materials required for the construction of the Proposed Development are unlikely to be particularly scarce or environmentally sensitive, nor is the Proposed Development likely to result in materials becoming scarce. Consideration will be given throughout the design process to the specification of suitable materials, including their sustainability and environmental implications, to support an environmentally sensitive and high-quality development. As a result, the Proposed Development is not likely to have any significant effects in relation to materials. Waste will be generated during the demolition and construction phase, as a result of the demolition of existing and construction of the new building. Waste management will be considered carefully throughout the demolition, design and construction of the Proposed Development, to ensure compliance with legislation, and to minimise costs associated with waste disposal. The volume of construction waste likely to be generated by the development would be in line with what would be expected from a development of this size and will not significantly affect the capacity of local waste infrastructure. During the operation of the development, waste (including recyclables) generated by dwellings will be managed by the local waste authority, while waste from the commercial uses will be managed by commercial operators. None of the proposed users are anticipated to be major generators of waste and the wastes generated by the Proposed Development should not significantly affect the capacity of local waste infrastructure. Following the implementation of standard mitigation measures including the adoption of a Site Waste Management Plan ('SWMP'), construction waste arisings can be reduced to a minimum such that it is not significant. It is considered that there will be no significant impacts with regards to waste as a result of the Proposed Development and as such this has been scoped out of the EIA.
Accident and Disasters	The EIA Regulations 2017 require that an ES needs to include a description of the expected effects of the Proposed Development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters that are relevant to the project concerned. In this case, the nature of the Proposed Development is not considered to pose risk of major accidents and/or disasters. As such, accidents and disasters are not proposed to be included as part of this EIA.

Prior Approval Application for Partial Demolition of Premier House

- 2.19 An application for prior approval of the partial demolition of the northern section of Premier House has been submitted (Ref: 130049/DEM/2021) and was approved on 8th July 2021. Although demolition works are not proposed as part of the Proposed Development, the EIA has assessed the demolition works as part of the construction phase for the Proposed Development as the demolition is necessary in order to deliver the Proposed Development.

Consultation

- 2.20 An integral part of the EIA process is consultation with a range of statutory and non-statutory consultees. Consultation was undertaken at the scoping stage to identify at an early stage any initial environmental concerns associated with the Proposed Development that required examination in greater detail in the EIA. The EIA has been prepared in accordance with the MCC's EIA Scoping Opinion which was informed through consultation with statutory bodies. Pre-application consultation in respect of the environmental assessments undertaken as part of the EIA will be summarised in this chapter and presented at final submission.
- 2.21 Consultation has been undertaken as part of the technical assessments as a means of establishing the environmental baseline and assessment methodologies. This includes identifying sensitive components of the environment, e.g. humans, organisms or physical characteristics, or potential effects and reaching consensus on suitable mitigation measures. Details of further consultation undertaken as part of each technical assessment will be described further within each technical chapter as relevant at final submission.

Pre-Application Discussions

- 2.22 Consultants acting on behalf of the Applicant have engaged with MCC and relevant statutory and regulatory bodies as part of an extensive pre-application discussions exercise. Pre-application liaison between the professional team and MCC has taken place where a range of technical and design issues have been discussed. As above, details of further consultation undertaken as part of each technical assessment is described further within each technical chapter, as relevant.

EIA Methodology

- 2.23 In addition to observing the formal requirements of the EIA Regulations, further formal guidance has been drawn from National Planning Practice Guidance (NPPG). Specific technical guidance is referenced in the individual technical chapters as appropriate.

Consistency

- 2.24 To assist the reader in understanding the technical assessments a consistent approach has been adopted throughout the EIA to ensure that likely significant effects are identified and evaluated in a transparent manner. Each environmental assessment topic has adopted the following approach:
- Baseline Assessment and Identification of the Study Area;
 - Identification of Sensitive Receptors;
 - Identification of Embedded Mitigation Measures;
 - Identification of Potential Effects during Construction and Operation of the Proposed Development (including indirect, direct, adverse and beneficial);

- Assessment of Impact Significance;
- Identification of Impact Significance;
- Identification of Mitigation Measures;
- Assessment of Residual Effects; and
- Assessment of Cumulative Effects.

Spatial and Temporal Scope of Assessment

2.25 The spatial extent of the EIA is described by the geographical area potentially affected by the proposed schemes and will need to take into account:

- The physical extent of the proposed schemes defined by the limits of land to be used both during construction and operation (temporary and permanent);
- The position of sensitive receptors within or outside of the Site boundaries; and
- The nature of the baseline environment and the way in which the impacts are likely to be propagated.

2.26 The effects for each of the disciplines are likely to extend to different spatial extents. The spatial scope for each discipline will be described within each of the topic chapters as required.

2.27 The environmental baseline studies undertaken as part of the EIA consider the current conditions of the Site. Therefore, each technical chapter will contain a description of the relevant study area that may be affected by the scheme.

2.28 With reference to the baseline conditions, the impact assessment will be made against existing baseline conditions. The assessment will address effects arising from the construction and operation of the proposed schemes as follows:

- Construction effects may arise directly from construction activities but also from the temporary use of land (e.g. construction sites) or from associated changes in traffic movements; and
- Operational effects may arise from the permanent operational activities and ongoing use of the Proposed Development and new infrastructure, including but not limited to highways, noise, and air quality.

2.29 The significance of the effects that will arise in each of these phases is based on any changes compared to the baseline conditions (i.e. those conditions which would exist if the proposed scheme did not go ahead).

Impact Prediction

2.30 The 2017 EIA Regulations state that an ES should include:

“A description of the likely significant effects of the development on the environment resulting from inter alia:

- (a) *The construction and existence of the development, including, where relevant, demolition works;*
- (b) *the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;*
- (c) *the emission of pollutants, noise, vibration, light, heat and radiation the creation of nuisances, and the disposal and recovery of waste;*
- (d) *The risk to human health, cultural heritage or environment (for example accidents and disasters);*
- (e) *The cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;*
- (f) *The impact of the project on climate (for example nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;*
- (g) *The technologies and substances used."*

2.31 Predictions of environmental impacts are carried out using quantitative methods, or in some cases, qualitative terms using expert opinion. All assumptions used and any areas of uncertainty are defined in the relevant chapters.

2.32 The following types of effect are considered:

- Direct impacts that arise from activities that form an integral part of the proposed scheme (e.g. new infrastructure/land take);
- Indirect impacts that arise from activities not explicitly forming part of the proposed scheme (e.g. noise changes due to changes in road traffic flows on existing roads resulting from the operation of the scheme);
- Secondary impacts that arise as a result of an initial effect of the proposed scheme;
- Permanent impacts that result from an irreversible change to the baseline environment (e.g. land take) or impacts which persist for the foreseeable future (e.g. visual impact);
- Temporary impacts that persist for a limited period only, for example, due to particular construction activities (e.g. noise from construction plant);
- Beneficial impacts that have a positive influence; and
- Adverse impacts that have a negative influence.

Significance Criteria

2.33 The significance of effect is assessed by looking at what the changes will be against the existing or predicted baseline as a result of both the construction and operation of the schemes. It is a product of the sensitivity of the receptor, and the magnitude of the impact upon it. The criteria used to define the sensitivity of a receptor and

magnitude of impact is provided in Table 2.3 and Table 2.4 below. These criteria are used as a guide only and the specific criteria for each technical assessment will be presented within each chapter.

Table 2.3: Description of the Sensitivity of an Environmental Receptor

Sensitivity	Typical descriptors
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

2.34 Descriptions of the magnitude of impact are provided in Table 2.4 below.

Table 2.4: Description of the Magnitude of an Impact

Magnitude of Impact	Impact Type	Typical criteria descriptors
Very Large	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements
	Beneficial	Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality
Large	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality

Magnitude of Impact	Impact Type	Typical criteria descriptors
Medium	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring
Small	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements
No change	n/a	No loss or alteration of characteristics, features or elements; no observable in either direction.

Identification of Significant Effects

2.35 Based on the sensitivity and magnitude criteria set out above, specific significance criteria have been used in each technical assessment and these are explained in the methodology sections within each technical chapter. Often, these are based on clearly defined criteria from published best practice guidance. However, wherever possible, the following terminology has been utilised:

- Major Beneficial;
- Moderate Beneficial;
- Minor Beneficial;
- Negligible;
- Minor Adverse;
- Moderate Adverse; and
- Major Adverse.

2.36 Where potential environmental impacts have been found, further to assessment which are of no significance, they are said to have no effect.

2.37 The assessment of likely significant effects has been undertaken for all potential effects to determine their relative importance. This has taken into account the following considerations:

- Magnitude (size of impact);
- Sensitivity of the surrounding environment and receptors;
- Spatial extent (size of the area affected);
- Duration (short, medium or long term);
- Nature of the effect (direct or indirect, reversible or irreversible);
- Inter-relationships and combination effects;
- International, national or local standards; and
- Relevant policy guidance.

Mitigation

2.38 The development of measures designed to avoid, reduce or offset significant adverse environmental effects associated with a proposal is one of the key elements of EIA. Measures to mitigate environmental effects of the Proposed Development can take two forms;

- Embedded mitigation - is the consideration of mitigation embedded into the fixed scheme (as per the parameter plans) with the aim where possible, of avoiding, reducing or offsetting significant adverse effects, determined during the course of the assessment; and
- Further mitigation – is the mitigation that is not embedded into the proposals and which requires further action than already proposed.

2.39 Where environmental mitigation measures have not been integrated into the proposals through design, it is expected that all other requisite measures or ‘further mitigation’ will be secured by appropriate planning conditions or obligations. Descriptions of these mitigation measures are included in the appropriate technical chapters and summarised in Chapter 13: Summary of Mitigation and Residual Effects.

Cumulative Effects

2.40 In line with Schedule 4 Paragraph 5(e) of the EIA Regulations, an ES must provide a description of the likely significant effects of a project on the environment resulting from:

“...the culmination of effects with other existing and / or approved projects...”

2.41 Such effects are known as ‘cumulative effects’.

2.42 Given that existing development will be considered in the environmental baseline conditions relevant to the Site and the development, and a consideration of the likelihood of significant environmental effects of the development

are judged against the relevant environmental baseline conditions, the potential for cumulative effects focuses as a minimum on those developments with:

- A resolution to grant planning permission.
- A valid planning permission and yet to start on-site.
- A valid planning permission and under construction.

2.43 These are referred hereafter as 'committed developments'.

2.44 The assessment of cumulative effects is set out in two forms. The first relate to the impacts of the Proposed Development in conjunction with committed in the area. These committed developments should be located within a realistic geographical scope where environmental effects could combine to create a more significant effect on a particular sensitive receptor. The second type of cumulative effect is that of the combination of the various types of impacts from the Proposed Development. These are referred to as synergistic effects.

2.45 Committed developments for consideration in the cumulative effects assessment were initially identified through a planning application search of the MCC and Salford City Council (SCC) planning portals and agreed through the formal EIA Scoping process (see **Appendix 2.1**). This process identified a total of 22 projects to be included within the cumulative assessment. The list of sites considered as part of the cumulative assessment are provided along with the assessment in Chapter 12: Cumulative Effects.

2.46 It should be noted that the EIA Scoping Report did not include applications ref. 129251/FO/2021, 126328/FO/2020. This is due to the fact that at the time of writing the EIA Scoping Report, application ref. 129251/FO/2021 had not been approved and ref. 126328/FO/2020 had been refused. Since the submission of the Scoping Report ref. 129251/FO/2021 has been approved and as such is considered within the cumulative assessment in line with the EIA Regulations. An appeal has been lodged with regards to application ref. 126328/FO/2020 and although the EIA Regulations stipulate that only applications which are existing and/or approved should be considered, due to the proximity of the application to the Proposed Development this scheme has been included within the cumulative assessment. Additionally, application ref. 130935/FO/2021 regarding the refurbishment of Premier House had not been submitted at the time of writing the EIA Scoping Report. Similarly, although not yet approved, due to the proximity of the scheme to the Proposed Development it has been included within the cumulative assessment.

Limitations and Assumptions

2.47 The EIA has been undertaken based on the planning application drawings and description of the development submitted with the planning applications. The technical assessments have been based on the current land uses and the existing baseline conditions at the Site. Any assumptions made or limitations relating to individual technical assessments are presented, where applicable, in the relevant technical chapters.

The Project Team

- 2.48 The ES has been compiled using a wide range of sources and with inputs from competent, technical specialists. The organisations and their roles in the project team are listed in Table 2.5 below. See **Appendix 1.1** for details of the technical team's credentials.

Table 2.5: The Project Team

Discipline	Company
Client	Deansgate SOF Alliance LeaseCo Limited
Architect	John Matthews Architects
Planning Consultant and EIA Co-ordinator	Avison Young
Townscape and Visual	Randall Thorp
Heritage	Turley
Wind Microclimate	GIA
Socio-economic assessment	Avison Young
Health	Avison Young
Climate Change	Wardell Armstrong

3. Site Description

Introduction

- 3.1 This chapter provides a description of the Site including a description of the location, a brief site history and a description of its surrounding area and context. It also summarises the potential environmental constraints to the redevelopment of the Site.

Site Location

- 3.2 The Site is irregular in shape and occupies approximately 0.35ha of land to the west of Deansgate, Manchester, within the ward of Deansgate. The Site Location Plan for the Site is presented at **Volume 2a: Main Text Figures – Figure 1.1**.
- 3.3 The Site is bound by Deansgate to the east, the southern extent of Premier House and Blackfriars Street to the south, Victoria Bridge Street to the north and the Renaissance Hotel and River Irwell to the west.

Site Description

- 3.4 The Site comprises the northern extent of Premier House, hardstanding, scattered trees, shrub vegetation, ephemeral/short perennial plant species and self-seeded butterfly-bush stands.
- 3.5 The wider Renaissance complex comprises a vacant 15-storey, 203 bedroom hotel building, a multi-storey car park, a restaurant and a dilapidated former office building (Premier House) which has been vacant for a number of years. The northern extent of Premier House within the Site boundary has been approved for demolition under application ref. 130049/DEM/2021.

Site History

- 3.6 The Site has been developed since pre-1892 which is the earliest map of the Site. A hotel was recorded in the north of the Site, with numerous other buildings present across the Site. From 1908 a building was named as the Temperance Hotel in the centre of the Site until 1948 until it was named as a ruin. An access road named as Grosvenor Avenue was also present from 1948 along the west of the buildings. A building in the northern extent of the Site is shown as being named Grosvenor Hotel from 1948. From 1973, the buildings and roads on-site are no longer recorded, and a larger hotel building is recorded as present across the wider Renaissance hotel complex site and a car park recorded as present. The Site has remained relatively unchanged since 1973.

Surrounding Context

- 3.7 The area surrounding the Site is characterised by a range of uses including hotels, restaurants, and commercial developments.
- 3.8 The Site is within a five-minute walk of the City Centre.
- 3.9 The closest bus stop to the Site is located adjacent to the Site's eastern border on Deansgate. This stop serves "Route 3", a free bus service providing access around the City Centre during peak periods Monday – Friday, and "Route 8" between Shudehill Interchange and Bolton.
- 3.10 Manchester Victoria is the nearest railway station and is located approximately 360m northeast of the Site. The station predominantly provides local and regional mainline services to the north of England.
- 3.11 Metrolink services are also available in the area, the closest of which is located at Exchange Square, approximately 200m east of the Site.
- 3.12 Transport for Greater Manchester ('TfGM') provide a rating for a location's accessibility to public transport known as a Greater Manchester Accessibility Level ('GMAL'). Each area is graded between 1 and 8, where a score of 1 is very low access to public transport, and 8 is very high access to public transport. According to TfGM's GMAL dataset¹ the Site has a GMAL of 8 indicating a very high level of accessibility.
- 3.13 There are no designated heritage assets (Scheduled Monuments, Grade I, II* and II Listed Buildings, Conservation Areas, Registered Parks and Gardens or Registered Battlefields) within the Site boundary. There are 129 statutory Listed Buildings, one Scheduled Monument and eight Conservation Areas within a 500m radius of the Site. The closest heritage assets to the Site are:
- Grade II Listed Victoria Bridge, located adjacent to the Site's northern boundary;
 - Grade II Listed Blackfriars Bridge, located adjacent to the Site's southern boundary;
 - Grade I Listed Cathedral Church of St Mary, located approximately 60m north;
 - The Hanging Bridge immediately south of Manchester Cathedral Scheduled Monument, located approximately 60m northwest;
 - Cathedral Conservation Area, located adjacent to the Site's northern border; and
 - Parsonage Gardens Conservation Area, located adjacent to the Site's southern border.
- 3.14 There are no statutory ecologically designated sites within 2km of the Site. The nearest statutory designated site is the Rochdale Canal Site of Special Scientific Interest ("SSSI") and Special Area of Conservation ("SAC"), located

¹ <https://data.gov.uk/dataset/d9dfbf0a-3cd7-4b12-a39f-0ec717423ee4/gm-accessibility-levels-gmal>

approximately 5.7km northwest of the Site boundary. The Site lies within the Impact Risk Zone ("IRZ") of the Rochdale Canal SSSI and the Hollinwood Branch Canal SSSI. However, the Proposed Development does not exceed any threshold that would require MCC to consult with Natural England regarding the potential impacts on the SSSI.

- 3.15 No non-statutory designated ecological sites are located within 1km of the Site. The closest non-statutory designated ecological site is the Rochdale Canal Stott's Lane – Ducie Street Basin Site of Biological Importance (SBI) located approximately 1.1km east of the Site.
- 3.16 The closest watercourse to the Site is the Manchester Ship Canal located adjacent to the Site's western border.
- 3.17 The Site is located within Flood Zone 1 (indicating less than a 1 in 1,000 annual probability of fluvial flooding), Flood Zone 2 (indicating between a 1 in 1,000 and 1 in 100 annual probability of fluvial flooding) and Flood Zone 3 (indicating a greater than 1 in 100 annual probability of flooding). The Site is at Very Low risk with regards to pluvial flooding. The western extent of the Site is located within an area at risk from flooding from reservoirs.
- 3.18 The Site is located within the Greater Manchester Air Quality Management Area ('AQMA'). This AQMA covers the city centre and major roads in and out of the city.
- 3.19 The Site is not located in an Area of Outstanding Natural Beauty ('AONB') or any other area designated for its landscape value.
- 3.20 According to British Geological Survey ('BGS') maps the superficial deposits on site comprise Devensian Glaciofluvial Sheet Deposits, and the underlying bedrock is that of the Chester Formation.
- 3.21 A review of the Coal Authority Mining Risk GIS System indicates the Site is located within a coal mining reporting area, though the Site is not located in a Development High Risk zone.
- 3.22 The existing noise climate is dominated by road traffic noise emanating from the surrounding highway network.

Summary

- 3.23 This chapter has presented a description of the Site including a description of the location, a brief site history and a description of its surrounding area. Based on the information presented in this chapter, the main environmental characteristics of the Site have been identified as follows:
- The Site is not located in close proximity to any statutory ecological designations;
 - The Site is located within the Greater Manchester AQMA;
 - The Site is located within Flood Zones 1, 2 and 3;
 - The Site is located in an area that is not at risk from pluvial flooding;

- The Site is located in a highly accessible location in Manchester City Centre with a GMAL rating of 8;
- The noise climate on site is dominated by traffic noise from the surrounding road network;
- Views of the Site are possible from the adjacent road network and residential dwellings within close proximity to the Site.

3.24 These identified constraints have been taken into account in the development of the proposals to ensure a thorough iterative design process and through the identification of appropriate mitigation measures as presented in Chapter 5: The Proposed Development.

4. Alternatives

Introduction

- 4.1 A statutory requirement for inclusion in an ES is the reporting of the consideration of alternatives which have been considered by the Applicants in the development and evolution of a proposal. Schedule 4 of the EIA Regulations states that an ES is required to provide:

"A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."

- 4.2 This chapter describes the alternatives that were studied by the Applicant for the Proposed Development and the process of design evolution in response to the EIA process.
- 4.3 Firstly, the chapter considers the 'no development' option, which describes the likely conditions at the Site in the absence of implementing the Proposed Development.
- 4.4 Secondly, the constraints and opportunities identified in relation to the Site have been considered and have influenced the design of the Proposed Development. The Applicant and the design team have undertaken a continuous review process to improve the design, taking into account the views of key consultees, stakeholders and the public. This design evolution process is described in detail and the reasons for the selection of the preferred option stated.
- 4.5 No alternative sites were considered for the development as the Site is within the Applicant's control and is located within the Ramada Complex SRF which includes a landmark mixed-use scheme incorporating a hotel, residential development and retail which was adopted by MCC in May 2018.

No Development Option

- 4.6 The 'no development option' evaluates the likely environmental conditions at the Site in the absence of implementing the Proposed Development. Schedule 4 of the EIA Regulations states that the assessment provide *"an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed"*. A description of the baseline scenario is set out in Chapter 3: Site Description.
- 4.7 In the absence of the Proposed Development, the baseline environment is anticipated to change from the existing conditions as the office building on Site has been granted prior approval for demolition (ref.

130049/DEM/2021). Under the 'no development' scenario, therefore, the Site would remain under the same ownership and management and would continue to either stand as vacant offices and areas of hardstanding or if permission 130049/DEM/2021 is implemented as a cleared site.

- 4.8 As noted in Chapter 3: Site Description, the Site consists of comprises the northern section of a vacant office building and areas of hardstanding. The office building on Site has been granted prior approval for demolition (ref. 130049/DEM/2021) and as such will be demolished in the near future to facilitate development on the Site.
- 4.9 The Site has limited ecological features due to the majority of the Site comprising hardstanding and a building. Should the Site not be developed then it is anticipated that the ecological conditions would remain unchanged.
- 4.10 As noted in Chapter 3, the Flood Map for Planning shows that the entirety of the Site is located within Flood Zone 1, 2 and 3. The Site contains areas of very low, low, medium and high risk with regards to surface water flooding. In the absence of the Proposed Development the existing hydrological regime of the Site would remain unchanged.
- 4.11 Benefits of the Proposed Development would also not be realised, such as those relating to employment and increase in housing stock (see Chapter 9: Socioeconomics and Chapter 10: Health).
- 4.12 The Site is located within the Ramada Complex SRF; therefore, it can be assumed that some form of development is likely to come forward on site in the medium to long-term.
- 4.13 The demolition and construction activities have the potential to increase the dust and noise in the local area. These will be controlled by best practice measures set out within a Construction Environmental Management Plan ('CEMP') and will only be temporary effects on local receptors. In the absence of the proposed development there will be no temporary disruption caused during the construction period.
- 4.14 The 'no development' option has been dismissed by the Applicants, as the reason for their involvement in the Site is to bring forward the development of the Site in line with the Ramada Complex SRF. The "no development" option would mean the Site is not developed and the potential benefits of the scheme would not be realised.

Summary

- 4.15 In the absence of the proposals, the baseline environment is anticipated to change from the existing conditions as the office building on Site has been granted prior approval for demolition (ref. 130049/DEM/2021). The Site is also located in the Ramada Complex SRF and as such it is likely that the Site will be developed in the medium to long-term. The perceived negative effects of the Proposed Development should be weighed against the benefits of the scheme and MCC's ambitions for the Site to be developed as part of the Ramada Complex SRF.

Design Evolution

- 4.16 The Applicants and the design team for the outline application have regularly liaised with MCC during a series of pre-application meetings in order to ensure that the evolving design meets the aspirations for the Proposed Development site. The Applicants have also engaged with statutory consultees and the public as outlined in the Statement of Community Involvement (SCI) which is submitted as part of the Supporting Planning Statement (Avison Young, October 2021) in support of the planning application.
- 4.17 The key points of design evolution of the Proposed Development are as follows:
- Creating an 'L' shaped building which allowed the massing of the development to be reduced from 30 storeys to 26 storeys and maximise the use of the Site.
 - Including communal roof terrace at Level 14 for residents of the building.
 - Stepping the massing of the upper floors (14 to 26) to reduce the visual dominance of the building.
 - Aligning the building to Deansgate to define the street edge and including retail units along Deansgate to activate the frontage.
 - Including a new public realm adjacent to the River Irwell.

Conclusions

- 4.18 The consideration of alternatives has included the evaluation of a "no development" option and alternative design options. The design of the scheme has evolved through consultation with MCC, key stakeholders and the public and the findings of the series of studies that make up the EIA. A detailed description of the development proposals is presented in Chapter 5: The Proposed Development.

5. The Proposed Development

Introduction

5.1 Schedule 4, Part 1 of the 2017 EIA Regulations outlines the information that should be provided within an ES which includes:

- (a) *"A description of the location of the development;*
- (b) *A description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land use requirements during the construction and operational phases;*
- (c) *A description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;*
- (d) *An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases)."*

5.2 This chapter and the accompanying figures define the application area, the study area, the maximum quantum of development proposed, the means of access and describes the Proposed Development in line with Schedule 4 of the EIA Regulations as far as possible considering the outline nature of the application. A description of the broad construction methods and processes is presented towards the end of this chapter.

5.3 The information presented in this chapter alongside the plans submitted for approval form the basis of the EIA and provides the level of detail required to enable the assessment of environmental effects in line with the 2017 EIA Regulations.

Description of the Development

5.4 The planning application seeks full planning permission for the construction of a residential-led development comprising one tower of a ground plus 26 storeys that will provide 300 residential units with ground floor retail/leisure units.

5.5 To confirm, the key elements of the Proposed Development sought for approval as part of the planning application is as follows:

- Erection of 13 storey, part ground + 26 storey building;
 - Provision of 300 residential units;
 - New leisure/ food and beverage space;
 - New first-class amenity space;
 - New public realm/ landscaping to the riverside and along Deansgate frontage;
 - New amenity space for residents to the west of the residential building;
 - 36 car parking spaces; and,
 - New servicing and supporting infrastructure.
- 5.6 The building is 'L' shaped in plan which is in two blocks. The western block (referred to as the 'Irwell block') terminates at Level 14 and the eastern block (referred to as the 'Deansgate block') continues in a stepped form to Level 26.
- 5.7 Works are proposed to an existing retaining wall connected to the Grade II Listed Victoria Bridge and steps are proposed up to Victoria Bridge Street as part of the proposals. Given the adjacency of the listed structure an application for listed building consent for these works is also being submitted. The potential impacts on the listed Victoria Bridge is considered within the ES.

Application Description

- 5.8 The Proposed Development is defined on the planning application forms as:

"Full planning application for the erection of a part ground + 13 storey, part ground + 26 storey building to form 300 no. residential apartments and ground floor retail/ leisure floorspace (Class E/ Sui Generis), together with private amenity space for residents, new public realm including riverside walkway and leisure/ food and beverage space (Class E/ Sui Generis), new landscaping, parking, servicing, supporting infrastructure and associated works."

Development Parameters

- 5.9 As detailed in Chapter 2: Approach, the assessment parameters include the detailed layout plans, sections and elevations, and means of access. These plans, along with the written description of the Proposed Development, allow the likely significant effects of the proposals to be fully assessed and appropriate mitigation measures secured. The development parameters which have been used within the assessment of environmental effects are presented in the drawing schedule presented at the end of this chapter. The detailed drawings are presented at **ES Volume 3 - Appendix 5.1: Application Drawings**.

- 5.10 Details of the Proposed Development are described in the following sections. Further supporting information is provided in the accompanying Design and Access Statement (DAS) (John Matthews Architects, October 2021) submitted with the application.
- 5.11 A Drawing Schedule is presented at the end of this chapter which includes the full suite of detailed drawings that have been prepared and are submitted for approval with the planning application and have been used within the assessment of environmental effects. A description of the proposals is presented below which should be read alongside the drawings detailed in the Drawing Schedule and presented in **Appendix 5.1**.

Quantum of Development

- 5.12 The planning application seeks full planning consent for the land use and amount set out in Table 5.1.

Table 5.1: Schedule of Accommodation

Use	Quantum
Residential Units (Use Class C3)	300
Floors	GF + 26 Floors
Ground floor commercial floorspace (Use Class E and Sui Generis)	200sqm
Public realm food and beverage floorspace (Use Class E and Sui Generis)	800sqm
Gym	160sqm
Cinema room	35sqm
Cycle storage	300 Cycle Parking Spaces
Car Parking Spaces	36 parking spaces (including three disabled parking spaces and seven electric vehicle ('EV') charging spaces)

- 5.13 The following sections describe the detailed plans and schedule of accommodation. These have formed the basis of the assessments within this ES.

Use and Amount of Development

- 5.14 Full planning permission is sought for the construction of a landmark part ground + 13 storey, part ground + 26 storey residential-led building with ground floor retail leisure space.

5.15 The development comprises the following:

- 300 residential homes (Use Class C3) including:
 - 104no. 1 beds;
 - 183no. 2 beds;
 - 9no. 3 beds; and
 - 4no. Penthouses.
- 200sqm retail space within the residential building (Use Class E / Sui Generis);
- 800sqm food and beverage space within the public realm (Use Class E / Sui Generis);
- 160sqm gym (Use Class sui generis);
- 30sqm cinema (Use Class Sui Generis);
- 300 cycle spaces;
- 36 car parking spaces (including three disabled parking spaces and seven EV charging spaces);
- Landscaping;
- Public realm; and,
- Associated infrastructure.

5.16 The proposals include extensive residential amenity; including a gym, communal roof terrace and a riverside residents garden. Further details of the proposed public realm and landscaping are set out below.

Lower Ground Floors

Lower Ground -02

- Level -02 will comprise the new car park area (extended from the adjacent car park associated with the Ramada Complex). This new car park deck will create 36 dedicated spaces for the residential development, which will be accessed via the publicly accessible car park adjacent.
- This level will also comprise a new publicly accessible route along the river with steps up to Victoria Bridge Street, a new residents landscaped area on top of the car park deck and a new platform lift from Blackfriars Street. There is also a lift in the residential building providing access to/from the car park.

Lower Ground -01

- This level concentrates seven residential units to the riverside frontage.
- Back of house space would be located against the retaining wall.

- A cycle store is provided at this level, accessed via the adjacent car park. This cycle store will accommodate 300 cycle spaces.
- A resident's postal lounge and cinema room is also located at this level, accessed via a feature stair case from the main reception.

Ground Floor

- The ground floor has been arranged to ensure active frontages, in the form of retail units, address the riverfront and Deansgate.
- The ground floor level will also be home to the main entrance into the building with the core located towards the north/east of the plan to ensure the front door of the building directly addresses Manchester Cathedral. The entrance into the development leads into a reception area at this level.
- This level concentrates six residential units to the riverside frontage.
- Refuse and plant space are located to the south facade and accessed via the existing service yard.

Level 01

- The residential accommodation at this level is spread further across the full floorplate of the development facing onto the riverside and wrapping round the building onto Deansgate. 12 residential units are provided at this level.
- This floor also includes a resident's gym and studio space.

Typical Upper Floors

- A mix of 1, 2 & 3 bed units are arranged around a central core on each of the typical floors. The remaining upper floors will provide 275 residential units.
- Each of the apartments include juliet balconies.
- The apartments to the west gable have full width balconies overlooking the River Irwell.

Rooftop

- A private residents roof terrace is provided at Level 14 of the Irwell block
- The building form steps back every two floors from above Level 14 to create a series of private south facing terraces at for residents of the adjoining apartments at Levels 16, 18, 20, 22, 24 and 26.
- A private residents terrace for the occupants of the 4.no penthouses is also provided at the Level 27 roof.

5.17 Further details of the proposed development are contained with the submitted DAS, along with the plans submitted with this application. See Drawing Schedule presented at the end of this chapter for further on the proposed uses and the detailed drawings presented in **Appendix 5.1**.

Appearance

- 5.18 The development comprises a new build residential development. The building has therefore been developed with a view of responding to the local context and key views and landmarks.
- 5.19 Full details of the Proposed Developments appearance are set out within the submitted DAS, however, a summary of the proposed appearance is provided below:

East Elevation

- The base is articulated through large civic scale columns which ground the building, with inset glazing to create active frontages along Deansgate.
- The main body of the facade is clad in a precast polished concrete shingle, with a hit and miss pattern, to create a depth.
- Each of the precast panels are embossed, starting at the base with an Ogee arch.
- The Ogee arch is in reference to the tracery within the Manchester Cathedral windows.

North Elevation

- The front door of the building is located on the north elevation, directly across from Manchester Cathedral.
- The north façade to the Deansgate block will be fully glazed and tapered in form.
- The building line is inset at ground and first floor.
- A sculptural cruciform column is located at the entrance.
- The north elevation to the Irwell block is clad in precast concrete with the Ogee pattern and texture applied to the lower floors to ground the building.

West Elevation

- The lower ground level benefit from views over the River Irwell on the west and north elevation with the new car park area provided at Level -02.
- The Irwell block has full width projecting balconies and curtain walling to the gable.
- The lower ground levels to this block taper in plan to enable continuation of the river walk.
- A private residents garden is located alongside the River Irwell with a new publicly accessible route along the river with steps up to Victoria Bridge Street.

South Elevation

- The precast shingles wrap around the Deansgate block to Level 13. The stepped form of the building begins at Level 14 upwards. The stepping occurs every two floors, providing a series of south facing apartments

with terraces at Levels 16, 18, 20, 22, 24, and 26. Juliet balconies are proposed at all remaining apartments with full height curtain walling.

- The south façade to the Irwell Block is clad in metallic rainscreen and precast concrete cladding.
- The back of house areas including the substation, refuse store are located within the service yard. The cycle store and plant rooms to the lower ground levels are adjacent to the existing car park which has been extended at Level -02.

Materiality and Colour

5.20 The precast panels are embossed in a hit and miss arrangement, starting at the base with an Ogee arch which concentrates in scale towards the crown of the building. A summary of the material palette to be used in the key elements of the proposals is provided below:

- Singled precast panels - with reference to the Collyhurst sandstone which was used to construct the Grade I listed Manchester Cathedral. The shingle panels will have a polished finish to animate the facade with reflectance and depth;
- The precast panels are embossed in a hit and miss arrangement, starting at the base with an Ogee arch which concentrates in scale towards the crown of the building - The Ogee Arch is in reference to the tracery within the Manchester Cathedral windows;
- Clear SG curtain walling system to the ground floor and full height of north façade.

Public Realm and Landscaping

5.21 The Proposed Development will include new landscaping and areas of public realm. The key features of the landscaping proposals are outlined below:

Irwell Terrace

5.22 A key feature of the scheme will be new public riverside space provided to the south west of the Site. The aim of this area is to create a key dwell space in a riverside setting. Food and drink outlets will be positioned around the edges of the space. Furniture, trees, planting and lighting are also proposed within this space to enable people to use the area throughout the day and night. Access to the riverside public realm can be made from either Irwell Street to the south or Victoria Bridge Street to the north. Access to this space will be controlled and can be closed off at night. New lift access is provided to the riverside space from Blackfriars Street.

5.23 A private residential space will also be created as part of the development to the north of the publicly accessible space, facing onto the riverside. The residents landscaped area will be provided on top of the car park deck. The aim of the landscaped area is to create an inviting private space for residents to populate in different ways. The space uses trees and planting to spatially break it up which provides multiple smaller dwell options within it.

Public realm is separated from the residential garden space by luscious planting, hedging and an integrated balustrade to create a private, enclosed garden space for residents.

Residential Arrival Space

- 5.24 A new entrance area will be created at the northmost point of the site as part of the public realm. This will be accentuated by the provision of diminishing steps to the front door and ornamental planting which will frame the entrance and tie into the public realm improvements intended to be provided along Deansgate.

Rooftop Terraces

- 5.25 A communal residential terrace will be provided at Level 14 at the roof of the Irwell Block. At Level 27 (the roof of the Deansgate Block) a private residential terrace will be available which will serve the penthouse occupants. These terraces will feature trees, planting and seating areas.
- 5.26 As noted above, the building form steps back every two floors from above Level 14 to create a series of private south facing terraces for the adjoining apartments at Level 16, 18, 20, 22, 24 and 26.

Access

- 5.27 Pedestrian access will be provided into the building through multiple entrances. The main entrance to the building will be provided on the north elevation and will allow access into the residential building. Pedestrians will access via a level entrance at ground floor level and will pass through a reception area before accessing the upper floors. A secondary access point is provided to Lower -02 via the existing adjacent car park.
- 5.28 Separate accesses will be created along Deansgate in accordance with the split of the individual retail units to be located along this elevation at ground floor level.
- 5.29 A private residents garden is located adjacent to the River Irwell. A new publicly accessible route will be provided along the river with steps up to Victoria Bridge Street as well as a platform lift from Blackfriars Street. There is also a lift in the residential building providing access to/from the car park.
- 5.30 Secure cycle storage is provided at Level -01. Access to the cycle store is via the existing Blackfriars Street car park ramp. The existing car park entrance will also lead to the new parking area created at Level -02.
- 5.31 The postal lounge is accessed via the ground floor, via reception and down a feature staircase.
- 5.32 The refuse store is located on the south facade, accessed via the existing service yard.

Car Parking

- 5.33 A new car park with deck above the current level will be provided at Level -02 accessed via the existing car park adjacent.

- 5.34 36.no dedicated parking spaces will be provided and assigned to the residential development in this new car parking area which will form an extension of the existing adjacent car park which is to be retained with access maintained along Blackfriars Street and a new fire escape stair to be provided to the car park as part of the Premier House application (planning application reference: 130935/FO/2021).
- 5.35 No changes further changes will be made to the below ground parking provision which already exists on site. However, a simple priority junction with right turn pocket and 'Keep Clear' markings on Blackfriars Street provides the entrance / exit to the underground multistorey car park and these changes are being provided as part of the Premier House application (planning application reference: 130935/FO/2021).
- 5.36 The car park currently accommodates 360 spaces over three underground levels and is operated by Manchester City Council on a 'pay on arrival' basis for parking up to 24 hours. Annual season tickets are also available for this car park.
- 5.37 Outside of the new designated spaces created the rest of the parking available will therefore remain accessible by members of the public and will not become solely associated with the Proposed Development.
- 5.38 The approach to parking for this development is considered entirely appropriate due to the highly accessible location of the application site, which provides excellent opportunities for access by sustainable modes of travel. Any additional car parking demand associated with resident, staff or visitor car trips to the application site could be accommodated by existing local long-stay public / contract multi-storey car parking provision, as per the historic use of the Renaissance masterplan site.

Cycle Access and Cycle Parking

- 5.39 A cycle store is proposed to serve the development scheme, providing parking for 300 cycles.
- 5.40 This proposed level of cycle parking (1 space per apartment) is considered to represent an appropriate level of cycle parking supply in the city centre location. Cycle parking will be accessed via the existing car park / Level -01.

Surface Water Drainage Strategy and SuDS

- 5.41 Full details of the proposed surface water drainage strategy are provided within the stand-alone Flood Risk Assessment (FRA) and Drainage submitted in support of the detailed planning application. However, in summary, the proposed drainage strategy will seek to manage surface water drainage whilst adhering to the drainage hierarchy: discharge via infiltration, or otherwise discharge to closest watercourse, or otherwise discharge into the public surface water sewer at a rate agreed with the LLFA and UU, or otherwise to public combined sewer. Given the ground conditions beneath the Site, drainage via infiltration is not deemed feasible. The River Irwell forms the western boundary of the Site and is the current outfall destination. The Proposed Development will therefore continue to utilise this outfall.

- 5.42 A range of Sustainable Drainage Systems (SuDS) would be implemented across the Site to manage surface water runoff. These measures will include:
- Porous pavements - Pavements constructed with porous paving can provide runoff storage within the sub-base and runoff treatment;
 - Filter drains - Granular filled linear trenches with a perforated pipe installed at the base;
 - Green roofs - Vegetated roof areas that reduce and runoff and increase times of concentration;
 - Underground attenuation storage - Attenuation structures installed below ground to provide surface water storage. It is estimated that between 100m³ and 150m³ attenuation storage will be required. The attenuation volume will be agreed with MCC and United Utilities (UU).
- 5.43 The drainage strategy has been developed to manage surface water runoff up to the 1 in 100 year storm event plus a 40% allowance for climate change.

Servicing

- 5.44 The recently submitted application to redevelop the part retained Premier House building (planning application reference: 130935/FO/2021) proposes the relocation of the existing service vehicle access to a location immediately north of the retained/redeveloped Premier House building. The existing service yard vehicle access is programmed for demolition as part of the demolition schedule for the northern section of Premier House. The new service access point will connect with the existing one-way service route through the Renaissance site and provide refuse vehicle access to the Proposed Development refuse stores.

Demolition and Construction

Prior Approval for Demolition Application Ref. 130049/DEM/2021

- 5.45 Although the demolition proposals do not form part of this application and it is worth noting the separate Prior Approval application (Ref: 130049/DEM/2021) which was approved on 8th July 2021 as this application facilitates the proposals as set out within this report. An overview has been set out below which sets out the context for the proposals sought under this application.
- 5.46 The partial demolition will involve the removal of the northern part of the Premier House building. This includes the ramp canopy fronting Deansgate, removal of concrete upstand and window and demolition of circa 10m wide strip of the entire full height of the building down to slab level on Deansgate.
- 5.47 The condition of the building has been deteriorating for a number of years and it has become an eyesore. The removal of these elements of the Site will therefore facilitate the external alterations proposed under recently

submitted application Ref: 130935/FO/2021 and will allow for the complete refurbishment of the Site into a high-quality commercial workspace with level access and animated frontages to Deansgate.

- 5.48 The demolition as approved under this prior approval application is also necessary to clear the northmost area of the Site to make way for a new high quality residential development which is the subject of this application, as discussed further within this report.
- 5.49 As noted in Chapter 2: Approach, although a prior approval for the necessary partial demolition of Premier House has been approved, the EIA has also assessed the demolition works as part of the construction phase for the Proposed Development as the demolition is necessary in order to deliver the Proposed Development.

Construction Programme

- 5.50 It is anticipated that construction will start on site in Q1 2022 and last for a period of approximately 130 weeks with full site completion anticipated by Q3 2024.

Site Compounds

- 5.51 The Site compound will be carefully positioned within the Site to avoid unnecessary visual or noise nuisance to adjacent land users.
- 5.52 It is proposed to utilise the compound area to offload, store and handle materials as well as for welfare facilities where appropriate. The location of the compound will enable materials to be offloaded in one controlled area and then moved within the Site to the required building area. It is envisaged that strict management of loading zones will be implemented by way of a delivery booking system, which will ensure that material movements are efficiently managed and will also facilitate a 'just in time' delivery regime. Where possible, material movements will be managed to coincide with quiet periods.

Hours of Work

- 5.53 Working hours will be subject to agreement with MCC. However, it has been assumed that standard working hours would be followed. These are presented below:
- Monday – Friday: 07:30 - 18:00;
 - Saturday: 08:30 - 13:00; and
 - No working on Sundays or Bank Holidays.
- 5.54 Exceptions may arise, for example when abnormal loads are delivered or when specialist activities are conducted, when works may be required outside of these times. The applicant acknowledges that should these circumstances arise, the appropriate permissions and notifications would be sought in advance from MCC.

- 5.55 Where works unavoidably need to take place outside the core working hours, occupiers of nearby residential properties shall be informed by the contractor in advance of the works and their likely duration.

Construction Environmental Management Plan

- 5.56 A Construction Environmental Management Plan (CEMP) has been prepared and is submitted as a standalone document supporting the planning application. Following the grant of detailed planning permission, the CEMP would be further developed to include roles and responsibilities, details of the proposed methodologies and further detailed mitigation measures including monitoring, auditing and training procedures once the Principal Contractor and other contractors have been appointed. The contents of the CEMP would be discussed and agreed with the relevant planning and environmental health officers of the MCC prior to the commencement of the construction works. It is anticipated that the CEMP would be secured by planning condition. A commitment has been made to periodically review the CEMP and undertake regular environmental audits of its implementation during the demolition and construction works.
- 5.57 The CEMP outlines the methods which will be employed by developers and contractors to manage and where practical minimise the impact of the development's construction activities upon the Site and surrounding area. The Plan demonstrates a commitment to achieving high environmental standards and compliance with considerate contractor scheme procedures. The Plan includes best practice measures and those mitigation measures identified through the EIA process.
- 5.58 The CEMP would address requirements in relation to environmental controls and would include the following:
- The Construction Programme;
 - A broad plan of construction works, highlighting the various work stages and associated schedule of works and equipment requirements;
 - Details of construction traffic and routing;
 - Detailed site layout arrangements, including the location of site compounds, storage areas, delivery to site access and egress and on/off loading areas, parking for staff and location of construction lighting and site hoarding;
 - Prohibited or restricted areas;
 - Site working hours;
 - Communication strategy with both MCC and the local community and confirmation of a Liaison Officer;
 - Provision of monitoring and recording, including maintaining a complaints and actions register and auditing procedures; and

- Outline of key environmental management measures and details of any requirements for monitoring. This shall include details of any operations where disturbance / effects may occur, expected durations and response protocols.

5.59 Mitigation measures as identified within this ES have been incorporated into the CEMP (refer to Chapter 13: Summary of Mitigation and Residual Effects) where necessary. Individual contractors will also incorporate relevant requirements in respect of environmental controls, based largely on standard good working practices and all other statutory requirements. All contractors will be required to adhere to the CEMP to satisfy requirements of legislation and comply with best practice with regard to environmental management.

Scope of Environmental Management Control

5.59.1 The CEMP includes detailed information on the controls to be implemented for the following:

- Public liaison.
- Complaints procedure.
- Public safety, emergencies and accidents.
- Traffic and access management (interaction with public highways, protection measures for pedestrians and cyclists and access and egress arrangements).
- Control of noise, vibration, dust and lighting.
- Materials storage and handling.
- Waste management and minimisation.
- Hazardous materials.
- Protection of utility services.

Summary

- 5.60 This chapter has presented a description of the Proposed Development which is supported by a set of detailed proposal drawings which together forms the basis for the assessments described in this ES.
- 5.61 The potential environmental impacts of the construction phase of the Proposed Development have been considered and all controls or measures to mitigate these effects are in line with current environmental standards and legislative requirements. Further detail of construction impacts has been presented in each technical chapter, where applicable.
- 5.62 The construction works would be managed via the development of a CEMP which has been prepared and is submitted as a stand-alone document supporting the detailed planning application. The final CEMP would be

refined, updated and agreed with MCC and other relevant bodies prior to the commencement of construction works. The CEMP would comply with mitigation measures set out in this ES. The appointed Principal Contractor(s) for the Works would be obliged, via planning condition, to adhere to the CEMP.

Drawing Schedule

EIA Parameters	Purpose	Drawing No.
Site Location Plan	Identifies the location of the Site.	150_B2_00_1000
Existing Site Plan	Details the existing site uses.	150_B2_00_1001
Masterplan Ground Floor Plan	Details the layout of the Proposed Development	MP_00_2200
Proposed Level -02 General Arrangement Plan	Sets out the layout for the levels within the Proposed Development.	150_B2_02_2298
Proposed Level -01 General Arrangement Plan		150_B2_02_2299
Proposed Ground Floor Arrangement Plan		150_B2_02_2200
Proposed Level 01 General Arrangement Plan		150_B2_02_2201
Proposed Level 02 General Arrangement Plan		150_B2_02_2202
Proposed Level 03-08 General Arrangement Plan		150_B2_02_2203
Proposed Level 09-13 General Arrangement Plan		150_B2_02_2209
Proposed Level 14 General Arrangement Plan		150_B2_02_2214
Proposed Level 15 General Arrangement Plan		150_B2_02_2215

EIA Parameters	Purpose	Drawing No.
Proposed Level 16-17 General Arrangement Plan		150_B2_02_2216
Proposed Level 18-19 General Arrangement Plan		150_B2_02_2218
Proposed Level 20-21 General Arrangement Plan		150_B2_02_2220
Proposed Level 22-23 General Arrangement Plan		150_B2_02_2222
Proposed Level 24-25 General Arrangement Plan		150_B2_02_2224
Proposed Level 26 General Arrangement Plan		150_B2_02_2226
Proposed Level 27 General Arrangement Plan		150_B2_02_2227
Proposed Roof Level General Arrangement Plan		150_B2_02_2228
Premier House - Block 1 Existing East Elevation	Details the existing elevations on site	150_B1_04_1000
Premier House - Block 1 Existing North Elevation		150_B1_04_1001
Premier House - Block 1 Existing South Elevation		150_B1_04_1002
Premier House - Block 1 Existing West Elevation		150_B1_04_1003

EIA Parameters	Purpose	Drawing No.
Residential Building - Block 2 Proposed East Elevation	Details the proposed elevations on site	150_B2_04_2200
Residential Building - Block 2 Proposed North & South Elevation		150_B2_04_2201
Residential Building - Block 2 Proposed West Elevation		150_B2_04_2202
Proposed Section AA/BB Residential Building - Block 2	Details the proposed sections through the Proposed Development	150_B2_05_2200
Residential Building - Block 2 Bay Study 01	Provides details of the Bay Studies	150_B2_10_4200
Residential Building - Block 2 Bay Study 02		150_B2_10_4201
Residential Building - Block 2 Bay Study 03		150_B2_10_4202
Residential Building - Block 2 Bay Study 04		150_B2_10_4203
Residential Building - Block 2 Bay Study 05		150_B2_10_4204
Landscape General Arrangement Street Level	Details the landscaping at ground level	2664-PLA-RE-GF-DR-L-1000
Hardworks Street Level		2664-PLA-RE-GF-DR-L-1001
Kerbs & Edges Plan Street Level		2664-PLA-RE-GF-DR-L-1002

EIA Parameters	Purpose	Drawing No.
Levels Plan Street Level		2664-PLA-RE-GF-DR-L-1003
Furniture Plan Street Level		2664-PLA-RE-GF-DR-L-4001
Hardworks Plan Residential Deck Level -01	Details the landscaping at Deck Level -01	2664-PLA-RE-L01-DR-L-1010
Kerbs & Edges Plan Residential Deck Level -01		2664-PLA-RE-L01-DR-L-1011
Levels Plan Residential Deck Level -01		2664-PLA-RE-L01-DR-L-1012
Softworks Plan Residential Deck Level -01		2664-PLA-RE-L01-DR-L-2002
Furniture Plan Residential Deck Level -01		2664-PLA-RE-L01-DR-L-2002
Hardworks Riverside Terrace Level	Details the landscaping at the Riverside Terrace Level -02	2664-PLA-RE-L02-DR-L-1006
Kerbs & Edges Plan Riverside Terrace Level		2664-PLA-RE-L02-DR-L-1007
Levels Plan Riverside Terrace Level		2664-PLA-RE-L02-DR-L-1008
Softworks Plan Riverside Terrace Level		2664-PLA-RE-L02-DR-L-2001
Furniture Plan Riverside Terrace Level		2664-PLA-RE-L02-DR-L-4001
Lighting Plan Riverside Terrace Level		2664-PLA-RE-L02-DR-L-4002

EIA Parameters	Purpose	Drawing No.
Planting Schedule	Details the Planting across the Proposed Development	2664-PLA-RE-XX-SCH-L-0001

6. Townscape and Visual

Introduction

- 6.1 This chapter assesses the effects of the Proposed Development on townscape character and visual amenity. In particular it identifies and assesses the anticipated effects of change resulting from the Proposed Development on the character and features of the townscape, and on people's views and visual amenity within the Townscape and Visual Impact Assessment Study Area. The Study Area is shown on **Figure 6.1**.
- 6.2 The chapter describes the methods used to assess the likely significant effects, the baseline conditions, the potential effects of the development on the townscape, the potential visual effects, the mitigation measures required to prevent, reduce, or offset the identified significant effects and the residual effects. This chapter has been written by Randall Thorp LLP.
- 6.3 This Chapter, and its associated figures and appendices, is intended to be read as part of the wider ES with particular reference to the introductory chapters of this ES (Chapters 1-5), as well as Chapter 7: Heritage.

Planning Policy Context

National Planning Policy

National Planning Policy Framework

- 6.4 The National Planning Policy Framework (2021) promotes a presumption in favour of sustainable development for both plan-making and decision-taking (Paragraph 11).
- 6.5 Of most relevance are:
- Section 12, Achieving Well-Designed Places (paragraphs 126, 130, 131 and 134)

National Planning Practice Guidance

- 6.6 The National Planning Practice Guidance (NPPG) was published on 6th March 2014 to supplement the NPPF and is regularly updated. It provides an accessible online resource offering further guidance on subjects including climate change, consultation, design, environmental impact assessment, flood risk and coastal change, green belt, open space, sports and recreation facilities, public rights of way and local green space, amongst many others.

- 6.7 The “Design: process and tools” guidance provides advice on planning for well-designed places. It is to be read in conjunction with the National Design Guide, which sets out the characteristics of well-designed places and demonstrates what good design means in practice.

National Design Guide

- 6.8 The Ministry of Housing Communities and Local Government published the National Design Guide in January 2021. Together with the National Model Design Code and Guidance Notes for Design Codes, the documents *‘illustrate how well-designed places that are beautiful, healthy, greener, enduring and successful can be achieved in practice’* It encompasses all current best practice thinking in urban design.
- 6.9 The National Design Guide identifies the components for good design and emphasises that good design should not only pay attention to buildings. Careful attention should also be given to the context for places and buildings, hard and soft landscape, technical infrastructure - transport, utilities and services such as drainage, and social infrastructure - social commercial, leisure uses and activities.
- 6.10 Well-designed places are achieved through making the right choices at all levels of the design process, including in relation to the layout (or masterplan), the form and scale of buildings, their appearance, landscape, materials and their detailing. These design choices contribute towards achieving the ten characteristics of well-designed places and shape the character of a place. The National Design Guide summarises this process in the following paragraph:

“Well-designed places have individual characteristics which work together to create its physical Character. The ten characteristics help to nurture and sustain a sense of Community. They work to positively address environmental issues affecting Climate. They all contribute towards the cross-cutting themes for good design set out in the National Planning Policy Framework.”

Local Planning Policy

- 6.11 Manchester’s Core Strategy is a Key Development Plan document within the Local Development Framework. It replaces the majority of the existing Unitary Development Plan. The Core Strategy sets out the Council’s vision for Manchester along with planning policy which will be used to deliver this vision.
- 6.12 Policies pertinent to this application are listed below.
- 6.13 **Policy CC6 City Centre High Density Development** which states that:

“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."

6.14 **Policy CC 9 Design and Heritage** states that:

"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."

6.15 **Policy EN 1 Design Principles and Strategic Character Areas** which states that:

"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. 1. City Centre Character Area The City Centre contains a rich legacy which reflects its urban evolution to the current day and includes listed buildings, conservation areas, archaeological remains and an historic street pattern. Its core area presents a particularly dense environment that accommodates a wide and closely integrated range of uses including commercial, civic and residential activities. Relative to the amount of development there is limited open space and this includes a range of civic and less formal green spaces and waterways. Outside the core and associated with the Inner Relief Route there are less active and less densely developed areas with significant elements of cleared land. The City Centre is the focus of the City's transport routes.

- *Developers will be expected to consider the City's heritage and continue the rich pattern of activity in the core area*
- *While there will be opportunities to create landmark buildings, developments should also contribute positively to the experience of all at street level.*
- *Wherever possible the opportunity should be realised to enhance existing and provide new areas of meaningful open space, and the maintenance and improvement of the City's permeability should be considered in all proposals."*

6.16 Policy EN2 Tall Buildings which states that:

“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.”

6.17 Policy EN 3 Heritage which states that:

“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."

6.18 **Policy EN 9 Green Infrastructure** which states that:

"New development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function and future management.

Key features of Manchester's green infrastructure will include:

- *The continued development of a network of green spaces, water bodies, canals, paths and cycleways, with priority given to those parts of the City where there is an identified existing lack of open space. The Council will seek to protect existing street trees and promote new planting, particularly where this can enhance green links in the urban area.*
- *The continued maintenance and management of the Rivers Mersey and Irwell and their tributaries, for example the River Irk, River Medlock, Chorlton Platt Gore, Gatley Brook, Moston Brook and adjoining land, with regard to their multiple functions including recreation, flood management, and biodiversity.*
- *The provision of new, and improvements to the quality and accessibility of existing green infrastructure assets, to mitigate for any loss of green infrastructure as a result of development such as the Metrolink extension programme.*
- *The encouragement of green roofs, green walls, tree planting and other forms of green infrastructure to allow for the adaption to climate change in heavily urbanised areas.*

New green infrastructure provision should be an exemplar of best practice and innovation in terms of both its design and management."

Other Relevant Policy, Standards and Guidance

City Centre Strategic Plan 2015 - 2018

6.19 The City Centre Strategic Plan seeks to:

- *"Demonstrate what has been achieved since the last Strategic Plan was published in 2009*
- *Update the vision for the city centre within the current economic and strategic context*
- *Outline the direction of travel and key priorities over the next few years in each of the city centre neighbourhoods*
- *Describe the partnerships in place to deliver those priorities".*

6.20 The Strategic Plan states:

"The Greater Manchester Strategy provides both a vision for the city and the elements that will be addressed in delivering this vision. The Manchester Strategy (see below) is aligned with, and strongly supports, the overarching Greater Manchester Strategy."

6.21 The strategy goes on to identify the Site as sitting in the 'Retail Core' area. The city centre is a major retail hub within the UK and is a major tourism attraction for the wider city region. The Strategy sets out a list of Key Priorities. One of these priorities includes "Redeveloping the Ramada block on Blackfriars Street" which includes the Site. Further details are set out in the Ramada Complex Strategic Regeneration Framework (SRF).

Ramada Complex Strategic Regeneration Framework (SRF)

6.22 The Ramada Complex SRF was adopted in May 2018 and endorsed by Manchester City Council. It sets out a vision and strategy for the Site and its immediate setting. The document supports future development proposals and complements the City's regeneration initiatives. The SRF encompasses an irregular shaped area of land that covers the Site, crosses Deansgate at the junction with Blackfriars and includes office buildings at 39 Deansgate to the south. This area has been considered for regeneration for over 20 years and is the last site of the post 1999 City Centre Renewal Area Masterplan.

6.23 The SRF acts as planning guidance and forms a material consideration when the Local Authority are determining planning applications. This area is identified as an appropriate location for residential development. The proposals will provide an opportunity to create a new landmark building, residential/ mixed uses and a riverside destination at this prominent city centre location.

6.24 The Framework sets out a number of detailed development principles for the Site, however the overarching themes are:

"Place Making: *This lies at the heart of the SRF. 58% of its area will be public realm. In delivering this, there is an opportunity to create a new city centre destination which will genuinely transform this area and provide the missing link between adjoining regeneration initiatives. As already mentioned, the public realm treatments will be of the highest possible quality and will take lessons from past experience. The public space will provide the setting for a mix of high quality city centre uses which will be distinctive and add value to the overall offer. Those uses will attract activity at different times of the day and week, will encourage visitors and the widest possible public participation in the benefits that are delivered. The opportunity for distinctiveness can also be drawn from the ability to re-connect the Site to its historic setting. This will be through providing permeability at and around the Site's edges whilst maximising views to local assets such as Manchester Cathedral, the River Irwell and Deansgate. The quality and distinctiveness of the architecture will complement the existing and future skyline of the City at a key City Centre intersection, will allow engagement with both the river and the Cathedral, and will promote a scheme that is transformational and distinctive.*

Best in Class Uses: *The Proposed Development will be high quality, distinctive and add value to the City Centre's current offer. The ground floor uses would be aligned to a non-institutional and therefore flexible*

commercial and leasing strategy, allied to a carefully curated target occupier list and an ongoing occupier management strategy.

Scale and Density: *The level of upfront investment required to deliver comprehensive regeneration will require a high density of development that is commensurate with other recent regeneration initiatives in Manchester such as Spinningfields. Spinningfields has been a sustainable and successful project due to the quality of the built environment and its management. For high density models of regeneration to be successful, great emphasis on the high quality of the place making is required. In terms of height, it is envisaged that this should step up away from the Cathedral, and the distribution of height across the Site will respond to the need for good levels of sunlight and daylight to dwellings, amenity spaces and public open spaces, as well as provide opportunities to create views through the Site.*

Rebalancing Deansgate: *Creating a quality, pedestrian dominated public space on Deansgate north of St Mary's Gate. This will improve the pedestrian environment and encourage footfall along this neglected part of Deansgate towards the Medieval Quarter and Victoria Station area.*

Environment and Sustainability: *The development principles include a number of objectives to ensure that the development is accessible to all, creates a safe and secure environment, and promotes future adaptability and resilience to climate change."*

Assessment Methodology and Significance Criteria

Relevant Guidance

- 6.25 The documents which have been used to inform the assessment methodology are listed below:
- Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA 3) – Landscape Institute (LI) and the Institute of Environmental Management and Assessment (IEMA) (2013);
 - Townscape Character Assessment Technical Information Note 05/2017 - Landscape Institute (Revised April 2018);
 - Visual Representation of Development Proposals Technical Guidance Note 06/19 - Landscape Institute (2019);
 - Guidance on Tall Buildings CABE (2007) and
 - Advice Note 4: Tall Buildings, Historic England (2015).
- 6.26 The guidelines are not prescriptive, and the approach taken to any assessment must be tailored to the nature of the Proposed Development, its location and likely effects.
- 6.27 The scope of the Guidelines for Landscape and Visual Impact Assessment include townscape. Although the guidelines often refer to 'landscape', the European Landscape Convention definition of landscape includes the landscape of villages, towns and cities. Townscape is defined as the landscape within the built-up area.
- 6.28 GLVIA 3 requires that a clear distinction is drawn between townscape, and visual effects:

- Townscape effects relate to the predicted effects on the townscape as a resource. Townscape effects can be generated by a development's effect upon the physical townscape, and its townscape character, fabric and quality. These include physical effects on townscape elements such as loss of trees or removal of structures. This also includes aesthetic, perceptual and experiential aspects of the urban environment, which may contribute to townscape character.
- Visual effects relate to the predicted change to the view and the related impacts on the visual amenity experienced by people – the visual receptors, from publicly accessible locations. A view is defined as a single sight or prospect that can be seen from a particular place or location. The visual amenity is defined as the overall pleasantness of what people can see in their surroundings (GLVIA3 p158). Therefore, a view may have elements within it that change significantly, but the overall pleasantness could remain the same. Visual receptors typically include pedestrians, users of public rights of way/ recreational facilities and drivers and passengers of vehicles/ rail passengers.

Overall Approach

6.29 In line with GLVIA 3, the methodology used for this assessment has four key stages as follows:

- Establishment of the baseline conditions of the Study Area relating to townscape character and views and the quality, value and sensitivity to change of these resources;
- Contributions to the iterative process of design to understand the nature, form and features of the Proposed Development and inform embedded mitigation;
- An assessment of the magnitude of effect likely to result from the Proposed Development; and
- An assessment of the significance of townscape and visual effects considering the sensitivity of resources and the magnitude of effect.

6.30 The assessment considers daytime effects during construction, upon completion and residual effects.

Identification of the Study Area

6.31 A scoping assessment was undertaken in order to establish the Study Area, the townscape receptors and the visual receptors. The extent of the Study Areas for the townscape assessment and the visual assessment are shown on **Figures 6.1** and **6.2**. **Figure 6.3** shows the Site in its immediate setting.

6.32 The extent of the Study Area for the townscape assessment covers an area of 500m radius from the Site. It was considered that the potential for townscape character and features to be significantly affected by the Proposed Development would be limited to the Site itself and an area of up to 500m around the Site. Although the Proposed Development would be visible from a wider area than this, it would not materially affect any townscape features or the townscape character. The change to the views as a result of the Proposed Development are considered as part of the visual assessment.

- 6.33 The extent of the Study Area used for the assessment of visual effects was informed by the Site survey. Due to the well built-up nature of the city centre the main areas from which the Proposed Development would be visible are largely contained to within a 500m radius of the Site. 2no. viewpoints have been included outside of this radius as they form part of arrival routes to the city. One from the elevated part of Cheetham Hill Road when travelling south towards the city, and one from Corporation Street when travelling southwest towards the city and Victoria Station.

Site Survey

- 6.34 Field work was undertaken in April 2021 The field work established an understanding of the townscape within and around the Site, its component parts and subdivisions, as well as the contribution currently made by different areas in terms of townscape quality and character, value, green infrastructure functions and accessibility. It also establishes the visual baseline to identify the range of views of the Site, and whether there are any public viewpoints which are important in terms of appreciating the character of the Site.
- 6.35 Viewpoints considered representative of potentially sensitive receptors situated within the Study Area at varying distances and directions have been identified. Views from public viewpoints, such as Public Rights of Way (PRoW), public open spaces and roads in the vicinity have been considered.

Desk-based Data

- 6.36 In addition to professional published guidance listed above, the following documents have been reviewed as part of the desk study:
- Natural England National Character Area – 55 Manchester Conurbation (January 2014)
 - National Planning Policy Framework (July 2021)
 - National Design Guide (October 2019)
 - Manchester's Local Development Framework Core Strategy Development Plan Document (July 2012)
 - Ramada Complex Strategic Regeneration Framework (May 2018)

Identification of Sensitive Receptors

- 6.37 The assessment of townscape effects is structured around the identification of Townscape Character Areas (TCAs) within the Study Area, based on a combination of desktop study and analysis, field survey and professional judgement. Different TCAs are defined through the identification of consistencies across areas of townscape in elements such as scale, materials, land – use, heritage, street pattern or open space.
- 6.38 **Figure 6.1** includes the boundaries of the Townscape TCAs. The TCAs / Townscape Receptors were identified as:
- The Cathedral, Cathedral Gardens and its setting

- The City Centre Retail area
- Parsonage Gardens and St Anne's Square
- Shudehill
- The mixed-use area to the west of the River Irwell
- Trinity Church and its setting

6.39 **Figure 6.2** includes a list of potential visual receptors and representative views. The Visual Receptors were identified as:

1. Cathedral Gardens
2. Exchange Square/ Cateaton Street
3. Greengate Square
4. Cathedral Approach
5. Victoria Station Arrival
6. Deansgate/ A56
7. Parsonage
8. Blackfriars Street
9. Victoria Street/A56 (south bound)
10. Corporation Street
11. Cheetham Hill Road / A556
12. St Anne's Square

Verified Photomontages

6.40 **Figure 6.2** includes the Study Area and potential viewpoint locations from which verified photomontages were prepared and used within the assessment, the details of the verified views are discussed later within this chapter. Sample photographs were taken from each location as an aide memoire to demonstrate the existing view, shown on **Figure 6.4 – 6.10**.

6.41 **Appendix 6.1** includes 7no. fully rendered (Accurate Visual Representation level 3) visualisations have been prepared for viewpoint locations 1.1, 2.1, 6.2, 8.1, 8.2, 9.1, & 11.1. 2no wireframe (Accurate Visual Representation level 0) for viewpoint locations at Cheetham Hill Road (11.1) and St Anne's Square (VP 12.1). The view from Cheetham Hill Road is a long-distance view and therefore a fully rendered verified photomontage was not deemed necessary. Through our desktop studies and site work we established that the Proposed Development

would not be visible from viewpoint 12.1, therefore we have prepared a wireframe verified photomontage as evidence.

Criteria for Determining the Sensitivity of the Townscape Receptors

- 6.42 An assessment of townscape value and susceptibility of townscape to change enables the overall sensitivity of townscape receptors to be determined. This forms the baseline from which the impact of the Proposed Development can be assessed.

Value of the Townscape Character Areas

- 6.43 Existing townscape designations were taken as the starting point for this assessment. However, the value attached to undesignated townscapes were also assessed.
- 6.44 An overall assessment of value was made for each townscape receptor, based on an overview of the assessments made using stated criteria in Table 6.1, in terms of high, medium and low value.

Table 6.1: Value Attached to Designated Townscape

Value	Criteria
High	Sites, features or areas of national or international importance with settings of high quality such as World Heritage Site, Scheduled Monuments, AONB, National Parks, Grade I and Grade II* Listed buildings, Registered Historic Parks and Gardens and Conservation Areas.
Medium	Sites, features or areas of local or regional importance with intact character such as Grade I and II* Listed Buildings, 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.

- 6.45 Whilst the assessment of value is partly based on the planning policy importance of the townscape, other criteria used to assess townscape value in more detail, including that of undesignated townscape, are set out in Table 6.2.

Table 6.2: Value Attached to Non-Designated Townscape Character

Factors	Value		
	High	Medium	Low
Townscape quality, condition and amenity	High quality/condition and largely intact. Attractive/ unique street scape/ townscape, buildings and elements.	Moderate quality/condition demonstrates some intactness. Moderate street scape/ townscape, buildings and elements.	Low/poor quality and disparate elements. Unattractive street scape/ townscape.
Scarcity/ rarity	Irreplaceable/Particularly scarce or fragile.	Mainly common features, but occasional interesting features.	Common features found in many cities / towns.
Historic/ Heritage interest	Historic interest which contributes significantly to townscape character.	Some historic interest with moderate contribution to historic character.	Limited to no historic interest.
Sense of place	Strong sense of place and identity. Strong pattern of street blocks and plots. Distinctive building form, style material and vernacular. Unique landform, with some quality trees/ wildlife habitats.	Moderate sense of place / identity. Moderate pattern of street blocks and plots. Some identity associated with the building form, style material and vernacular. Moderate landform, with some quality trees/ wildlife habitats.	No sense of place. No pattern of street blocks and plots. No similarity in building form, style material and vernacular. No landform, trees/ wildlife habitats.
Movement and connectivity	Legible, convenient and safe routes. Highly adaptable, with good access, natural surveillance.	Moderate legibility and access. Routes are not convenient and feel unsafe in places. Moderate access and natural surveillance.	No clear legibility. Routes are not convenient. Poor access. No natural surveillance. Existing routes feel unsafe.
Open space, recreation space and functionality	Well-designed public open space with inclusion of facilities such as seating, play areas, public art. Transient open spaces with the presence of human activity resulting in	Public open space with some facilities of use/ interest. Some presence of human activity resulting in some use for tranquillity/ reflection. Not often considered vibrant.	Minimal public open spaces with poor functionality. Lack of human activity resulting in uninviting and unappealing spaces.

Factors	Value		
	High	Medium	Low
	tranquillity or vibrancy		

Susceptibility to change of the Townscape Character Areas

- 6.46 Susceptibility indicates the ability of a defined TCA 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, para 5.40). A description of how susceptibility is evaluated for each receptor type is included in Table 6.3:

Table 6.3: Susceptibility to Change of Townscape Character Areas

Value	Criteria
High	Townscape receptor has little ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline townscape character and/or the achievement of townscape planning policies and strategies.
Medium	Townscape receptor has some ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline townscape character and/or the achievement of townscape planning policies and strategies.
Low	Townscape receptor has substantial ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline townscape character and/or the achievement of townscape planning policies and strategies.

Overall sensitivity of the Townscape Character Areas

- 6.47 The overall sensitivity of each TCA is rated within the range of High-Medium-Low and is informed by combining the susceptibility and value as described above.

Criteria for Determining Sensitivity of Visual Receptors

Value of Views

- 6.48 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.
- 6.49 The assessment of the value of views is summarised in Table 6.4 below, in terms of High, Medium and Low value. These criteria are provided for guidance only and are not intended to be absolute.

Table 6.4: Value Attached to Views

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.
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.
Low	Views from townscapes/viewpoints with limited designations, not particularly popular as a viewpoint and with minimal or no cultural associations.

Susceptibility of Visual Receptors to Change

- 6.50 The susceptibility of different types of visual receptor to changes in views is mainly a result of:
- The occupation or activity of the viewer at a given location; and
 - The extent to which a person's attention or interest may therefore be focussed on a view and the visual amenity experienced at a given view.
- 6.51 The assessment of a visual receptor to change is specific to the Proposed Development. However, the Guidelines for Landscape and Visual Impact Assessment offers the generic guidance identified in Table 6.5 as a starting point for the assessment, alongside the use of professional judgement.

Table 6.5: Visual Receptor Susceptibility to Change

Susceptibility	Type of Receptor
High	• Users of public space, including users of public rights of way, whose attention is likely to be focussed 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;

Susceptibility	Type of Receptor
	- 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.

6.52 The Guidelines for Landscape and Visual Impact Assessment qualifies the above examples as follows:

'This division is not black and white and in reality, there will be a gradation in susceptibility to change. Each project needs to consider the nature of the groups of people who will be affected and the extent to which their attention is likely to be focussed on views and visual amenity.' (page 114, paragraph 6.35).

Overall Sensitivity of Visual Receptors

6.53 The assessment of receptor sensitivity combines judgements on the value attributed to that receptor and the susceptibility of the receptor to the specific type of development proposed.

Photography Methodology

6.54 Photographic surveys have been undertaken to record views from readily accessible public viewpoints. A fixed lens, 50mm equivalent lens was used with the camera handheld to obtain normal eye height. Photographs included in the assessment are presented with the intention of aiding the understanding of the descriptive text. Where appropriate, frames are joined together to create panoramas which are representative of normal forward vision with a horizontal field of view of 120 degrees, and which may be extended up to a maximum of 180 degrees. This complies with the Visual Representation of Development Proposals, Technical Guidance Note 06/19 in respect of Type 1, Annotated Viewpoint Photographs.

Characterisation of Effect

Magnitude of Townscape Effects

6.55 The magnitude of townscape effects is assessed in terms of:

- Size or scale of effect on townscape;
- Geographical extent of the area influenced by that effect, and
- Duration and degree of reversibility.

Size and Scale of Townscape Effects

6.56 The size and/or scale of effects relates to the scale of changes in the townscape, such as townscape elements which are lost and those which are improved, the degree to which aesthetic or perceptual aspects of the townscape are altered and whether the effects change the key characteristics of the townscape.

- 6.57 The criteria used to assess the size and scale of townscape effects is based upon the amount of change that will occur as a result of the proposals and is judged as High, Medium, Low or Negligible. Effects may be adverse or beneficial and therefore range from High Adverse to High Beneficial. The criteria for judging the size and scale of effect has been set out in Table 6.6, below:

Table 6.6: Size and Scale of Townscape Effects

Category	Criteria
High degree of change with an 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.
Medium degree of change with an 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.
Low degree of change with an 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 degree of change	The proposals will result in a just discernible change to the townscape character/elements/features/characteristics.
Low degree of change with a 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.
Medium degree of change with a 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.
High degree of change with a 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.

Geographical Extent of Effects

- 6.58 The geographical extent is the area over which the townscape effects will be felt and could comprise Local level (on site or neighbouring sites); District level; Regional level; National level (UK); International level.

Duration/ Reversibility

- 6.59 Effects may be experienced over a range of timescales. For this assessment, the following timescales are considered appropriate:

- Short-term: 0-5 years;
- Medium-term: Between 5 and 10 years; and
- Long-term: 10 – 25 years.

6.60 Effects may be permanent, temporary, or reversible over time.

Final Assessment of the Magnitude of Townscape Effects

6.61 The final assessment of magnitude of effect is a professional judgement which considers the degree to which the proposal fits with existing character, and the contribution to the townscape that the development may make by virtue of good design. The balance between the size and scale of changes to individual components, the overall change to townscape character resulting, the extent of the area affected, and the duration of the townscape effects which arise are all considered.

6.62 The resulting magnitude of effect upon each TCA was then graded on a scale of High, Medium, Low or Negligible. Effects may be adverse or beneficial or Neutral. The effects can therefore range from High Adverse to High Beneficial.

Magnitude of Visual Effects

6.63 The magnitude of a visual effect is assessed in terms of its

- Size or scale of visual effect;
- Geographical extent of the area influenced/the area over which visual effects are likely to be visible; and
- Duration and degree of reversibility.

Size and Scale of Visual Effects

6.64 When considering the size and scale of the change in the view the following criteria are considered:

- Loss or additional of features within the view including the proportion of the view occupied by the Proposed Development.
- The degree of contrast or integration of any new features or changes in the townscape with the existing or remaining townscape elements and characteristics in terms of scale, mass, line, height and colour;
- The nature of the view of the development proposed in terms of the length of time over which it will be experienced and whether the views will be full, partial or glimpsed; and
- The geographical extent of a visual effect will vary with different viewpoints and is likely to be reflected by the angle of the view, and the distance of the viewpoint from the proposals.

6.65 Examples of the size and scale of effects on a visual receptor are set out in Table 6.7.

Table 6.7: Size and Scale of Visual Effects

Category	Criteria
High degree of change	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 view.
Medium degree of change	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 view.
Low degree of change	The proposals will cause a perceptible change or contrast to the view, but which would not materially affect the composition of the view.
Negligible degree of change	The proposals will cause a barely perceptible change or contrast to the view, which would not affect the composition of the view.

Geographical Extent of Effects

- 6.66 The geographical extent of effects relates to the area over which visual effects are likely to be seen and could comprise Local level (on site or neighbouring sites); District level; Regional level; National level (UK); International level.

Duration/ Reversibility

- 6.67 Effects may be experienced over a range of timescales. For this assessment, the following timescales are considered appropriate:

- Short-term: 0-5 years;
- Medium-term: Between 5 and 10 years; and
- Long-term: 10 – 25 years.

- 6.68 Effects may be permanent, temporary, or reversible over time. For example, visual effects arising from construction activities may be limited solely to the construction period and therefore would be temporary. The assessment therefore considers the practicality of effects being reversed.

Final Assessment of the Magnitude of Visual Effects

- 6.69 Effects may be adverse or beneficial (negative or positive) or neutral. Neutral effects recognise that there would be a change to the receptors, however this change is in keeping with the existing characteristics of the receptor. The resulting magnitude of effect is graded on a scale of High, Medium, Low and Negligible.

Significance Criteria

- 6.70 The scale shown in Table 6.8 is used to guide the assessment of the significance of both townscape and visual effects. The effects are determined using the combination of the assessment of receptor sensitivity and the magnitude of effects.
- 6.71 Effects were judged as Major, Moderate, Minor or Negligible. Generally, Major effects are considered significant, but not all Major effects are deemed to be significant. For example, a major effect on a visual receptor may not be considered to be significant, as the change in view and visual amenity may be appropriate to/ consistent with the townscape character and setting. As stated in GLVIA visual amenity relates to the overall pleasantness of a view and the enjoyment of a surrounding (page 21 para 2.20), a change may not necessarily affect the amenity value of the view. GLVIA goes on to explain that there are no hard and fast rules about what makes an effect significant (page 116 para 6.44). A large-scale change may introduce a characteristic or common placed element already experienced in the landscape setting or view. If this is the case the change may not be considered as significant. To overcome any confusion GLVIA states that there should be an emphasis on the narrative text describing the landscape and visual effects and judgments made about significance (page 40 para 3.36).

Table 6.8: Assessment of Townscape or Visual Significance

		Magnitude of Effect			
Sensitivity of Receptor		High	Medium	Low	Negligible
	High	Major	Moderate - Major	Minor - Moderate	Minor
	Medium	Moderate - Major	Moderate	Minor	Negligible
	Low	Minor - Moderate	Minor	Negligible	Negligible

- 6.72 The table has regard to guidance in the Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013, at paragraph 5.56, page 92 (significance of landscape effects) and paragraph 6.44, page 116 (significance of visual effects). This matrix is used as a guide to determine significance, along with professional judgement.

Assumptions/Limitations

- 6.73 The assessment is based on the description of development presented within Chapter 5: Proposed Development and the following documents which have underpinned the assessment:

- Sketch up model 150_JMA_Residential Model_210712

- Drawings - 150 B2 04 2200 – 2230, 150 B2 02 2200 – 2299, and 150 B2 05 2200 - 2202

6.74 Views from private residencies have not been considered.

6.75 The assessment only considers daytime effects.

6.76 The assessment has considered effects during construction, upon completion of development and residual effects.

6.77 The assessment refers to the following types of mitigation in line with GLVIA paragraph 4.21:

“1. primary measures, developed through the iterative design process, which have become integrated or embedded in the project design;

2. standard construction and operational management practices for avoiding and reducing environmental effects;

3. secondary measures designed to address any residual adverse effects remaining after primary measures and standard construction practices have been incorporated into the scheme.”

6.78 The assessment with embedded mitigation includes primary measures and standard construction management practices. The assessment of construction effects therefore assumes that a Construction Environmental Management Plan (CEMP) to avoid effects would be implemented as an integral part of the scheme.

6.79 A computer-generated Zone of Theoretical Visibility has not been undertaken, *“this treats the world as bare earth and does not take account of potential screening by vegetation or buildings”* (GLVIA3, 2013). Due to the location of the Site adjacent to existing built form and the screening properties of the surrounding vegetation and built form, a manual approach to understanding visibility has been adopted in accordance with the recommendations of GLVIA3 (2013). Visual analysis has relied upon study of the existing topographical baseline and site observation taking in to account the existing terrain, vegetation and intervening development.

Consultation

6.80 Consultation and EIA scoping has been undertaken by Avison Young with Manchester City Council, including agreeing the key views and the scope of the Townscape and Visual Impact Assessment (TVIA).

Baseline Conditions

6.81 The Site is located to the north of Manchester City Centre within walking distance of Victoria Train Station. To the north-east is the Manchester Cathedral and the associated Conservation Area. To the east is the main shopping area of the town centre including the Arndale shopping centre. To the south, beyond The Renaissance Hotel is Parsonage Gardens, and St Anne's Square and associated Conservation Areas. To the west beyond the river is an area of mix use, residential and commercial buildings.

National Landscape Character

- 6.82 The Site and its study area are identified by Natural England as lying within National Character (NCA) Area 55 – The Manchester Conurbation.
- 6.83 The NCA covers a vast expanse of urban areas and includes a number of settlements which have grown and come together to form the Manchester conurbation including Manchester City Centre, Salford, Stockport, Sale, Ashton-under Lyne, Swinton, Altrincham, Stretford, Prestwich, Cheadle Hulme, Denton and Droylsden.
- 6.84 The description of the physical and functional links to other NCAs describes:

“The Manchester Conurbation National Character Area (NCA) is a predominantly urban area, bringing together a number of large settlements. The Manchester Pennine Fringe NCA wraps around the conurbation to the east and to the north. The Mersey Valley NCA lies to the west of the area, while the Shropshire, Cheshire and Staffordshire Plain NCA extends to the south.

The high-rise buildings of Manchester city centre serve as a visual orientation point within the surrounding urban context, and can be seen from many viewpoints in the conurbation and in surrounding NCAs. From the central and eastern extent of the Manchester Conurbation, views outwards include the moors of the Southern Pennines NCA, Dark Peak NCA and the Peak District National Park. Views to the west of the conurbation are typically more limited by the low-lying character of the landscape.

Drainage is through a series of river valleys, flowing broadly from the Pennine moors to the east and north, and the Peak District to the south-east, across the conurbation, and towards the lower-lying areas of the south and west. River valleys include those of the Mersey, Irwell, Tame and Bollin. Tributaries meet the River Mersey and Manchester Ship Canal, then cross the adjacent Mersey Valley NCA, ultimately reaching the Mersey Estuary in the west. The Manchester Ship Canal follows the original routes of the rivers Mersey and Irwell. The Manchester Ship Canal, the Bridgewater Canal, the Leeds and Liverpool Canal, and the Rochdale Canal are all connected, linking the Manchester Conurbation with the Port of Liverpool. Water supply is from surrounding uplands, including reservoirs in the Dark Peak NCA, the Southern Pennines NCA, the Cumbria High Fells NCA and north Wales, supplemented by groundwater.

The Manchester Conurbation forms a busy transport hub, interlinked with surrounding areas by an extensive web of infrastructure into, out of, and around, the centre. Roads, tramways and railways all serve to connect the area, while the Manchester ring motorway serves to divert traffic around Manchester and Salford city centres. The transport network links mainline railways and motorways to the north and south. There are also connections from east to west, linking the area with the Merseyside Conurbation NCA and with trans-Pennine routes. The Trans Pennine Trail, a multi-user route for walkers, cyclists and horse riders, crosses the Manchester Conurbation from coast to coast, between the North Sea and Irish Sea”

- 6.85 Key characteristics pertinent to the Site include:

- *“Large settlements have come together to form the conurbation, characterised by dense urban and industrial development, commercial, financial, retail and administrative centres, commuter suburbs and housing.*

- *The area is centred on low hills, enclosed by the Pennine hills to the north and east, and crossed by several meandering river valleys.*
- *Public parks and recreation facilities provide valuable open spaces for people within this urban environment; community gardens and allotments are places for local food growing.*
- *River valleys form important corridors of semi-natural habitats and natural green spaces – with open grassland, woodland and wetland – linking urban centres with open countryside. Many post-industrial sites and canals provide wildlife habitats.*
- *Drainage is through a series of river valleys that weave through the urban fabric, flowing broadly from the Pennine moors to the east and north, towards the lower-lying areas of the south and west.*
- *The area's legacy of industrial archaeology – particularly relating to the textile industry – is increasingly recognised. Red brick and sandstone buildings are prominent in the city and town centres, alongside buildings using a mix of modern materials, high-rise buildings, and landmark 19th-, 20th- and 21st-century buildings.*
- *The Manchester Conurbation forms a busy transport hub, interlinked with surrounding areas by an extensive web of roads, tramways and railways – major communications corridors. Access is also provided by the canal network."*

6.86 The Site lies within an urban townscape setting and reflects the identity of the urban characteristics in the NCA descriptions above. The Site and its immediate setting are urban and as such the Proposed Development would not be at odds with the land use and townscape characteristics within the area. As such the effects of the Proposed Development on NCA 55 have been scoped out of the TVIA.

Local Landscape Character

6.87 At a local level, a Landscape Character Assessment has been carried out on the landscapes across Greater Manchester, however this assessment is focused on the character of the greenbelt and more rural / open countryside landscape settings.

6.88 There are a number of urban character assessments that have been undertaken, and it is established that the Site sits within the City Centre and is urban in nature. As part of this TVIA the townscape within the Study Area has been considered and a series of townscape character areas have been established, as set out below.

Description of the Study Area

6.89 The Study Area comprises a mixture of land uses that have changed and evolved over time. This part of Manchester is steeped in history and heritage assets. To the north of the Study Area is the Cathedral and Gardens, a Conservation Area which is sometimes referred to as the medieval quarter. To the south are two Conservation Areas, Parsonage, and St Anne's Square. The Site itself sits within an area identified by the SRF as the retail core. The Arndale shopping centre, Selfridges, and Harvey Nichols all lie within this character area.

- 6.90 This part of Manchester lies at an important arrival point to the city, adjacent to Victoria Station. The Site is located at the junction of Market Street, Blackfriars and Deansgate which are all key routes into and through Manchester. To the west of the Site is the River Irwell which forms the administrative boundary between Manchester and Salford.
- 6.91 Beyond the River Irwell the townscape comprises a mixture of apartments and retail properties some of which are derelict and office buildings. Nestled between this mixed-use character area is the Trinity Church and its associated Conservation Area.
- 6.92 In the mid-1800s until the 1970s the Site and the immediate setting was occupied by a variety of buildings and uses including the Grosvenor Hotel, Temperance Hotel, a public house, a mill, cotton works and other commercial/industrial buildings. However, by the 1980s these buildings were demolished to be replaced by the buildings that currently occupy the Site.
- 6.93 **Figure 6.1** identifies the Site, the adjacent buildings under the same land ownership, and the locations and boundaries of the TCA which have been established as part of this TVIA within the Study Area. The Study Area includes both the Site and the surrounding townscape context which was identified through site visits and desktop study.
- 6.94 The townscape receptors include the following identified TCAs:
- The Cathedral, Cathedral Gardens and its setting TCA
- 6.95 This character area lies to the north of the Site and is also referred to as the Medieval Quarter. The boundaries of this TCA follow the Cathedral Conservation Area allocation as set out by Manchester City Council. This area was designated as a Conservation Area in April 1972 in order to preserve and enhance the quality of the setting of the Cathedral and Chetham's Hospital School.
- 6.96 The Cathedral is a notable example of Gothic style architecture. The school was founded in 1656 and was constructed as a series of blocks around a large rectangular courtyard. To the south and east the Conservation Area is enclosed and separated from the city by a crescent of Victorian buildings including The Corn Exchange / The Triangle, which is a dominant building within the area. The buildings follow the medieval street patterns of Cateaton Street, Hanging Ditch Bridge, Todd Street, Victoria Station, and Hunts Bank Approach.
- 6.97 More recent development includes the Urbis building and associated open spaces. The modern Urbis building is now a football museum and the associated open spaces around the corn exchange and cathedral gardens are popular event spaces.

The City Centre Retail TCA

- 6.98 This TCA covers the retail core of the City Centre. The area includes the Site, the Renaissance Hotel, Harvey Nichols, the Marks and Spencer and Selfridges building, the Arndale shopping centre, the residential block No1 Deansgate and Exchange Square.
- 6.99 This retail hub is a major tourism attraction for the North West region. The area has undergone extensive redevelopment following the 1996 IRA bomb. The Site is located within the western portion of the TCA. This western portion is the last key piece of the regeneration plans and redevelopment of the bomb-damaged areas.
- 6.100 Due to the large-scale modern developments, the street pattern is larger compared to the rest of the surrounding townscape context. Vehicular access is limited, with the majority of the routes pedestrianised or restricted.

Parsonage Gardens and St Anne's Square TCA

- 6.101 This TCA lies to the south of the Site and encompasses the Conservation Areas associated with Parsonage Gardens and St Anne's Square.
- 6.102 The Parsonage Garden Conservation Area was designated in June 1985. The Conservation Area is based around a small tranquil greenspace, Parsonage Garden, which is one of the greenest spaces in the city centre. The area is bordered to the north by Blackfriars Street, south by Bridge Street and to the east by Deansgate which is a common boundary with the St Annes Square Conservation Area. St Mary's Parsonage and the River Irwell form the western boundary. The earliest recordings of Parsonage Gardens plot was in 1066. The Site is recorded to have housed churches, residential plots and extensive garden areas used to cultivate food. Over time the buildings usages changed or were demolished due to the change in human activity and demographic in the area. Following the demolition of the last church and Parsonage House during the Victorian era, the Site became Parsonage Gardens. The gardens have not changed much since. The Gardens are surrounded by a series of large buildings some of which are listed. The buildings within this area are generally recognised for their architectural merit or historic interest.
- 6.103 St Anne's Square Conservation Area lies to the west of Parsonage Gardens. It was one of the first Conservation Areas to be designated by Manchester City Council in July 1970. The designation covers a roughly rectangular area of land. The boundaries are formed by Deansgate to the west, St. Mary's Gate and Market Street to the north, Cross Street to the east and John Dalton Street to the south. St Anne's Square lies at the heart of the Conservation Area and dates back to the 13th century. Kings Street traverses the southern portion on an east-west alignment. In the 1700s, as Manchester began to grow and develop, St Anne's Church was built. St Anne's Square was reserved as a fair/ marketplace for selling cattle. The church is the last remaining building of that era. The remaining buildings that surround the square have been constructed in a variety of styles over a long period of time. The Manchester Cotton Exchange/ Royal Exchange is a dominant building fronting on to the square, the building was, at one point, the largest trading floor in the country. Overtime this building has been repaired and

altered and has subsequently been repurposed as the renowned Royal Exchange Theatre. Nowadays the square is the commercial heart of the city, and the majority of the buildings surrounding the space are shops or have office usage. The buildings are recognised for their architectural quality, most of which originate from the Victorian and Edwardian era. There are two bronze statues located within the square, one of Richard Cobden and the other a memorial to the Boer War comprising a group of soldiers. St Anne's Square and King Street have developed over the years as the fashion/ designer hub of the retail core. Both areas were amongst the first routes in Manchester to be pedestrianised.

- 6.104 The TCA is reminiscent of the rectilinear grid like pattern found across the Manchester city centre. With some deviations from the grid to create interesting street scenes within the St Anne's Square area.

Shudehill TCA

- 6.105 The Shudehill TCA lies to the north-east of the Site, beyond the City Centre Retail TCA and the Cathedral, Cathedral Gardens and its setting TCA. This townscape follows the boundaries of the Shudehill Conservation Area. The Shudehill Conservation Area was designated in 1987, the Conservation Area is bounded by Hanover Street, Riga Street, Mayes Street, Shudehill, Withy Grove and Corporation Street. It also includes one building on the north side of Hanover Street, fronting Corporation Street.
- 6.106 As Manchester began to outgrow the Medieval quarters around the cathedral, development extended north and east to this area known as Shudehill. Until the mid-18th century, the Shudehill area had been semi-rural with limited residential development, but by 1793 the whole of Shudehill was built up and included commercial properties. The early development on Shudehill and Withy Grove was, small scale with narrow frontages, some which can be seen today. By the 20th century larger scale buildings were developed including the national newspaper publishers now known as the Printworks. Dantzic Street divides the area into two with the large-scale development to the west and the small narrower plots to the east. The character of the area is created through the cohesive design and groups of the buildings, which give the streets identity. Vacant plots awaiting development are used for car parking which give parts of the area an unkempt / rundown appearance.

The mixed-use area to the west of the River Irwell

- 6.107 This character area lies to the west of the Site and the River Irwell. The TCA generally covers the remaining study area within Salford, to the north and south of the Trinity Church Conservation Area (Flat Iron Conservation Area).
- 6.108 This area is distinctively different to the surrounding townscape. The majority of the built form is new and ranges from 10 – 25 storeys. Historically the area has had a mixture of land uses including industrial works, public buildings, and residential streets. However, in the present day the majority of the building uses are hotel or residential, conveniently located adjacent to the railway line between Salford Central and Manchester Victoria Station. The Lowry hotel lies to the south of the character area, the hotel and the well-known Trinity Bridge are a distinctive feature. Temporary car parking areas give this TCA an unkempt / rundown appearance.

Trinity Church and its setting

- 6.109 The TCA at Trinity Church (also known as the Flat Iron Conservation Area) centres around the Grade II* listed Sacred Trinity Church on the A6, close to the boundary with the city of Manchester. The area lies to the south-west of the Site. It is bounded by Blackfriars Road and Blackfriars Street on the east, the River Irwell to the south, Booth Street and Bury Street to the west and the railway line to the north.
- 6.110 When the church was built in 1635, this area was the extent of Salford up until the industrial revolution. In the late 18th and early 19th centuries, the areas adjacent to the old town centre developed with housing, industry and public buildings. Originally the surrounding areas were residential, but as the 19th century progressed, they became increasingly used for commerce and industry.
- 6.111 The listed buildings are mainly used for residential, or offices uses, with some of the ground floors used as retail. The church and listed buildings within this Conservation Area create an attractive street scene however the raised railway and heavily trafficked routes are dominant.

Description of the Site and its Immediate Townscape Context

- 6.112 The Site and its immediate settings are shown on **Figure 6.3**.

Site Boundaries

- 6.113 The Site is an irregular shape. It is bound by Deansgate to the north-eastern, Victoria Bridge Street to the north and the River Irwell to the west. The southern boundary of the Site abuts Blackfriars St, and the south eastern boundary follows the outer edges of the NCP car park, Renaissance Hotel and a section of the Premier House buildings.

Land use and Pattern

- 6.114 The Site is predominantly hard standing and built form comprising the northern extent of Premier House office block which is due to be demolished under application ref:130049/DEM/2021, and the associated surrounding open space. The Renaissance Hotel lies directly south of the Site.

Public Rights of Way

- 6.115 There are no public rights of way within the Site and the Site is not permeable.
- 6.116 This section of Deansgate suffers from a noticeable reduction in footfall and is uninviting. The unattractive buildings within the Site do not provide a desirable nor active frontage on to Deansgate and are physically and visually detached from their surroundings.

Topography and Drainage

- 6.117 There is a level change of 5m across the Site, the ground rises from the Victoria Bridge Street up to and along Deansgate. The lowest parts of the Site sit to the north and west adjacent to the River Irwell. The ground levels rise southwards and eastwards along Deansgate.

Vegetation

- 6.118 There are several trees located within the Site to the west adjacent to the River Irwell.

Buildings Within the Site and its Surroundings

- 6.119 The northern extent of the Premier House is a four-storey vacant office building which wraps around the northern and eastern portions of the Site with over 100 metres of inactive frontage to Deansgate.
- 6.120 The Renaissance Hotel building is 15 storeys tall and is the dominant building to the southeast of the Site.
- 6.121 Within the immediate setting of the Site the building form comprises a mixture of heights, mass and form. To the north is the Cathedral and some small four storey properties at the Hanging Ditch and Cateaton Street. To the west, across the River Irwell, the building heights are generally taller ranging from eight to ten storeys, with the 25 Storey Premier Inn building prominent in the townscape. To the south, beyond the hotel, the building heights are predominantly five to seven storeys. No1 Deansgate lies adjacent to the Site which at the tallest elevation, is seventeen storeys tall.

Townscape Value within the Study Area

- 6.122 For each townscape character area, the following value has been established using the criteria set out in tables 6.1 and 6.2.

The Cathedral, Cathedral Gardens and its setting

- 6.123 The TCA comprises several listed buildings including the Cathedral, Chetham School of music, a monument, and the Bridge on Victoria Bridge Street. The townscape is of a high quality and is in good condition. The street scene is intact and attractive. The heritage assets contribute significantly to the character of the area. The distinctive buildings such as the Cathedral give identity and create a strong sense of place. The streets are legible and permeable and there is good connectivity with a large portion of the area being pedestrianised, including Cathedral Gardens, the Cathedral Approach and Greengate Square. The majority of the routes through the area are overlooked and feel safe. The Cathedral Gardens and Greengate Square are attractive, well used, and versatile public open spaces. The Cathedral Garden is a popular events space, and includes areas of play and public art. The character area in general is vibrant.
- 6.124 The value of this TCA is **High**.

The City Centre Retail area

- 6.125 There are no site features of national importance within this TCA. The townscape quality is varied across the character areas overall leading to a moderate condition. There are some unattractive sections of Deansgate devoid of positive frontages and in general this portion of the character area, including the Site, is unattractive and not well used. In other locations, such as Exchange Square, the townscape condition is high quality. Features are common and there are limited historic assets. The areas around Exchange Square are well known and provide a strong sense of place. Building such as Selfridges and Harvey Nichols provide some identity. There is moderate legibility across the TCA, some routes are not attractive and don't feel safe due to the lack of natural surveillance. The public open spaces associated with the shopping areas are well-designed and vibrant. Exchange Square is a transient area with high footfall.
- 6.126 The value of this TCA is **Medium**.

Parsonage Gardens and St Anne's Square

- 6.127 There are six listed buildings and a listed bridge within the Parsonage Gardens Conservation Area. There are several listed buildings including Barton Arcade, Royal Exchange, and St Anne's Church within the St Anne's square Conservation Area. The townscape quality of this area is moderate, and the majority of the features are common. The TCA comprises two Conservation Areas and several listed buildings. There is a moderate sense of place and identity associated with the building style. The regular grid pattern to the streets is a common feature of the city. The main routes through the TCA are legible and the area is relatively permeable, however some of the routes do not benefit from natural surveillance and feel unsafe. The public open spaces are attractive, high quality and well designed. St Anne's Square is vibrant and popular, whereas Parsonage Gardens is more tranquil.
- 6.128 The value of this TCA is **High - Medium**.

Shudehill

- 6.129 There are four listed buildings within this Conservation Area and there are several listed buildings within the character area setting. In general, the townscape quality and condition is moderate. There are some locations where the street scene is unattractive and looks somewhat derelict and unkempt. The pedestrianised route through the Printworks is a unique and attractive space. There are some historic / heritage features. There is a moderate sense of place, with some identity attached to the building style, in particular the façade to the Printworks adjacent Exchange Square. There area has moderate legibility, in some locations the linear routes through the area create long vistas. To the north and east the area is rundown, empty and derelict buildings and a lack of natural surveillance make the area feel unsafe.
- 6.130 The value of this TCA is **Medium**.

The mixed-use area to the west of the River Irwell

- 6.131 There are a couple of listed buildings within this TCA. In general, the townscape quality is poor with unattractive streetscapes and some neglected buildings. Features are common. There are limited historic features. There is no strong sense of place or street pattern. There is no clear legibility, and the streets aren't convenient. There is limited public open space, although the Irwell Sculpture Trail meanders through this area to the south adjacent to the Trinity Bridge and associated public open space. In general, there is a lack of pedestrian activity, the routes are uninviting and not convenient; in the main the area feels dominated by traffic.

- 6.132 The value of this TCA is **Low**.

Trinity Church and its setting

- 6.133 This TCA includes 5 listed buildings and bridges. The townscape quality is moderate but is influenced by the adjacent poor-quality areas. Features are generally common. The listed buildings, particularly Trinity Church provide historic interest. There is a moderate sense of place and there is a clear identity in the building vernacular that belongs to this Conservation Area. Routes through the area are generally convenient but feel somewhat unsafe given the surrounding townscape. There is a small area of public open space associated with the church, but the space has relatively poor function, and there is a lack of human activity.

- 6.134 The value of this TCA is **Medium**.

Susceptibility of the Townscape Receptors to Change

- 6.135 For each townscape character area, the following susceptibility has been established using the criteria set out in Table 6.3.

The Cathedral, Cathedral Gardens and its setting

- 6.136 The Proposed Development would lie within an adjacent TCA; however it would be visible from and have an influence on the Cathedral and the Cathedral Gardens. From the south-eastern side of the Cathedral there are clear views of the northern portion of the Site. The Proposed Development provides an opportunity to improve this townscape and the setting of the cathedral. There are limited tall elements within this TCA itself, but taller buildings are present in the wider context.

- 6.137 The townscape receptor has the ability to accommodate the Proposed Development without undue negative consequence for the maintenance of the baseline townscape character. The Proposed Development provides an opportunity to achieve the planning strategies set out by Manchester City Council. The susceptibility to change of the Cathedral, Cathedral Gardens and its setting TCA to the proposed type of development has been assessed as **Medium - Low**.

The City Centre Retail area

- 6.138 The Proposed Development would have a direct influence on this character area, whilst providing an opportunity to improve the townscape. The Proposed Development would not be at odds with the townscape context, the form and mass of the existing buildings and the urban grain.
- 6.139 The townscape receptor has substantial ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline. The Proposed Development provides an opportunity to achieve the planning strategies set out by Manchester City Council for this specific townscape character. The susceptibility to change of The City Centre Retail TCA is to the proposed type of development has been assessed as **Low**.

Parsonage Gardens and St Anne's Square

- 6.140 Although this TCA contains historic and heritage features, the Proposed Development lies within the adjacent TCA and therefore its influence on these Conservation Areas would be limited. The Site sits beyond any of the open spaces within the TCA that could be considered as the setting to a listed feature. Whilst the proposals will be visible from this character area the intervisibility is restricted to a small proportion of the overall TCA. The proposals present an opportunity to improve the wider setting of the town centre and improve the surrounding street scene.
- 6.141 The townscape receptor has the ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline townscape character and/or the achievement of townscape planning policies and strategies. The susceptibility to change on the townscape associated with Parsonage Gardens and St Anne's Square is **Low**.

Shudehill

- 6.142 The Proposed Development lies within an adjacent TCA and would have a very limited influence on the Shudehill Conservation Area and townscape. Due to intervening built form and the topography of the town centre the development sits low in the townscape compared to the Shudehill area and there is limited to no intervisibility between the two TCAs.
- 6.143 The townscape receptor has the ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline townscape character and/or the achievement of townscape planning policies and strategies. The susceptibility to change on the Shudehill TCA is **Low**.

The mixed-use area to the west of the River Irwell

- 6.144 The Proposed Development would have some influence on this TCA. In some location the proposals would not be perceived due to the intervening built-form, where visible the development would not be at odds with the townscape context, the form and mass of the existing buildings and the urban grain.

The townscape receptor has the ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline townscape character and/or the achievement of townscape planning policies and strategies. The susceptibility to change on the mixed-use area to the west of the River Irwell is **Low**.

Trinity Church and its setting

6.145 The Proposed Development would have some influence on this TCA. In some location the proposals would not be perceived due to the intervening built-form. Where visible the development would not be at odds with the townscape context.

6.146 The townscape receptor has the ability to accommodate the Proposed Development without undue negative consequences for the maintenance of the baseline townscape character and/or the achievement of townscape planning policies and strategies. The susceptibility to change on Trinity Church and its setting is **Low**.

Sensitivity of Receptors

6.147 The sensitivity of the townscape receptors is determined by combining the value of the TCA with its susceptibility to change.

Table 6.9 Summary of Townscape Sensitivity

Townscape Character Area	Value	Susceptibility to specific change	Sensitivity
The Cathedral, Cathedral Gardens and its setting	High	Medium - Low	Medium
The City Centre Retail area	Medium	Low	Medium - Low
Parsonage Gardens and St Anne's Square	High – Medium	Low	Medium
Shudehill	Medium	Low	Medium - Low
The mixed-use area to the west of the River Irwell	Low	Low	Low
Trinity Church and its setting	Medium	Low	Medium-Low

Views, Visibility and Visual Character

Visual Context of the Site

- 6.148 The Site is visible from the streets which surround it, however; intervening built form means that the Site is screened from a number of more distant locations. The Site sits on the lower lying land in Manchester city centre adjacent to the River Irwell, meaning the Site and current buildings within the Site are relatively visually discrete from the surrounding townscape to the south.
- 6.149 The existing built form within the Site is however clearly visible from a number of locations to the north. The Site can be seen in views from the public open spaces associated with the Cathedral and its gardens, from outside the Arndale shopping centre at Exchange Square, and from Greengate Square.
- 6.150 To the east and within the Salford City Council boundary. From Blackfriars St there are clear views of the Site from the bridge. However, views from Trinity Church and the surrounding areas will be limited.

Visual Receptors and Views of the Site

- 6.151 **Figure 6.2** identifies the viewpoint locations within the Study Area. **Figure 6.4 – 6.10** include photographs from each viewpoint location. In some cases, sequential photographs show the views from routes.
- 6.152 **Cathedral Gardens (VP 1.1)** – Within the setting of the Cathedral, the football museum and the Corn Exchange is an area of public open space referred to as the Cathedral Gardens. This pedestrianised section of Manchester is a popular event space and meeting area, as well as a main thoroughfare through the Cathedral Area. Throughout this open space there are views towards the cathedral and the Site. The existing Premier Inn sits adjacent to the Site, to the west, and can be seen in the **Photograph 1.1 (Figure 6.4)** giving an indication of how much of the Proposed Development may be visible on the skyline behind the Cathedral.
- 6.153 **Exchange Square (VP 2.1 – 2.2)** – The majority of this area is pedestrianised although there is a tram line and station located to the eastern edge. This area of public open space is used as an event space and is also a popular thoroughfare with safe pedestrian access to popular attractions such as the Printworks, the Arndale shopping centre, the Corn Exchange, the football museum and the Cathedral. **Photograph 2.1 (Figure 6.4)** is a viewpoint selected to demonstrate the clear view towards the Site from the Arndale shopping centre entrance, which is not only a vantage point within this area of public open space but also a popular route with a high footfall. **Photograph 2.2 (Figure 6.5)** shows the view towards the Site from the western portion of Exchange Square, on Cateaton St, where there are clear views of the northern and eastern elevation of the existing buildings on the Site. In both views the adjacent Premier Inn building can be seen, giving an indication of where the Proposed Development will sit and its potential height.
- 6.154 **Greengate Square (VP 3.1)** – Greengate Square lies with the Cathedral Conservation Area but on the opposite site of the River Irwell. It is another public open space within close vicinity of the Site. The sunken area is less commonly used as a thoroughfare but more of an event space, and for informal recreation. As can be seen in

Photograph 3.1 (Figure 6.5) there are clear views from within this space when looking southeast towards the Site.

- 6.155 **Cathedral Approach (VP 4.1)** – This route crosses the River Irwell and is predominantly used by pedestrians. It links the Greengate quarter across the river into the retail hub, and towards Victoria Station. This route lies with the Cathedral Conservation Area. The raised and open nature of the route provides clear views towards the Cathedral, the retail areas, and the Site as represented in **Photograph 4.1 (Figure 6.6)**. Although the Site is not the main focus of the view, the northern and western elevations of the existing Premier House can be seen. The Premier Inn and No1 Deansgate sit either side of the Proposed Development and are clearly visible. The existing tall tower of the Renaissance Hotel which sits to the south of the Site can be seen.
- 6.156 **Victoria Station arrival (VP 5.1)** – In views from the majority of the exits out of Victoria Station, the existing buildings within and adjacent to the Site cannot be perceived and would be screened by intervening built form. However, on the southwestern side of the station there is an exit onto Victoria Station Approach, at the main taxi rank. From this location, as seen in **Photograph 5.1 (Figure 6.6)**, there are glimpsed views across the Chetham School of Music buildings towards the top of the Cathedral Tower. The Site sits behind the Cathedral and due to the height of the proposed buildings, it is anticipated that they may be visible in this glimpsed view.
- 6.157 **Deansgate / A56 (VP 6.1 – 6.2)** – Deansgate is a main thoroughfare through Manchester, tracking on a north to south alignment through the city and connecting Castlefield to Victoria. The route is heavily trafficked by cars, cyclists and pedestrians. In recent years, and due to the lockdown associated with COVID19, the city has trialled pedestrianising the route and provided cycle lanes. The Proposed Development would sit on the most northern point of the route, at the junction of Deansgate, Victoria Bridge Street, Cateaton Street and Victoria Street. The Site lies to the western side of the route and is visible to varying degrees when travelling north. **Photographs 6.1 and 6.2 (Figure 6.7)** demonstrate the visibility of the Site from both sides of the road when travelling north. In both views the Cathedral can be seen along the channelled view north. Any Proposed Development on the Site will not terminate nor detract from this view line. Development here provides an opportunity to frame views along this vista.
- 6.158 **Parsonage (VP 7.1)** – Parsonage is a secondary route within the city centre and is not a heavily trafficked route. The route tracks north of Parsonage Gardens and connects to Blackfriars Street. At this junction there are channelled views towards the Renaissance Hotel building, and the Premier Inn (**Photograph 7.1(Figure 6.7)**). The Site lies beyond the Renaissance Hotel building.
- 6.159 **Blackfriars Street (VP 8.1 – 8.2)** – Blackfriars Street is secondary road that crosses over the River Irwell at Blackfriars Bridge, a Listed Bridge. As demonstrated in **Photograph 8.1 (Figure 6.8)**, from the bridge there are views north towards the cathedral in the distance. The northern extent of the Premier House within the Site can be seen in the middle distance. The Renaissance Hotel is clearly visible in the foreground. Blackfriars Street connects to Chapel Street and Blackfriars Road. At this junction, adjacent Trinity Church (**Photographs 8.2**

(**Figure 6.8**) the Renaissance Hotel and the Premier Inn can be seen beyond the buildings fronting onto the junction.

- 6.160 **Victoria Street/ A56 (VP 9.1)** – Victoria Street connects Deansgate north towards Bury New Road and the Manchester Ring Road. Vehicles using this route are directed towards Chapel Street there is no direct through route. Adjacent to the cathedral the road has been pedestrianised. When travelling south there are clear views of the existing buildings within the Site. The Premier Inn, No1 Deansgate, Havey Nichols and the Cathedral are visible in the surrounding context (**Photographs 9.1 (Figure 6.9)**).
- 6.161 **Corporation Street (VP 10.1)** – Corporation Street is a main arrival route to Manchester from the north. The route connects to the ring road and Cheetham Hill Road. At the junction from Corporation Street and the Ring Road there are views towards Victoria Station (**Photograph 10.1 (Figure 6.9)**). Beyond the station the Corn Exchange, No1 Deansgate, the Renaissance Hotel and the Premier Inn can be seen on the skyline. Due to the height of the Proposed Development, it is anticipated that it may be visible on the skyline along with these taller buildings in the context.
- 6.162 **Cheetham Hill Road (VP 11.1)** – Cheetham Road is a main route into Manchester from the north. There are channelled views down this road toward the city centre (**Photograph 11.1 (Figure 6.10)**). No1 Deansgate, and the Premier Inn can be seen on the skyline. Beyond this the Beetham Tower and buildings at Deansgate Square can also be seen. Due to the height of the Proposed Development, it is anticipated that it may be visible on the skyline along with these taller buildings in the context.
- 6.163 **St Annes Square (VP 12.1)** – St Anne's Square is located to the south-east of the Site and is enclosed to the east and west by built form. It is important to retain the character and visual amenity of the square. Any Proposed Development should not breach the building line of this square. It is anticipated that the Proposed Development would not be seen from this viewpoint location (**Photograph 12.1 (Figure 6.10)**), but this view has been included in this assessment to ensure that views within St Annes Square are retained and protected.

Value of the view

- 6.164 Users of the public open spaces and pedestrianised areas: Cathedral Gardens, Exchange Square, Greengate Square, Cathedral Approach and St Annes Square experience views of popular visitors' attractions and local landmark buildings such as the Arndale shopping centre, Corn Exchange, the Football Museum and Manchester Cathedral. Views from these locations have local cultural associations. The value of these views is **High – Medium**.
- 6.165 Users of the main throughfare: Deansgate and Victoria Road, the southern exit of Victoria Station and Blackfriars Street experience views towards the Cathedral and Cathedral Conservation Area. Views from these locations have some local cultural associations. The value of these views is **Medium**.

- 6.166 Corporation Street and Cheetham Hill are main arrival routes into the city and are well used routes. Users of these routes experience views towards the city. Some local landmarks can be seen in the distance but there is limited cultural association. The Cathedral cannot be seen. The value of these views is **Medium – Low**.
- 6.167 Parsonage is a secondary route through Manchester. The viewpoint is not from a popular location and there is no cultural associations with the view. The value of the view is **Low**.

Susceptibility of the Visual Receptors to Change

- 6.168 Users of the public spaces and visitors to heritage assets are likely to be focussed on the townscape and have a high susceptibility to change. Users of Cathedral Gardens, Exchange Square, Greengate Square, Cathedral Approach and St Annes Square are assessed as having a **High** susceptibility to change.
- 6.169 Users of roads where the view is moderately important are considered to have a medium susceptibility to change. Users of Deansgate and Victoria Road, the southern exit of Victoria Station and Blackfriars Street are assessed as having a **Medium** susceptibility to change.
- 6.170 Users of roads where the view is fleeting and incidental to the journey have a medium susceptibility to change. Users of Corporation Street, Cheetham Hill and Parsonage are assessed as having a **Low** susceptibility to change.

Sensitivity of Receptors

- 6.171 The sensitivity of the visual receptors is determined by combining the value of the view with susceptibility to change of each receptor.

Table 6.10 Summary of visual sensitivity

Visual receptors	Value	Susceptibility to change	Sensitivity
Users of Cathedral Gardens (VP1.1)	High - Medium	High	High - Medium
Users of Exchange Square (VP2.1 – 2.2)	High - Medium	High	High - Medium
Users of Greengate Square (VP3.1)	High - Medium	High	High - Medium
Users of Cathedral Approach (VP4.1)	High - Medium	High	High - Medium
Users of Victoria Station Arrival (VP5.1)	Medium	Medium	Medium

Visual receptors	Value	Susceptibility to change	Sensitivity
Users of Deansgate/ A56 (VP6.1 – 6.2)	Medium	Medium	Medium
Users of Parsonage (VP7.1)	Low	Low	Low
Users of Blackfriars Street (VP8.1 – 8.2)	Medium	Medium	Medium
Users of Victoria Street (VP9.1)	Medium	Medium	Medium
Users of Corporation Street (VP10.1)	Medium – Low	Low	Medium – Low
Users of Cheetham Hill Road (VP11.1)	Medium – Low	Low	Medium – Low
Users of St Anne's Square (VP12.1)	High – Medium	High	High - Medium

Embedded Mitigation

6.172 Embedded mitigation is described in Chapter 5 of the ES. Considerations in respect of the townscape and visual character are highlighted below.

Demolition and Construction

6.173 Mitigation of the likely construction effects on townscape and views will be largely achieved through the implementation of CEMP which will include the following:

- Handling of materials to prevent pollution;
- Visual screening of the Site activity with hoardings where practical;
- Siting of construction compounds to minimise visual effects on receptors;
- Management of working time to minimise visual effects on receptors.

The Completed and Operational Development

6.174 Consultation and formal pre application discussions have taken place with Manchester City Council planning and regeneration officers with alternative designs considered. The design has evolved to incorporate appropriate

townscape/landscape treatments, building heights and layouts, and strong urban design principles to protect and improve the townscape and visual amenity of the Site and its setting.

Use and Layout

- 6.175 The Proposed Development is a new high quality 26 storey residential building, which will provide 307 residential units.

Scale and Mass

- 6.176 The design of the building has evolved through consultation with Manchester City Council, Manchester Cathedral and Historic England. The siting and massing of the building are appropriate to the setting and the design takes cues from the Cathedral and medieval quarters.

Sense of Place

- 6.177 The building will act as a landmark residential building at the northern end of Deansgate, with the most elegant façade facing the cathedral. The building will align with Deansgate and define the street edge. The massing is focussed on the northern and eastern boundaries of the Site, creating space for the public realm areas adjacent to the River Irwell. The materiality of the building takes cues from Collyhurst Sandstone historically transported via the Manchester rivers and canals. The building's textures, detailing and proportions take cues from the Manchester Cathedral.

Open Space and Public Realm

- 6.178 The development will include high quality amenity spaces; new riverside public realm with leisure amenities, as well as communal and private roof terraces for residents. The landscape proposals will transform the areas of the Site adjoining the River Irwell. Further landscaping is proposed to the back of the pavement along Deansgate and at the building entrance, creating attracting attractive and active frontages.

Views and Visual Amenity

- 6.179 The Proposed Development will open out views into and out of the Site along the River Irwell corridor. The massing will not obscure any important views, such as views towards the Cathedral from Blackfriars Bridge or when looking down Deansgate. The staggered massing of the building and the terrace gardens break down the visual dominance of the building.

Assessment of Likely Significant Effects

- 6.180 The potential impacts of the Proposed Development, taking into account embedded mitigation, are set out below.

Demolition and Construction

- 6.181 The demolition and construction effects would largely be associated with the introduction and movement of site vehicles, tower cranes and construction machinery, site preparation work, stockpiled material, site compounds, storage buildings, temporary fencing and signage to the Site. Effects would be mitigated for, where possible, by a CEMP.
- 6.182 The construction works would be phased over 130 weeks/ 2.5 year period giving rise to short term / temporary effects. As the construction work would be phased it would not be felt across the entire site for the full duration of the construction period.

Assessment of the significance of effect on the Townscape Receptors during construction

- 6.183 The sensitivity is a combined judgement of the value and susceptibility and has been assessed as shown in **Table 6.9** above.
- 6.184 The magnitude of effect is a combined judgment of the size/ scale of effect, geographical extent and duration of the effect.
- 6.185 As set out in the methodology, the significance of effect is a combined judgment of the sensitivity and the magnitude of effect.

Table 6.11 Assessment of effect on the townscape character areas during construction.

Effect on the townscape character areas during construction				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance/ Nature of Effect
The Cathedral, Cathedral Gardens and its setting	Medium	The Site sits directly adjacent to this TCA. Demolition of existing building would result in a change to the existing townscape context. Construction activities and the unfinished nature of built form during construction would be prominent in close-range views and would be uncharacteristic. The proposals would result in a partial change in the key characteristics to the	High – Medium	Major - Moderate Adverse/ Short Term / Temporary / Local Level

Effect on the townscape character areas during construction				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance/ Nature of Effect
		townscape.		
The City Centre Retail area	Medium - Low	Demolition of the existing building would result in partial changes to the areas immediately around the Site. The effect on the townscape as a result of the loss of the existing building would be neutral, the existing building does not enhance this TCA. Construction activities and the unfinished nature of built form during construction would be prominent in close-range views and would be uncharacteristic. Construction traffic and activity would be at odds with the surrounding townscape. The proposals would result in a partial change in the key characteristics to the townscape.	High - Medium	Moderate Adverse/ Short Term / Temporary / Local Level
Parsonage Gardens and St Anne's Square	Medium	There is minimal inter-visibility between the Site and the character area. There would be some close-range views of demolition or construction but the works but not be visible from the majority of the TCA. Tall construction plant such as cranes may be visible on the skyline but in limited locations. The construction activity would result in a small change to the townscape	Low to negligible	Minor Adverse/ Short Term / Temporary / Local Level

Effect on the townscape character areas during construction				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance/ Nature of Effect
		character/elements/features/characteristics		
Shudehill	Medium - Low	There is minimal inter-visibility between the Site and the character area. There would not be any close-range views of demolition or construction. Tall construction plant such as cranes may be visible on the skyline in some locations within the TCA. The construction activity would result in a small change to the townscape character/elements/features/characteristics	Low to Negligible	Minor Adverse/ Short Term / Temporary / Local Level
The mixed-use area to the west of the River Irwell	Low	There is minimal inter-visibility between the Site and the character area. There would not be any close-range views of demolition or construction. Tall construction plant such as cranes may be visible on the skyline in some locations within the northern portion of the TCA. The construction activity would result in a small change to the townscape character/elements/features/characteristics	Low– Negligible	Minor Adverse/ Short Term / Temporary / Local Level
Trinity Church and	Medium-	There is minimal inter-visibility	Low –	Minor

Effect on the townscape character areas during construction				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance/ Nature of Effect
its setting	Low	between the Site and the character area. There would not be any close-range views of demolition or construction. Tall construction plant such as cranes may be visible on the skyline. The construction activity would result in a small change to the townscape character/elements/features/characteristics	Negligible	Adverse/ Short Term / Temporary / Local Level

6.186 Effects on the Cathedral Conservation Area townscape setting would be Major – Moderate adverse/ short term/ temporary at a local level. The Site sits directly adjacent to this character area and the construction activity will be perceived from the southern and eastern portion on the area.

6.187 The Site sits within the City Centre Retail TCA, there would be Moderate Adverse/ short term/ temporary effects at a local level. Construction activity is at odds with the TCA, however the change will be perceived for a small portion of the overall character.

6.188 Effects on the remaining townscape character areas are assessed as Minor Adverse/ Short Term/ Temporary at a Local Level. There is limited intervisibility between these character areas and the Site, and whilst construction activity will be at odds with the character areas, the change will barely be perceived.

6.189 Effects on the townscape character during the construction phase would be significant however effects would be short term and temporary.

Assessment of the significance of effect on the visual receptors during construction

6.190 The sensitivity is a combined judgement of the value and susceptibility and has been assessed as shown in **Table 6.10** above.

- 6.191 The magnitude of effect is a combined judgment of the size/ scale of effect, geographical extent and duration of the effect.
- 6.192 As set out in the methodology, the significance of effect is a combined judgment of the sensitivity and the magnitude of effect. The results of the assessment of the significance of effect on the relevant visual receptors during construction is shown in Table 6.12.

Table 6.12 Significance of effect on the visual receptors during construction.

Significance of effect on the visual receptors during construction				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
Users of Cathedral Gardens (VP1.1) Approx. 200 m from the Site	High - Medium	Tall structures/ plant would be visible beyond the Cathedral. Intervening structures would screen low level construction activity. The construction works would be seen from approx. 200m away and would comprise a small element in the overall view. Overall, the construction activity would cause a contrast to the existing view and be at odds with the setting. There would be a change in views from within the Cathedral Gardens in most locations when looking southwest	High - Medium	Major - Moderate Adverse/ Short Term/ Temporary
Users of Exchange Square (VP2.1 – 2.2) Approx. 50 - 200 m from the Site	High - Medium	The construction/demolition activity will be clearly visible from both viewpoint locations. From the area around Caeaton Street the construction activity would be seen in close proximity and would form the main focus of the view. Overall, the	High	Major - Moderate Adverse/ Short Term/ Temporary

Significance of effect on the visual receptors during construction				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
		construction activity would cause a contrast to the existing view and be at odds with the setting. The change will be experienced within the southern portion of the square when looking west.		
Users of Greengate Square (VP3.1) Approx. 100 m from the Site	High - Medium	The construction/demolition activity will be clearly visible. The construction activity would be seen in close proximity and would form the main focus of the view. Overall, the construction activity would cause a contrast to the existing view. The change will be experienced from the majority of the area when looking south.	High adverse	Major - Moderate Adverse/ Short Term/ Temporary
Users of Cathedral Approach (VP4.1) Approx. 100 m from the Site	High - Medium	The construction/demolition activity will be clearly visible. The construction activity would be seen in close proximity and would form the main focus of the view. Overall, the construction activity would cause a contrast to the existing view. The change will be experienced from the full duration of the route when travelling south.	High	Major - Moderate Adverse/ Short Term/ Temporary

Significance of effect on the visual receptors during construction				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
Users of Victoria Station Arrival (VP5.1) Approx. 300 m from the Site	Medium	Tall structures/ plant may be partially visible beyond the buildings associated with Chetham School of Music. Intervening structures would screen low level construction activity. The construction works would be seen from approx. 300m away and would comprise a small element in the overall view. Overall, the construction activity would cause a contrast to the existing view and be at odds with the setting. The change would be experienced for one glimpsed view towards the Site at the exit of the station.	Low to Negligible	Minor Adverse/ Short Term/ Temporary
Users of Deansgate/ A56 (VP6.1 – 6.2) Approx. 200 m from the Site	Medium	The construction/demolition activity will be clearly visible from areas adjacent to the Site. From areas further south, tall structures/ plant would be visible. The construction works would comprise a small element in the overall view. Overall, the construction activity would cause a contrast to the existing view and be at odds with the setting. The change would be experienced at varying levels from the northern portion of the route when traveling	High - Medium	Moderate Adverse/ Shot Term/ Temporary

Significance of effect on the visual receptors during construction				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
		north towards the Site.		
Users of Parsonage (VP7.1) Approx. 180 m from the Site	Low	The low level construction and demolition activity would not be clearly visible due to the intervening built form. However tall structures and plant would be visible as the construction phase progresses. The construction works would comprise a small element in the overall view. The change would be experienced from a short section of Parsonage when travelling north.	Low	Minor Adverse/ Short Term/ Temporary
Users of Blackfriars Street (VP8.1 – 8.2) Approx. 150 - 250m from the Site	Medium	The construction/demolition activity will be clearly visible from Blackfriars Bridge. However, further west along the route the intervening built form will prevent views of the early construction phases. Tall structures/ plant would be visible from areas around Trinity Church. Overall, the construction activity would cause a contrast to the existing view and be at odds with the setting. The change would be experienced at varying levels when travelling east into the city centre.	Medium - Low	Moderate - Minor Adverse/ Short Term/ Temporary

Significance of effect on the visual receptors during construction				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
Users of Victoria Street (VP9.1) Approx. 230 m from the Site	Medium	The construction/demolition activity will be clearly visible from the majority of the route. Further south beyond the railway line tall structures/ plant may be partially visible. Overall, the construction activity would cause a contrast to the existing view and be at odds with the setting. The change would be experienced at varying levels but would be most clearly seen from the southern portion of the route when traveling south towards the Site.	Medium	Moderate Adverse/ Short Term/ Temporary
Users of Corporation Street (VP10.1) Approx. 500 m from the Site	Medium – Low	The low level construction and demolition activity would not be clearly visible due to the intervening built form. However tall structures and plant would be visible as the construction phase progresses. The construction works would be seen from approx. 500m away and would comprise a small element in the overall view. The change would be experienced for a short section of the route when traveling south.	Medium - Low	Moderate – Minor Adverse/ Short Term/ Temporary

Significance of effect on the visual receptors during construction				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
Users of Cheetham Hill Road (VP11.1) Approx. 800 m from the Site	Medium – Low	The low level construction and demolition activity would not be clearly visible due to the intervening built form. However tall structures and plant would be visible as the construction phase progresses. The construction works would be seen from approx. 800m away and would comprise a small element in the overall view. The change would be experienced for a short section of the route when traveling south.	Low to Negligible	Minor Adverse/ Shot Term/ Temporary
Users of St Anne's Square (VP12.1) Approx. 320 m from the Site	High - Medium	The construction activity will not be visible from this viewpoint as intervening built form encloses the square.	Negligible	Negligible

- 6.193 There would be major - moderate adverse effects on the views from the Cathedral, Exchange Square, Greengate Square, and the Cathedral approach. These public open spaces are pedestrianised with views towards local landmarks which means they are assessed as sensitive receptors, the change in view will be towards that of construction activity which would be at odds with the setting.
- 6.194 Effects on view from the roads surrounding the Site are assessed as moderate or moderate – minor adverse. In general, these views are fleeting, and therefore not considered as sensitive. The change in view of demolition and construction or tall plant would be at odds with the existing view and setting.
- 6.195 The construction activity would not be visible from St Anne's Square, therefore the effects on views from this square are negligible.

- 6.196 Effects on visual receptors during the construction phase would be significant within close proximity of the Site, however these effects short term and temporary.

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Assessment of the significance of effect on the Townscape Receptors on completion

- 6.197 Upon completion, the significance of effect on townscape receptors considers the sensitivity of the townscape receptor (Table 6.9) and the magnitude, taking into account the embedded mitigation. The results of the assessment of the significance of effect on the relevant TCAs once the Proposed Development is completed is shown in Table 6.13.

Table 6.13 Assessment of effect on the townscape character areas on completion of the Proposed Development.

Effect on the townscape character areas on completion				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance / Nature of Effect
The Cathedral, Cathedral Gardens and its setting	Medium	The Site sits directly adjacent to this character area. The lower storeys and new facades on the northern and eastern elevations will be clearly perceived from the majority of the TCA. However, this change will be a positive addition to streetscape and townscape. The active frontages adjacent to the Cathedral and Greengate will improve the appearance and townscape quality of this area. Further north and east the taller elements of the building will not be in contrast to the existing site setting and adjacent taller buildings. This new building will provide an attractive backdrop, a focal building and will aid with wayfinding. The proposals would result in a partial change in the key characteristics to the	Medium	Moderate Beneficial/ Long Term / Permeable/ Local Level

Effect on the townscape character areas on completion				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance / Nature of Effect
		townscape.		
The City Centre Retail area	Medium - Low	The Proposed Development will result in partial changes to the areas immediately around the Site. However, this contrast would be beneficial. The Proposed Development would introduce active frontages onto Deansgate and a small portion of Victoria Bridge Street creating a more inviting route through the city and complementing the adjacent building uses. There will be an improvement to the townscape quality. The taller element of the building on the northern tip of the Site will provide a local landmark feature, aiding wayfinding. This tall element is not at odds with the surrounding townscape and would sit comfortably with the adjacent taller units. The proposals would result in a partial change in the key characteristics to the townscape.	High - Medium	Moderate Beneficial/ Long Term / Permeable/ Local Level
Parsonage Gardens and St Anne's Square	Medium	There is minimal inter-visibility between the Site and the character area. The taller building may be visible on the skyline but in limited locations. Where visible the taller elements would add interest to the skyline, help with wayfinding and would not be at odds with the adjacent tall buildings. The Proposed Development would result in	Neutral	Neutral Long Term / Permanent/ Local Level

Effect on the townscape character areas on completion				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance / Nature of Effect
		a small change to the townscape character/elements/features/characteristics		
Shudehill	Medium - Low	There is minimal inter-visibility between the Site and the character area. The taller building may be visible on the skyline but in limited locations. Where visible the taller elements will help with wayfinding and would not be at odds with the adjacent tall buildings. The Proposed Development would result in a small change to the townscape character/elements/features/characteristic.	Neutral	Neutral Long Term / Permanent/ Local Level
The mixed-use area to the west of the River Irwell	Low	There is minimal inter-visibility between the Site and the character area. The taller building may be visible on the skyline but in limited locations. Where visible the taller elements will help with wayfinding and would not be at odds with the adjacent tall buildings. The Proposed Development would result in a small change to the townscape character/elements/features/characteristic.	Neutral	Neutral Long Term / Permanent/ Local Level
Trinity Church and its setting	Medium-Low	There is minimal inter-visibility between the Site and the character area. The taller building may be visible on the skyline but in limited locations. Where visible the taller elements will help with wayfinding and	Neutral	Neutral Long Term / Permanent/ Local Level

Effect on the townscape character areas on completion				
Townscape Character Area	Sensitivity (Table 6.9)	Size and Scale of effect	Magnitude of effect	Significance / Nature of Effect
		would not be at odds with the adjacent tall buildings. The Proposed Development would result in a small change to the townscape character / elements / features / characteristic.		

- 6.198 Effects on the Cathedral Conservation Area townscape setting would be Moderate Beneficial/ Long Term/ Permanent at a local level. The Site sits directly adjacent to this character area and the Proposed Development will be perceived from the southern and eastern portion of the area. This change will be a positive change to the townscape quality and character.
- 6.199 The Site sits within the City Centre Retail TCA, there would be Moderate Beneficial/ Long Term/ Permanent effects at a local level. The change would be perceived within the western portion of the TCA, and the change would be positive, improving the townscape and quality of the Site and its immediate setting.
- 6.200 Effects on the remaining townscape character areas are assessed as Neutral/ Long Term / Permanent at a Local Level. There is limited intervisibility between these character areas and the Site, and where the Proposed Development can be perceived the change would not be at odds with the townscape.
- 6.201 Effects on the townscape character upon completion will be beneficial or neutral and not significant.

Assessment of the significance of effect on the visual receptors on completion

- 6.202 Upon completion, the significance of effect on visual receptors considers the sensitivity of the townscape receptor (Table 6.9) and the magnitude, taking into account the embedded mitigation.
- 6.203 **Figures 6.4 – 6.10** include photographs from each viewpoint location. In some cases, sequential photographs show the views from routes.
- 6.204 As set out in the methodology, a 3D computer generated model of the existing built form and Proposed Development has been prepared for the areas within 500m of the Site, this has been used as a tool to aid the understanding of potential changes to the existing views.

- 6.205 Fully verified photomontages have been prepared from key locations where there may be more distant views of the proposals from public locations:
- Viewpoint 1.1 Cathedral Gardens;
 - Viewpoint 2.1 Exchange Square;
 - Viewpoint 6.2 Deansgate / A56;
 - Viewpoint 8.1 – 8.2 Blackfriars Street; and
 - Viewpoint 9.1 Victoria Road/ A56.
- 6.206 The locations from which the verified photomontages have been taken from are shown on **Figure 6.4** these viewpoint locations are circled in yellow. Verified photomontages are included within **Appendix 6.1**.
- 6.207 Wireframe verified photomontages have been prepared from two distant views to demonstrate the potential change in view:
- Viewpoint 11.1 Cheetham Hill Road; and
 - Viewpoint 12.1 St Annes Square
- 6.208 The locations from which the verified photomontages have been taken from are shown on **Figure 6.4** these viewpoint locations are circled in pink. Verified photomontages are included within **Appendix 6.1**.

Table 6.14 Assessment of the Significance of effect on the visual receptors on completion of the Proposed Development.

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
Users of Cathedral Gardens (VP1.1) Approx. 200 m from the Site	High - Medium	The upper storeys of the Proposed Development would be visible beyond the Cathedral. The development would be seen from approx. 200m away and would comprise a small element in the overall view. The Proposed Development would not be at odds with the existing modern and taller buildings experienced in the existing view. The Proposed Development would be high-quality materials and design, creating a new landmark building on the skyline. The change will be experienced from the majority of the area when looking southwest.	Medium - Low Beneficial	Moderate Beneficial / Long Term/ Permanent
Users of Exchange Square (VP2.1 – 2.2) Approx. 50 - 200 m from the Site	High - Medium	The Proposed Development would be clearly visible. There would be a positive active frontage on the visible elevations fronting onto the Exchange Square and Cateaton Street. The Proposed Development would be high-quality materials and design, creating a new landmark building. The change in view will be beneficial and more attractive than the existing	Medium Beneficial	Moderate Beneficial / Long Term/ Permanent

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
		view experienced towards the unkempt and unappealing buildings on the Site. The change will be experienced within the southern portion of the square when looking west.		
Users of Greengate Square (VP3.1) Approx. 100 m from the Site	High - Medium	The Proposed Development would be clearly visible. There would be a positive active frontage on the visible elevations fronting onto Greengate Square. The Proposed Development would be high-quality materials and design, creating a new landmark building. The change in view will be beneficial and more attractive than the existing view experienced towards the unkempt and unappealing buildings on the Site. The change will be experienced from the majority of the area when looking south.	Medium Beneficial	Moderate Beneficial / Long Term/ Permanent
Users of Cathedral Approach (VP4.1) Approx. 100 m from the Site	High - Medium	The Proposed Development would be clearly visible. There would be a positive active frontage on the visible northern elevations. The Proposed Development would be	Medium Beneficial	Moderate Beneficial / Long Term/ Permanent

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
		high-quality materials and design, creating a new landmark building. The change in view will be beneficial and more attractive than the existing view experienced towards the unkempt and unappealing buildings on the Site. The change will be experienced for the full duration of the route when travelling south.		
Users of Victoria Station Arrival (VP5.1) Approx. 300 m from the Site	Medium	The upper floors of the Proposed Development would be partially visible beyond the buildings associated with Chetham School of Music. Intervening structures would screen the low levels of development. Overall, the Proposed Development would not be at odds with the existing modern and taller buildings experienced in the existing view. The development would be seen from approx. 300m away and would comprise a small element in the overall view. The change would be experienced for one glimpsed view towards the Site at the exit of the station.	Neutral	Neutral / Long Term/ Permanent

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
Users of Deansgate/ A56 (VP6.1 – 6.2) Approx. 200 m from the Site	Medium	The Proposed Development would be clearly visible. There would be a positive active frontage on the visible elevations fronting onto Deansgate. Further away from the Site the proposed taller elements of the proposals will be visible in the distance. The Proposed Development would be high-quality materials and design, creating a new landmark building. The change in view will be beneficial and more attractive than the existing view experienced towards the unkempt and unappealing buildings on the Site. The change would be experienced at varying levels from the northern portion of the route when traveling north towards the Site.	Medium Beneficial	Moderate Beneficial / Long Term/ Permanent
Users of Parsonage (VP7.1) Approx. 180 m from the Site	Low	The upper storeys of the Proposed Development would be partially visible. The Proposed Development would not be at odds with the modern and taller buildings experienced in the existing view. The Proposed Development would be	Low Beneficial	Minor Beneficial / Long Term/ Permanent

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
		high-quality materials and design, the change to the view would be positive. The change would be experienced from a short section of Parsonage when travelling north.		
Users of Blackfriars Street (VP8.1 – 8.2) Approx. 150 - 250 m from the Site	Medium	The Proposed Development will be clearly visible from Blackfriars Bridge. The change in view will be beneficial and more attractive than the existing view experienced towards the unkempt and unappealing buildings on the Site. The semi-private gardens adjacent to the River Irwell will be visible and the high quality building and design will be attractive features in the view. Further west along the route the intervening built form will prevent views of the Proposed Development, however the upper floors would be visible from areas around Trinity Church. Overall views of the Proposed Development would not be at odds with the modern and taller buildings experienced in the existing view. The change would be experienced at	Low Beneficial	Moderate – Minor Beneficial / Long Term/ Permanent

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
		varying levels when travelling east into the city centre.		
Users of Victoria Street (VP9.1) Approx. 230 m from the Site	Medium	The Proposed Development would be clearly visible from the majority of the route. The change in view will be beneficial and more attractive than the existing view experienced towards the unkempt and unappealing buildings on the Site. The Proposed Development would be high-quality materials and design, creating a new landmark building Further south, beyond the railway line, the upper floors of the Proposed Development may be partially visible. However, taller and modern buildings in the distance are not uncharacteristic when travelling towards to the city. The change would be experienced at varying levels but would be most clearly seen from the southern portion of the route when traveling south towards the Site.	Medium – Low Beneficial	Moderate - Minor Beneficial / Long Term/ Permanent
Users of Corporation Street (VP10.1)	Medium – Low	The upper floors of the Proposed Development would be partially visible beyond the existing buildings	Neutral	Neutral / Long Term/ Permanent

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
Approx. 500 m from the Site		in the foreground. Intervening structures would screen the low levels of development. Overall, the Proposed Development would not be at odds with the existing modern and taller buildings experienced in the existing view. The development would be seen from approx. 500m away and would comprise a small element in the overall view. The change would be experienced for a short section of the route when traveling south.		
Users of Cheetham Hill Road (VP11.1) Approx. 800 m from the Site	Medium – Low	The upper floors of the Proposed Development would be partially visible beyond the existing buildings in the foreground. Intervening structures would screen the low levels of development. Overall, the Proposed Development would not be at odds with the existing modern and taller buildings experienced in the existing view. The development would be seen from approx. 800m away and would comprise a small element in the overall view. The change would be experienced for a short section of the route when	Neutral	Neutral / Long Term/ Permanent

Significance of effect on the visual receptors on completion				
Visual receptors	Sensitivity (Table 6.10)	Size and Scale of effect	Magnitude of effect	Significance / Nature of effect
		traveling south.		
Users of St Anne's Square (VP12.1) Approx. 320 m from the Site	High - Medium	The Proposed Development would not be visible.	Negligible	Negligible

- 6.209 There would be moderate beneficial effects on the views from the Cathedral, Exchange Square, Greengate Square, and the Cathedral approach. These public open spaces are pedestrianised with views to local landmarks which means they are assessed as sensitive views. The existing building on site is unattractive the change in view will be towards that of new high quality well design building will have a positive effect on the visual receptors with clear views towards the Site.
- 6.210 Effects on view from the roads surrounding the Site are assessed as moderate – minor or minor beneficial or neutral. In general, these views are fleeting, and therefore not considered as sensitive. The change in view would be an improvement on the existing view experienced and would not be at odds with the existing view and setting.
- 6.211 The Proposed Development would not be visible from St Annes Square, therefore the effects on this square are negligible.
- 6.212 Effects on the visual receptors upon completion of the Proposed Development will be beneficial, neutral or negligible not significant.

Additional Mitigation / Enhancement Measures

- 6.213 No secondary mitigation measures have been identified.

Demolition and Construction

- 6.214 No additional mitigation.

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6.215 No secondary mitigation measures are required.

Likely Residual Effects of the Proposed Development and their Significance

6.216 In the absence of secondary mitigation, the residual effects remain unchanged as summarised in Table 6.15.

Table 6.15: Summary of Residual Effects

Description of Effect	Potential effect including significance	Mitigation	Residual Effect including significance
Construction			
Effects on the Cathedral, Cathedral Gardens Townscape Character Area and its setting	Major - Moderate Adverse/ Short Term / Temporary / Local Level	No additional mitigation	Major - Moderate Adverse/ Short Term / Temporary / Local Level
Effects on the City Centre Retail area Townscape Character Area	Moderate Adverse/ Short Term / Temporary / Local Level	No additional mitigation	Moderate Adverse/ Short Term / Temporary / Local Level
Effects on Parsonage Gardens and St Anne's Square Townscape Character Area	Minor Adverse/ Short Term / Temporary / Local Level	No additional mitigation	Minor Adverse/ Short Term / Temporary / Local Level
Effects on the Shudehill Townscape Character Area	Minor Adverse/ Short Term / Temporary / Local Level	No additional mitigation	Minor Adverse/ Short Term / Temporary / Local Level
Effects on the mixed-use area to the west of the River Irwell Townscape Character Area	Minor Adverse/ Short Term / Temporary / Local Level	No additional mitigation	Minor Adverse/ Short Term / Temporary / Local Level
Effects on Trinity Church and its setting Townscape Character Area	Minor Adverse/ Short Term / Temporary / Local Level	No additional mitigation	Minor Adverse/ Short Term / Temporary / Local Level
Effects on the users of Cathedral Gardens (VP1.1)	Major - Moderate Adverse/ Short Term/ Temporary	No additional mitigation	Major - Moderate Adverse/ Short Term/ Temporary
Effects on the users of Exchange Square (VP2.1 –	Major - Moderate Adverse/ Short Term/ Temporary	No additional mitigation	Major - Moderate Adverse/ Short Term/

Description of Effect	Potential effect including significance	Mitigation	Residual Effect including significance
2.2)			Temporary
Effects on the users of Greengate Square (VP3.1)	Major - Moderate Adverse/ Short Term/ Temporary	No additional mitigation	Major - Moderate Adverse/ Short Term/ Temporary
Effects on the users of Cathedral Approach (VP4.1)	Major - Moderate Adverse/ Short Term/ Temporary	No additional mitigation	Major - Moderate Adverse/ Short Term/ Temporary
Effects on the users of Victoria Station Arrival (VP5.1)	Minor Adverse/ Short Term/ Temporary	No additional mitigation	Minor Adverse/ Short Term/ Temporary
Effects on the users of Deansgate/ A56 (VP6.1 – 6.2)	Moderate Adverse/ Shot Term/ Temporary	No additional mitigation	Moderate Adverse/ Shot Term/ Temporary
Effects on the users of Parsonage (VP7.1)	Minor Adverse/ Short Term/ Temporary	No additional mitigation	Minor Adverse/ Short Term/ Temporary
Effects on the users of Blackfriars Street (VP8.1 – 8.2)	Moderate - Minor Adverse/ Shot Term/ Temporary	No additional mitigation	Moderate - Minor Adverse/ Shot Term/ Temporary
Effects on the users of Victoria Street (VP9.1)	Moderate Adverse/ Shot Term/ Temporary	No additional mitigation	Moderate Adverse/ Shot Term/ Temporary
Effects on the users of Corporation Street (VP10.1)	Moderate – Minor Adverse/ Shot Term/ Temporary	No additional mitigation	Moderate – Minor Adverse/ Shot Term/ Temporary
Effects on the users of Cheetham Hill Road (VP11.1)	Minor Adverse/ Shot Term/ Temporary	No additional mitigation	Minor Adverse/ Shot Term/ Temporary
Effects on the users of St Anne's Square (VP12.1) Major	Negligible	No additional mitigation	Negligible
Completed Development			
Effects on the Cathedral, Cathedral Gardens Townscape Character Area	Moderate Beneficial/ Long Term / Permeable/ Local Level	No additional mitigation identified beyond embedded	Moderate Beneficial/ Long Term / Permeable/ Local Level

Description of Effect	Potential effect including significance	Mitigation	Residual Effect including significance
and its setting		mitigation.	
Effects on the City Centre Retail area Townscape Character Area	Moderate Beneficial/ Long Term / Permeable/ Local Level	No additional mitigation identified beyond embedded mitigation.	Moderate Beneficial/ Long Term / Permeable/ Local Level
Effects on Parsonage Gardens and St Anne's Square Townscape Character Area	Neutral Long Term / Permanent/ Local Level	No additional mitigation identified beyond embedded mitigation.	Neutral Long Term / Permanent/ Local Level
Effects on the Shudehill Townscape Character Area	Neutral Long Term / Permanent/ Local Level	No additional mitigation identified beyond embedded mitigation.	Neutral Long Term / Permanent/ Local Level
Effects on the mixed-use area to the west of the River Irwell Townscape Character Area	Neutral Long Term / Permanent/ Local Level	No additional mitigation identified beyond embedded mitigation.	Neutral Long Term / Permanent/ Local Level
Effects on Trinity Church and its setting Townscape Character Area	Neutral Long Term / Permanent/ Local Level	No additional mitigation identified beyond embedded mitigation.	Neutral Long Term / Permanent/ Local Level
Effects on the users of Cathedral Gardens (VP1.1)	Moderate Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Moderate Beneficial / Long Term/ Permanent
Effects on the users of Exchange Square (VP2.1 – 2.2)	Moderate Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Moderate Beneficial / Long Term/ Permanent
Effects on the users of Greengate Square (VP3.1)	Moderate Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Moderate Beneficial / Long Term/ Permanent
Effects on the users of Cathedral Approach (VP4.1)	Moderate Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Moderate Beneficial / Long Term/ Permanent

Description of Effect	Potential effect including significance	Mitigation	Residual Effect including significance
Effects on the users of Victoria Station Arrival (VP5.1)	Neutral / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Neutral / Long Term/ Permanent
Effects on the users of Deansgate/ A56 (VP6.1 – 6.2)	Moderate Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Moderate Beneficial / Long Term/ Permanent
Effects on the users of Parsonage (VP7.1)	Minor Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Minor Beneficial / Long Term/ Permanent
Effects on the users of Blackfriars Street (VP8.1 – 8.2)	Moderate – Minor Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Moderate – Minor Beneficial / Long Term/ Permanent
Effects on the users of Victoria Street (VP9.1)	Moderate - Minor Beneficial / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Moderate – Minor Beneficial / Long Term/ Permanent
Effects on the users of Corporation Street (VP10.1)	Neutral / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Neutral / Long Term/ Permanent
Effects on the users of Cheetham Hill Road (VP11.1)	Neutral / Long Term/ Permanent	No additional mitigation identified beyond embedded mitigation.	Neutral / Long Term/ Permanent
Effects on the users of St Anne's Square (VP12.1) Major	Negligible	No additional mitigation identified beyond embedded mitigation.	Negligible

6.217 Conclusions

Conclusion in respects of the townscape effects during construction

- 6.218 Effects on the Cathedral Conservation Area townscape setting would be Major – Moderate adverse/ short term/ temporary at a local level. The Site sits directly adjacent this character area and the construction activity will be perceived from the southern and eastern portion of the area.
- 6.219 The Site sits within the City Centre Retail TCA, there would be Moderate Adverse/ short term/ temporary effects at a local level. Construction activity is at odds with the TCA, however the change will be perceived for a small portion of the overall character.
- 6.220 Effects on the remaining townscape character areas are assessed as Minor Adverse/ Short Term/ Temporary at a Local Level. There is limited intervisibility between these character areas and the Site, and whilst construction activity will be at odds with the character areas, the change will barely be perceived.
- 6.221 Effects on the townscape character during the construction phase would be significant, however these effects would be short term and temporary.

Conclusion in respects of the visual effects during construction

- 6.222 There would be major - moderate adverse effects on the views from the Cathedral Gardens, Exchange Square, Greengate Square, and the Cathedral approach. These public open spaces are pedestrianised with views to local landmarks which means they are assessed as sensitive views, whilst the existing building on site is unattractive the change in view will be towards that of construction activity which would be at odds with the setting.
- 6.223 Effects on view from the roads surrounding the Site are assessed as moderate or moderate – minor adverse. In general, these views are fleeting, and therefore not considered as sensitive. The change in view of demolition and construction or tall plant would be at odds with the existing view and setting.
- 6.224 The construction activity would not be visible from St Annes Square, therefore the effects on this square are negligible.
- 6.225 Effects on visual receptors during the construction phase would be significant however these effects would be short term and temporary.

Conclusion in respects of the townscape effects on completion

- 6.226 Effects on the Cathedral Conservation Area townscape setting would be Moderate Beneficial/ Long Term/ Permanent at a local level. The Site sits directly adjacent to this character area and the Proposed Development will be perceived from the southern and eastern portion of the area. This change will be a positive change to the townscape quality and character.

- 6.227 The Site sits within the City Centre Retail TCA, there would be Moderate Beneficial/ Long Term/ Permanent effects at a local level. The change would be perceived within the western portion of the TCA, and the change would be positive, improving the townscape and quality of the Site and its immediate setting.
- 6.228 Effects on the remaining townscape character areas are assessed as Neutral/ Long Term / Permanent at a Local Level. There is limited intervisibility between these character areas and the Site, and where the Proposed Development can be perceived the change would not be at odds with the townscape.
- 6.229 Effects on the townscape character upon completion are beneficial or neutral and are not assessed as significant.

Conclusion in respects of the visual effects on completion

- 6.230 There would be moderate beneficial effects on the views from the Cathedral Gardens, Exchange Square, Greengate Square, and the Cathedral approach. These public open spaces are pedestrianised with views to local landmarks which means they are assessed as sensitive views. The existing building on site is unattractive the change in view will be towards that of new high quality well design building will have a positive effect on the visual receptors with clear views towards the Site.
- 6.231 Effects on view from the roads surrounding the Site are assessed as moderate – minor or minor beneficial or neutral. In general, these views are fleeting, and therefore not considered as sensitive. The change in view would be an improvement on the existing view experienced and would be at odds with the existing view and setting.
- 6.232 The Proposed Development would not be visible from St Anne's Square, therefore the effects on this square are negligible.
- 6.233 Effects on the visual receptors upon completion are beneficial, neutral, or negligible and assessed as not significant.

Other Information

References

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Ministry of Housing, Communities and Local Government, Planning Policy Guidance (PPG), 2014

Ministry of Housing, Communities and Local Government, National Design Guide, 2019

Landscape Institute and IEMA, Guidelines for Landscape and Visual Impact Assessments, Third Edition, 2013

Landscape Institute, 'Visual Representation of Development Proposals' Technical Guidance Note 06/19, 2019

Landscape Institute, Townscape Character Assessment, Technical Information Note 05/2017, April 2018

Natural England, National Character Areas, September 2014

Guidance on Tall Buildings, CABI, 2007

7. Heritage

Introduction

- 7.1 This chapter assesses the likely significant effects of the Proposed Development on the historic environment. In particular, it considers the potential effects on existing built heritage in the wider area.
- 7.2 The chapter describes the methods used to assess the likely significant effects, the baseline conditions currently existing at the Site and in its surroundings, the potential direct and indirect effects of the Proposed Development arising from the construction and the operational phase, the mitigation measures required to prevent, reduce, or offset the identified significant effects and the residual effects. It has been written by Turley Heritage.

Planning Policy Context

Legislation

- 7.3 Under s66(1) of The Planning (Listed Buildings and Conservation Areas) Act 1990, Manchester City Council, in determining the submitted full planning application has a statutory duty to pay special regard to the desirability of preserving listed buildings, their setting or any features of special interest they may possess.
- 7.4 Case law has confirmed that Parliament's intention in enacting s66(1) was that decision-makers should give considerable importance and weight to the desirability of preserving the special interest and setting of listed buildings, where 'preserve' means 'to cause no harm'¹.
- 7.5 The setting of conservation areas is not expressly protected by primary legislation. However, the National Planning Policy Framework (NPPF) states that the setting of a designated heritage asset (including conservation areas) can contribute to its significance.

National Planning Policy

National Planning Policy Framework

- 7.6 Paragraph 197 of the NPPF states that in determining planning applications, local planning authorities should take account of *"the desirability of sustaining and enhancing the significance of heritage assets, putting them into viable uses consistent with their conservation"*, as well as *"the desirability of new development making a positive contribution to local character and distinctiveness"*.

¹ East Northamptonshire DC v SSHCLG [2014] Civ 137 and South Lakeland DC v SsfE [1992] 2 AC 141

- 7.7 Paragraph 199 requires, *"when considering the impact of development on the significance of a designated heritage asset that great weight should be given to the asset's conservation". 'Conservation' is defined by the NPPF as "the process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance."*
- 7.8 Paragraphs 201 and 202 differentiate between 'substantial' and 'less than substantial harm' and provide a framework for the consideration of harm to the significance of designated heritage assets where it arises, bearing in mind the considerable importance and weight that must be given to the statutory duties of the 1990 Act.
- 7.9 Paragraph 203 requires that *"the effect of an application on the significance of a non-designated heritage asset is taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset."*
- 7.10 Paragraph 206 requires that *"local planning authorities look for opportunities for new development within the setting of heritage assets to better reveal their significance. It states that proposals that preserve those elements of setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably."*

Local Planning Policy

- 7.11 The Manchester Local Plan is formed of the Core Strategy 2012-2027 and Proposals Map, the extant Unitary Development Plan (UDP) Policies and relevant Development Plan Documents (DPDs).
- 7.12 Policy EN 2 of the Core Strategy relates to tall buildings, which are defined as 'buildings which are substantially taller than their neighbourhoods and/or which significantly change the skyline'. It further states that proposals for tall buildings will be supported where it is 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, terminating a view, or by signposting a facility of significance, and*
 - *Will bring significant regeneration benefits."*
- 7.13 Policy EN 3 (Heritage) of the Core Strategy states that:

"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..."

- 7.14 Policy DC18.1 confirms that the Council will give particularly careful consideration to development proposals within Conservation Areas. It states the following:

"...e) Development proposals adjacent to Conservation Areas will be granted only where it can be shown that they will not harm the appearance or character of the area. This will include the protection of views into and out of Conservation Areas."

- 7.15 Policy DC19 of the UDP relates to the determination of planning applications for development which involve or have an impact on buildings of Special Architectural or Historic Interest. It states that the Council will have regard to protecting their general setting. In giving effect to this policy, the Council will:

"...d) seek to preserve and enhance the settings of listed buildings by appropriate control over the design of new development in their vicinity, control over the use of adjacent land, and where appropriate, by the preservation of trees and landscape features..."

Recognised Guidance

- 7.16 The assessment will be undertaken in line with best practice guidance documents to inform the approach and impact assessment. Those documents which will be used to inform the assessment are listed below:
- Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015); and
 - Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England 2017).
 - 'Design Manual for Roads and Bridges' (LA 104 Environmental Assessment and Monitoring) and (LA 106 Cultural Heritage Assessment).

Assessment Methodology and Significance Criteria

Identification of the Study Area

- 7.17 Baseline information has been obtained for the Site and surrounding area within a 500m radius (the 'Study Area'). In order to define the Study Area, a number of different factors have been taken into consideration. These include:
- The nature and scope of the Proposed Development;
 - The proximity of heritage assets to the Site;

- The degree of inter-visibility between heritage assets and the Site taking into consideration, for instance, interposing townscape features; and
- The significance and sensitivity of the relevant heritage assets and their setting.

Methods of Baseline Data Collection

7.18 All designated and formally identified non-designated heritage assets within the Study Area have been identified and are shown on a Heritage Asset Plan included within the heritage Assessment at **Appendix 7.1**.

7.19 Baseline information has been compiled from the following sources:

- National Heritage List for England (Historic England);
- Greater Manchester Historic Environment Record;
- Historic Ordnance Survey Mapping;
- Manchester City Council (MCC);
- Site visits; and
- Other published sources of information where relevant.

7.20 Designated and non-designated heritage assets within the Study Area have been identified and confirmed through a search of the Greater Manchester Historic Environment Record (by Greater Manchester Archaeological Advisory Service (GMAAS)) on 15 April 2021.

Identification of Sensitive Receptors

7.21 Of the heritage assets identified, there is potential for significant environmental effects on the following:

- Blackfriars Bridge (grade II listed) adjacent to the south of the Site;
- Blackfriars Street group: The Crown Tavern, 14 and 16 Blackfriars Street and 10 and 12 Blackfriars Street (all grade II listed) circa 150 metres to the west of the Site;
- 4 Booth Street (grade II listed) circa 250 metres to the west of the Site;
- 62 Chapel Street (grade II listed) circa 200 metres to the west of the Site;
- Church of the Sacred Trinity and Salford War Memorial (grade II* and II listed) circa 250 metres to the north west of the Site;
- Haywards Building (grade II listed) circa 100 metres to the south of the Site;
- Barton Arcade (grade II* listed) circa 100 metres to the south of the Site;
- Royal Exchange (grade II listed) circa 200 metres to the south east of the Site;

- St Ann's Square Group: 16 St Ann's Square, 18 and 20 St Ann's Square and 22 St Ann's Square (all grade II listed) circa 200 metres to the south east of the Site;
- Cateaton Street Group: Sinclairs Oyster Bar and The Old Wellington Inn, Mitre Hotel and Mynshulls House (all grade II listed) circa 150 metres to the north east of the Site;
- Cathedral Church of St Mary (grade I listed) circa 150 metres to the north east of the Site;
- Former Corn and Produce Exchange (grade II listed) circa 200 metres to the north east of the Site;
- Chethams School complex: South east wing to Chethams Hospital, Detached block of schoolroom approximately 20m south of Chethams Hospital, Chethams Hospital and attached wall (grade I and II listed) circa 250 metres to the north of the Site;
- Victoria Bridge (grade II listed) adjacent to the north of the Site;
- Railway Viaduct and Retaining Walls at Junction with Greengate (grade II listed) circa 150 metres to the north west of the Site;
- Hanging Bridge (scheduled monument) circa 50 metres to the north east of the Site;
- Cathedral Conservation Area adjacent to the north of the Site;
- Parsonage Gardens Conservation Area adjacent to the south of the Site;
- St Ann's Square Conservation Area adjacent to the south east of the Site;
- Flat Iron Conservation Area circa 10 metres to the west of the Site;
- Dial House (non designated) circa 100 metres to the west of the Site; and
- Warehouse on Booth Street (non designated) circa 150 metres to the north west of the Site.

7.22 The baseline assessment has been undertaken using a combination of desk-based study, research and site visits to identify and assess the heritage significance of the identified designated and non-designated heritage asset receptors and the contribution made by their setting.

7.23 Although the Proposed Development may be visible or partially visible beyond the Study Area, heritage assets in these areas are unlikely to experience significant effects as a result of distance and intervening development and were therefore not considered as part of the assessment.

7.24 A large number of heritage assets within the Study Area are also unlikely to experience significant environmental effects due to distance, intervening development, due to the nature of their significance (i.e. historic or functional), their orientation or the way in which they are experienced and appreciated. Although visible or partially visible from some assets, the Proposed Development will be experienced in combination with existing buildings and will form part of a backdrop and wider cityscape in views. With the exception of those identified at paragraph 7.23, these assets are unlikely to experience significant effects during the construction or operation phases and were not considered further within the ES

- 7.25 This baseline that has informed the assessment is set out in an NPPF compliant Heritage Assessment prepared in light of the statutory duty of The Planning (Listed Buildings and Conservation Areas) Act 1990 and in accordance with the NPPF, PPG and Historic England Good Practice Advice in Planning Note 2, Managing Significance in Decision Taking in the Historic Environment (March 2015), and Good Practice Advice Note 3 The Settings of Heritage Assets (2017). This is included at **Appendix 7.1**.

Characterisation of Effect

- 7.26 In the absence of specific prescribed criteria for the assessment of impacts on built heritage, the methodology for establishing the relative value or importance of heritage assets; the magnitude of change; and the significance of effect is drawn from the Highways England Design Manual for Roads and Bridges. This assessment has been informed by Historic England Good Practice Advice Note 2 and 3.
- 7.27 Analysis has been supported by findings from site visits. Site inspections sought to gauge the potential effects of the Proposed Development on heritage assets, judge the relative heritage significance and importance of heritage assets within any grouping, and also how sensitive the understanding and appreciation of their heritage significance would be to change.
- 7.28 The level of effect to heritage assets is quantified based upon the particular heritage significance and setting of the asset and the nature of the effect on that significance. This is considered in greater detail in the accompanying Heritage Assessment (**Appendix 7.1**). The level of effect has been determined using professional judgement and Tables 7.1, 7.2 and 7.3 have been used as a tool to assist with this process. The assessor has therefore exercised professional and reasoned judgment in determining which level of effect is more appropriate.
- 7.29 The following terms have been used to define the level of the effects identified and these can be 'beneficial' or 'adverse':
- 7.30 Major effect: where the Proposed Development is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- 7.31 Moderate effect: where the Proposed Development is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
- 7.32 Minor effect: where the Proposed Development is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity or a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change; and

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

Determining Sensitivity of Receptor

- 7.34 In the absence of specific prescribed criteria for establishing the relative value or importance of designated and non-designated heritage asset receptors, guidance is taken from 'Design Manual for Roads and Bridges' (LA 104 Environmental Assessment and Monitoring) and (LA 106 Cultural Heritage Assessment). Judgements are also informed by an understanding and appreciation of the significance of each of the assets and the contribution made by their setting in accordance with Historic England's guidance 'Good Practice Advice in Planning Note 3: The Setting of Heritage Assets' from 2017. This assessment is set out in a Heritage Assessment included as **Appendix 7.1** to the ES.
- 7.35 Table 7.1 is informed by that guidance and presents the criteria for determining the sensitivity of heritage asset receptors.

Table 7.1 Criteria for Determining the Sensitivity of Heritage Asset Receptors

Value/Importance	Definition
High	Scheduled monuments with standing remains Grade I and II* listed buildings Other listed buildings that can be shown to have exceptional qualities in their fabric or historical association not adequately reflected in the listing grade Conservation areas containing very important buildings
Medium	Grade II listed buildings Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical association Conservation areas containing important buildings Historic townscape or built-up areas with historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Low	'Locally listed' buildings Historic (unlisted) buildings of modest quality in their fabric or historical association Historic townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Negligible	Buildings of no architectural or historic note; buildings of an intrusive character

Value/Importance	Definition
Unknown	Buildings with some hidden (i.e. inaccessible) potential for historic significance

Magnitude of Effect

- 7.36 The magnitude of the effect of the Proposed Development on the identified heritage assets is assessed as outlined in the criteria in Table 7.2, informed by the 'Design Manual for Roads and Bridges' (LA 104 Environmental Assessment and Monitoring) and (LA 106 Cultural Heritage Assessment).

Table 7.2 Criteria for Determining Magnitude of Effect

Magnitude of Effect	Definition
Major / Substantial	Change to key historic building elements, such that the asset is totally altered and much of its significance is lost. Substantial change within the setting of an historic building leading to considerable loss of significance of the asset.
Moderate	Change to many key historic building elements, such that the asset is clearly modified and there is some loss of significance. Change within the setting of an historic building leading to some loss of significance of the asset.
Minor	Changes to key historic building elements, such that the asset is slightly altered and there is some loss of significance. Change within the setting of an historic building leading to a slight loss of significance of the asset.
Negligible	Slight changes to historic building elements or within its setting that hardly affect the significance of the asset.
No change	No substantive change to fabric or within the setting.

Significance of Effect

- 7.37 The significance of the effect on a heritage asset is determined through consideration of the magnitude of the effect and the sensitivity of the heritage asset. The criteria used to assess significance is presented in Table 7.3, also informed by the 'Design Manual for Roads and Bridges' (LA 104 Environmental Assessment and Monitoring) and (LA 106 Cultural Heritage Assessment).

Table 7.3 Criteria for Determining the Significance of Effect on Heritage Asset Receptors

Sensitivity of Receptor	Magnitude of Effect				
	No Change	Negligible	Minor	Moderate	Major
Negligible	Neutral	Neutral	Neutral / Minor	Neutral / Minor	Minor
Low	Neutral	Neutral / Minor	Neutral / Minor	Minor	Minor / Moderate
Medium	Neutral	Neutral / Minor	Minor	Moderate	Moderate / Major
High	Neutral	Minor	Minor / Moderate	Moderate / Major	Major / Substantial

Determining Significance

- 7.38 For each effect, a statement has been made as to whether the level of effect is '**Significant**' or '**Not Significant**'. This determination has been based on professional judgement and/or relevant guidance/legislation where applicable.
- 7.39 With reference to guidance set out in DMRB, the effect on the cultural heritage resource is not significant when the effect does not substantially diminish or enhance the heritage interest of the cultural heritage resource.

Assumptions/Limitations

- 7.40 The following key assumptions or limitations have been made in undertaking the assessment:
- The list of heritage and non designated heritage assets within the Study Area has been compiled from information provided by Greater Manchester Historic Environment Record (by Greater Manchester Archaeological Advisory Service (GMAAS)) on 15 April 2021, Manchester City Council and the National Heritage List for England.
 - This Chapter is focussed on built heritage only. A Desk Based Archaeological Assessment has been prepared which assesses the potential effects on buried archaeological remains. This assessment is submitted alongside the planning application.

Consultation

- 7.41 Consultation undertaken with regard to the heritage assessment is presented in Table 7.4 below.

Table 7.4: Consultation

Consultee	Date and Time	Comments	Actions
Historic England	8 April 2021	<i>"The proposals seek to redevelop a site at the junction of Blackfriars Street and Deansgate, which is currently occupied by the Renaissance Hotel and Premier House. These alterations would redevelop the Deansgate frontage of the site, including the erection of a tower block at the northern end.</i> <i>The site occupies a prominent location, at an important road junction and adjacent to the River Irwell. It also adjoins three conservation areas, two to the south and one to the north, as well as being located in close proximity to a number of highly significant buildings, including Manchester Cathedral.</i> <i>The principle of regenerating the site is not considered to be objectionable, as it is currently a visual eyesore, which impinges on key views into and out of conservation areas. It also forms a negative element of the wider setting of the Cathedral.</i> <i>However, while we would not express concerns about the majority of the proposals for the site, we would highlight that the proposed new tower element at the northern end does have the potential to negatively impact on the significance of the Cathedral. We would therefore welcome further discussions, when more detailed plans have been formulated."</i>	These comments were taken into consideration in developing proposals.
Historic England	12 July 2021	<i>"Historic England continues to be supportive of the applicant's desire to address the current negative contribution which the site makes to a number of heritage assets. We also continue to be pleased that the wider masterplan seeks to</i>	These comments were taken into consideration in developing proposals.

Consultee	Date and Time	Comments	Actions
		<i>address not only the buildings, but the wider landscape as well.</i> <i>However, we continue to raise concerns about the impact that the introduction of a tower would have on the setting in which Manchester Cathedral is experienced. This is concluded to result in less than substantial harm to the significance of this listed building.</i> <i>It is, however, noted that the applicant has produced a detailed evidence base to allow for an assessment of the proposals, and that they have made alterations to the proposed design, which have reduced its harmful impact. It is therefore acknowledged that the applicant has sought to try to mitigate the harm caused.</i> <i>Moving forward, we recommend that the applicant continues to work up the design in greater detail, in order to provide as much clarity as possible about its final appearance and impact. It is also suggested that they consider whether there might be means by which to reduce its impact, and means by which the positive elements of the scheme can be further enhanced. It will then be for the local planning authority to assess whether the public benefits, including the heritage benefits, outweigh the residual harm."</i>	

Baseline Conditions

- 7.42 The site forms part of a larger substantial complex built of steel and ribbed concrete during the late 1960s and early 1970s. It was designed by Cruikshank and Seward and is both modernist and brutalist in its style and form.
- 7.43 The site is located in an area of Manchester city centre that illustrates most of the major stages of change and development in the city spanning from the Anglo Saxon church on the site of the present Manchester Cathedral

to the north east of the site, to the present day. As a result the area around the site is highly mixed and it is one of a number of modern buildings at the junction of Blackfriars, Deansgate and St Mary's Gate that contrast with the medieval quarter to the north, dominated by the grade I listed Manchester Cathedral, and the elaborate 19th century commercial buildings of Barton Arcade (grade II* listed) and the Royal Exchange (grade II listed) to the south and east. It is close to the boundaries of the Cathedral, Parsonage Gardens and St Ann's Conservation Areas and to the east of the Flat Iron Conservation Area and listed buildings lining Blackfriars Street. It is also adjacent to two grade II listed bridge crossings.

- 7.44 The accompanying Heritage Assessment (**Appendix 7.1**) has been prepared to establish an appropriate and proportionate (built) heritage baseline for the purposes of EIA.
- 7.45 Sensitive receptors considered within this Chapter and their associated sensitivity, as informed by the Heritage Assessment are set out in Table 7.5.

Table 7.5: Sensitive Heritage Assets

Asset Type	Name	Grade	Sensitivity
Listed Building	Blackfriars Bridge	II	Medium
Listed Buildings	Blackfriars Street group: The Crown Tavern, 14 and 16 Blackfriars Street and 10 and 12 Blackfriars Street	II	Medium
Listed Building	4 Booth Street	II	Medium
Listed Building	62 Chapel Street	II	Medium
Listed Building	Church of the Sacred Trinity and Salford War Memorial	II* and II	High and Medium
Listed Building	Haywards Building	II	Medium
Listed Building	Barton Arcade	II*	High
Listed Building	Royal Exchange	II	Medium
Listed Building	St Ann's Square Group (16 St Ann's Square, 18 and 20 St Ann's Square and 22 St Ann's Square)	II	Medium
Listed Buildings	Cateaton Street Group: Sinclairs Oyster Bar and The Old Wellington Inn, Mitre Hotel and Mynshulls House (all grade II listed)	II	Medium
Listed Building	Cathedral Church of St Mary	I	High
Listed Building	Former Corn and Produce Exchange	II	Medium
Listed Buildings	Chethams School complex: South east wing to Chethams Hospital, Detached block of schoolroom approximately 20m south of Chethams Hospital, Chethams Hospital and attached wall	I and II	High and Medium
Listed Building	Victoria Bridge	II	Medium
Listed Building	Railway Viaduct and Bridges at junction of Greengate	II	Medium

Asset Type	Name	Grade	Sensitivity
Conservation Area	Cathedral Conservation Area		Medium
Conservation Area	Parsonage Gardens Conservation Area		Medium
Conservation Area	St Ann's Square Conservation Area		Medium
Conservation Area	Flat Iron Conservation Area		Medium
Scheduled Monument	Hanging Bridge		High
Non-Designated Heritage Asset	Dial House		Low
Non-Designated Heritage Asset	Warehouse on Booth Street		Low

7.46 A Heritage Asset Plan is presented at **Figure 7.1**.

Embedded Mitigation

Demolition and Construction

7.47 Temporary, secure fencing and barriers or hoardings around the perimeter of the site will be established at the outset through the implementation of a Construction Environment Management Plan (CEMP) and Traffic Management measures. This will assist in containing and managing the construction process of the proposed development, including partially screening the visual impact. These measures have been taken into consideration as embedded mitigation.

Completed and Operational Phase

7.48 The Proposed Development includes a residential development arranged across two blocks in an L-shaped plan form. The tallest block, focussed in the eastern part of the site, extends to ground plus 26 storeys with a series of commercial units at ground floor addressing Deansgate. The lower block to the west is 14 storeys in height. New riverside public realm is proposed lining the River Irwell with food and beverage space/accommodation, together with private residential amenity space to the north.

7.49 Both buildings have been expressed with a defined base, middle and top. The southern elevation of the tallest block is stepped to create terraces with southern aspect. It is intended to have a strong base of civic scale columns that ground the building with inset glazing to create active frontage to Deansgate. The elevations are formed of a grid structure with a master and secondary grid that creates a balance of solid to void. Vertical

expression is intended with large civic scale tapered pre-cast cladding panels in Collyhurst sandstone. These are embossed with varied patterns and surface finishes to reference the Gothic ogee arches and tracery of Manchester Cathedral. The northern elevation facing the Cathedral is tapered and simplified with full height curtain walling.

- 7.50 The lower western building will also be clad in textured sandstone and full width projecting balconies are proposed facing the River Irwell. It tapers in plan form to enable continuation of the river walk.
- 7.51 Public realm is proposed as part of this application, including the provision of new riverside public realm areas west of the existing hotel building, and amenity space for residents in the area west of the residential building. These works will extend the length of the western site boundary between Victoria Bridge Street and Blackfriars Street. New landscaping is also proposed to the back of pavement along the Deansgate frontage of the residential building.
- 7.52 Works are proposed to an existing retaining wall connected to the grade II listed Victoria Bridge and a new deck and stepped access is proposed. A separate application for listed building consent will be sought for these works.

Assessment of Likely Significant Effects

Demolition and Construction

Change in the Setting of Heritage Assets

- 7.53 There are temporary effects that may affect the setting and significance of heritage assets during the demolition and construction phase. This includes the temporary diminution in the quality of the setting of heritage assets from the presence of mobile cranes, visible machinery, earthworks and material management and construction traffic movements. These may result in change to the setting of heritage assets and increased visual intrusion and noise. The risk of such effects will be partially mitigated by embedded mitigation, including a CEMP.
- 7.54 The grade II listed Blackfriars Bridge is located to the south of the Site and the grade II listed Victoria Bridge and Railway Viaduct and Bridge are located to the north of the Site. The activities of the construction phase will change the character of the setting of these assets to varying degrees through the extent of machinery, vehicle movements, earthworks and material movements, as well as demolition and direct construction works. The effect of these works could have temporary adverse effects on the experience of these assets. Works are proposed to an existing retaining wall connected to Victoria Bridge and a new deck and stepped access forms part of the proposals and for this reason, together with its closer proximity to the construction activities, the level of effect on the grade II listed Bridge is considered to be higher.
- 7.55 The sensitivity of Blackfriars Bridge and the Railway Viaduct and Bridge is considered to be medium. The magnitude of change to these assets is considered to be minor. Therefore, there is likely to be an indirect, temporary, adverse effect which is considered to be **minor and not significant**.

- 7.56 The sensitivity of Victoria Bridge is considered to be medium. The magnitude of change is considered to be moderate. Therefore, there is likely to be an indirect, temporary, adverse effect on this asset which is considered to be **moderate and not significant**.
- 7.57 It is likely that there will be direct views of the construction phase and associated activity from both Mynshull's House and the Mitre Hotel of the Cateaton Street group of buildings and it is anticipated that there would be a temporary effect on these assets.
- 7.58 The sensitivity of Mynshull's House and the Mitre Hotel is considered to be medium. The magnitude of change to these assets is considered to be small. Therefore, there is likely to be an indirect, temporary, adverse effect which is **minor and not significant**.
- 7.59 The Cathedral Church of St Mary is located to the north east of the Site. Given the proximity of the Site, temporary effects on this asset during the construction phase are also anticipated, particularly due to the visual effects of demolition and construction works.
- 7.60 The sensitivity of the Cathedral is considered to be high. The magnitude of change is considered to be moderate. Therefore, there is likely to be an indirect, temporary, adverse effect which is considered to be **moderate and not significant**.
- 7.61 Manchester Cathedral is the focus of the Cathedral Conservation Area to the north east of the Site. Given the proximity of the Site to the designated area it is also anticipated that demolition and construction activity would have a temporary effect on the conservation area.
- 7.62 The sensitivity of the conservation area is considered to be medium. The magnitude of change is considered to be small. Therefore, there is likely to be an indirect, temporary, adverse effect which is **minor and not significant**.
- 7.63 Dial House is a non designated heritage asset located to the west of the Site. Albeit from the rear elevation of the building, demolition and construction works will be clearly visible from asset across the River Irwell.
- 7.64 The sensitivity of Dial House is considered to be low. The magnitude of change is considered to be small. Therefore, there is likely to be an indirect, temporary, adverse effect which is **minor and not significant**.
- 7.65 It is concluded that the construction phase of the Proposed Development will have no effect on the remaining identified designated and non-designated heritage assets, resulting in a negligible significance of effect (not significant). This is due to the significance and setting of these heritage assets, separation distances and intervening built development.

The Completed and Operational Development

Change in the Setting of Heritage Assets

- 7.66 Although clearly visible from the 19th century bridge crossings from Blackfriars Street and in reciprocal views southwards from Victoria Bridge and from the Railway Viaduct and Retaining Walls, the Proposed Development will not obscure views or impede the ability to appreciate the historic, architectural or functional significance of these structures or their group value. An existing view of Manchester Cathedral from Blackfriars Bridge will be widened and framed by the proposed building and although their significance would not be increased, the ability to experience and appreciate the listed bridges would be enhanced through improvement of the public realm lining the River and an increased ability to engage with the river through creation of public access.
- 7.67 Works are proposed to an existing retaining wall connected to the grade II listed Victoria Bridge and a new deck and stepped access is proposed. A separate application for listed building consent will be sought for these works.
- 7.68 The sensitivity of Victoria Bridge, Blackfriars Bridge and the Railway Viaduct and Bridges is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.69 It is anticipated that the wide frontage of the Travelodge lining the northern side of Blackfriars Street would largely screen the Proposed Development from the Blackfriars Street Group. From the north western extent of Blackfriars Street only the upper levels of the residential block would be visible above an existing concrete clad office building and viewed in the context of an already highly mixed setting comprising a number of modern buildings of increased scale and height. The Blackfriars Street listed buildings are principally experienced in views southwards away from the Site. The limited visibility of the Proposed Development would have no effect on the ability to experience and appreciate the historic and architectural interest of these buildings or their group value.
- 7.70 The sensitivity of all three listed buildings that are within the Blackfriars Street Group is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.71 The stepped form of the Proposed Development will be clearly visible in views northwards from Deansgate in the vicinity of Haywards Building and Barton Arcade, but at a distance and occupying an aspect of the setting of these buildings that is already characterised by modern buildings, including the existing Renaissance complex and No 1 Deansgate. Taking into consideration distance, the significance of the two commercial buildings and the character of their setting it is not considered that the Proposed Development would cause harm. It would not block or obscure any views of these buildings or diminish their prominence.
- 7.72 The sensitivity of Haywards Building is considered to be medium and the sensitivity of Barton Arcade is considered to be high. The magnitude of change to both assets is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.

- 7.73 Due to distance and the siting of the residential development in the northern part of the Site, views of the Proposed Development from the Royal Exchange will be restricted to St Mary's Gate where it is likely that the upper levels of the residential block will extend above the modern commercial buildings lining New Cathedral Street. The setting of the former exchange and views from St Mary's Gate are already characterised by modern buildings and the raked form of No 1 Deansgate. The character of the view or the setting of the Royal Exchange would not be changed to the extent that the significance of the Royal Exchange would be harmed. The prominence of the listed building and the landmark presence of the corner turret to St Mary's Gate would not be diminished.
- 7.74 The sensitivity of the Royal Exchange is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.75 The Proposed Development will not be visible from the St Ann's Square Group and they will not be affected.
- 7.76 The sensitivity of the St Ann's Square Group is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.77 Although their setting is influenced by modern development (Exchange Square, the Arndale Centre, Selfridges and the modern commercial buildings on New Cathedral Street) the Cateaton Street Group have a relatively well defined setting created by Shambles Square and Cateaton Street and it is from these areas that they are principally experienced and their group value can be appreciated. The existing Site terminates views westwards from Cateaton Street and although it is a negative backdrop it does not harm the significance of these assets which are orientated southwards and form part of a continuous frontage enclosing the route and addressing Shambles Square. The Proposed Development will be visible from the vicinity of these assets in views westwards and the appearance of the Site will be improved by the quality of the design and materials of the proposed building and the creation of active frontage to Deansgate. Overall, however due to their orientation and enclosed setting it is not considered that their significance would be affected by the Proposed Development.
- 7.78 The sensitivity of all four listed buildings that are within the Cateaton Street Group is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**
- 7.79 Overall, there will be combination of positive and negative effects on the Cathedral Church of St Mary. The presence of the residential tower in views from Deansgate and from east to west is considered to cause some harm to the Cathedral by creating a degree of distraction and reducing the visual dominance of the listed building. However, this effect is tempered by the quality of the design and materials of the Proposed Development and the way in which it responds to its context, including the creation of active frontage to Deansgate. Taking into consideration the existing setting of the Cathedral and the extent to which taller buildings, including No 1. Deansgate and the Premier Inn, already influence its setting and significance, it is

concluded that the level of harm caused to the Cathedral would be 'less than substantial' and of a moderate level.

- 7.80 The sensitivity of the Cathedral is considered to be high. The magnitude of change is considered to be moderate. Therefore, there is likely to be an indirect, permanent, long term adverse effect which is considered to be **moderate and not significant**.
- 7.81 It has been identified that the tallest block of the Proposed Development would result in harm to Manchester Cathedral by creating a degree of distraction and reducing the visual dominance of the listed building. Given the prominence and contribution the Cathedral makes to the Cathedral Conservation Area it is also considered that there would be associated harm to the conservation area. Based on the extent of the designated area, its character and appearance (that is broader and extends beyond the Cathedral), and the contribution made by its setting, it is considered that the harm caused would be 'less than substantial' and minor. Aspects of the Proposed Development will also enhance the setting of the conservation area and should be taken into consideration.
- 7.82 The sensitivity of the Cathedral Conservation Area is considered to be medium. The magnitude of change is considered to be minor adverse. Therefore, there is likely to be an indirect, permanent, long term adverse effect which is considered to be **minor and not significant**.
- 7.83 The open spaces of Exchange Square and Cathedral Gardens to the north and south of the Former Corn Exchange allow for open views of the principal elevations and in which the Exchange is a dominant element of the local townscape. Within the wider surrounding context taller buildings exist, particularly to the west, where there are views of the Premier Inn. The upper levels of the Proposed Development will also be visible to varying degrees from the setting of the listed building in views, however due to distance and taking into consideration the robust and assertive characteristics of the Former Exchange, it is not considered that it would be harmed.
- 7.84 The sensitivity of the Former Corn Exchange is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.85 The Site is located to the south of the Chethams School Complex. Although visible from Cathedral Gardens and Victoria Street in the proximity of the listed complex, the Proposed Development will be visible at a distance and in the context of the wider mixed setting of the assets that already includes a range of modern buildings of taller and larger format. It is not considered that the Proposed Development would intrude or create visual impact to the extent that the significance of the complex would be eroded. The strong historic interest of the grouping, its architectural character, the relationships between the component parts of the complex and the relationship it has with Manchester Cathedral will be unaffected by the Proposed Development.
- 7.86 The sensitivity of the listed buildings that comprise the Chethams School Complex are considered to be medium and high. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.

- 7.87 Due to intervening development and the rising topography, the Proposed Development will be screened from the Church of the Sacred Trinity, Salford War Memorial, 4 Booth Street and 62 Chapel Street to a large extent by existing buildings. The tallest block would be visible from Chapel Street and in the vicinity of the grouping of heritage assets, but only the upper levels would be visible and viewed in the context of an already layered modern townscape including a mix of modern buildings of varying style, height and scale. It is not considered that these assets would be affected.
- 7.88 The sensitivity of these listed buildings is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.89 Overall, although highly visible it is not considered that the visual impact of the proposals would diminish the character or appearance of the Parsonage Gardens Conservation Area or St Ann's Square Conservation Area. Verified View analysis demonstrates that that the Proposed Development would not be visible from large parts of these designated areas, including from St Ann's Square, where the tallest block will be screened by existing buildings. Views into and out of these conservation areas will also be enhanced and connections will be improved through the creation of active frontage and a contextual building of high quality design and materials. This will improve the way in which the two conservation areas to the south are experienced.
- 7.90 The sensitivity of these conservation areas is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.91 The Proposed Development will be visible from the Flat Iron Conservation Area in views from Blackfriars Street and to a more limited extent from Chapel Street. In these views there will be distance and separation from the designated area and the development and the proposed taller element will occupy part of the setting of the conservation area that is already characterised by modern development of increase height, scale and mass. It is not considered that the level of visual impact anticipated would have any effect on appreciation of the character and appearance of the Flat Iron Conservation Area, its historic origins or the role of Sacred Trinity Church as a focal point.
- 7.92 The sensitivity of the conservation area is considered to be medium. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.
- 7.93 The Hanging Bridge scheduled monument has a confined and restricted setting. This ensures that the significance of the asset would not be diminished by the proposals. The evidential and historic value of the remains would be unaffected.
- 7.94 The sensitivity of the Hanging Bridge is considered to be high. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.

- 7.95 Dial House is a distinctive building. Although the Proposed Development will be visible from it, it is not considered that its significance (principally experienced from Chapel Street and the River corridor) would be affected. It forms part of a wider complex of buildings and already exists in a setting comprising both traditional buildings and modern development of increased scale and height. The Proposed Development will not be visible from the Warehouse on Booth Street and its significance would not be affected.
- 7.96 The sensitivity of these non designated heritage assets is considered to be low. The magnitude of change is considered to be negligible. The overall effect is therefore considered to be **negligible and not significant**.

Additional Mitigation / Enhancement Measures

- 7.97 A separate application for listed building consent will be submitted for works to the grade II listed Victoria Bridge associated with construction of the Proposed Development and creation of a new deck and stepped access. It is expected that this application will be accompanied by application drawings and a proposed Method Statement.

Likely Residual Effects of the Development and their Significance

- 7.98 There are no residual effects which are considered to be Significant. Although there will be a moderate adverse effect on the Cathedral, this is not considered to be significant. The listed building has a highly mixed urban setting and occupies an area of Manchester city centre with significant time depth and where buildings and structures from most phases in the development and growth of the city are represented. It forms an integral part of a modern city and is therefore experienced and appreciated in combination with both historic and modern townscape/cityscape including Salford to the west. Tall buildings already exist within its setting including the Premier Inn to the west and buildings of the Embankment development to the north west, Urbis to the north east and No. 1 Deansgate to the south. It is not considered that the Proposed Development in combination with these existing buildings would substantially diminish the heritage interest of the listed building. A summary of the residual effects is presented in Table 7.6 below.

Table 7.6: Residual Effects Summary

Description of Effect	Receptor	Potential effect including significance	Mitigation	Residual Effect including significance
Construction and Demolition				
Change to and within the setting of heritage assets	Blackfriars Bridge	Minor adverse (not significant)	None	Minor adverse (not significant)
	Blackfriars Street	Negligible (not	None	Negligible (not

Description of Effect	Receptor	Potential effect including significance	Mitigation	Residual Effect including significance
	Group	significant)		significant)
	4 Booth Street	Negligible (not significant)	None	Negligible (not significant)
	62 Chapel Street	Negligible (not significant)	None	Negligible (not significant)
	Church of the Sacred Trinity and Salford War Memorial	Negligible (not significant)	None	Negligible (not significant)
	Haywards Building	Negligible (not significant)	None	Negligible (not significant)
	Barton Arcade	Negligible (not significant)	None	Negligible (not significant)
	Royal Exchange	Negligible (not significant)	None	Negligible (not significant)
	St Ann's Square Group	Negligible (not significant)	None	Negligible (not significant)
	Cateaton Street Group (Mynshulls House and Mitre Hotel)	Minor adverse (not significant)	None	Minor adverse (not significant)
	Cathedral Church of St Mary	Moderate adverse (not significant)	None	Moderate adverse (not significant)
	Former Corn and Produce Exchange	Negligible (not significant)	None	Negligible (not significant)
	Chethams School Complex	Negligible (not significant)	None	Negligible (not significant)
	Victoria Bridge	Moderate adverse (not significant)	Secondary mitigation is expected in the form of preparation	Moderate adverse (not significant)

Description of Effect	Receptor	Potential effect including significance	Mitigation	Residual Effect including significance
			and submission of a Method Statement with a separate application for listed building consent for proposed works to the grade II listed Bridge. It is not expected that this would change the level of effect on the asset, assessed to be 'moderate adverse' and not significant.	
	Railway Viaduct and Bridges at junction with Greengate	Minor adverse (not significant)	None	Minor adverse (not significant)
	Cathedral Conservation Area	Minor adverse (not significant)	None	Minor adverse (not significant)
	Parsonage Gardens Conservation Area	Negligible (not significant)	None	Negligible (not significant)
	St Ann's Square Conservation Area	Negligible (not significant)	None	Negligible (not significant)
	Flat Iron Conservation Area	Negligible (not significant)	None	Negligible (not significant)
	Hanging Bridge	Negligible (not significant)	None	Negligible (not significant)
	Dial House	Minor adverse (not significant)	None	Minor adverse (not significant)

Description of Effect	Receptor	Potential effect including significance	Mitigation	Residual Effect including significance
	Warehouse on Booth Street	Negligible (not significant)	None	Negligible (not significant)
Completed Development				
Change to and within the setting of heritage assets	Blackfriars Bridge	Negligible (not significant)	None	Negligible (not significant)
	Blackfriars Street group	Negligible (not significant)	None	Negligible (not significant)
	4 Booth Street	Negligible (not significant)	None	Negligible (not significant)
	62 Chapel Street	Negligible (not significant)	None	Negligible (not significant)
	Church of the Sacred Trinity and Salford War Memorial	Negligible (not significant)	None	Negligible (not significant)
	Haywards Building	Negligible (not significant)	None	Negligible (not significant)
	Barton Arcade	Negligible (not significant)	None	Negligible (not significant)
	Royal Exchange	Negligible (not significant)	None	Negligible (not significant)
	Cateaton Street Group	Negligible (not significant)	None	Negligible (not significant)
	St Ann's Square Group	Negligible (not significant)	None	Negligible (not significant)
	Cathedral Church of St Mary	Moderate adverse (not significant)	None	Moderate adverse (not significant)
	Former Corn and Produce Exchange	Negligible (not significant)	None	Negligible (not significant)

Description of Effect	Receptor	Potential effect including significance	Mitigation	Residual Effect including significance
	Chethams School complex	Negligible (not significant)	None	Negligible (not significant)
	Victoria Bridge	Negligible (not significant)	None	Negligible (not significant)
	Railway Viaduct and Bridges at junction with Greengate	Negligible (not significant)	None	Negligible (not significant)
	Cathedral Conservation Area	Minor adverse (not significant)	None	Minor adverse (not significant)
	Parsonage Gardens Conservation Area	Negligible (not significant)	None	Negligible (not significant)
	St Ann's Square Conservation Area	Negligible (not significant)	None	Negligible (not significant)
	Flat Iron Conservation Area	Negligible (not significant)	None	Negligible (not significant)
	Hanging Bridge	Negligible (not significant)	None	Negligible (not significant)
	Dial House	Negligible (not significant)	None	Negligible (not significant)
	Warehouse on Booth Street	Negligible (not significant)	None	Negligible (not significant)

Conclusions

- 7.99 This chapter assesses the likely significant effects of the Proposed Development on the historic environment. In particular, it considers the potential effects on existing built heritage in the wider area.
- 7.100 The chapter describes the methods used to assess the likely significant effects, the baseline conditions currently existing at the Site and in its surroundings, the potential direct and indirect effects of the Proposed Development arising from the construction and the operational phase, the mitigation measures required to prevent, reduce, or offset the identified significant effects and the residual effects. It has been written by Turley Heritage.
- 7.101 Baseline information has been obtained for the Site and surrounding area within a 500m radius (the 'Study Area'). In order to define the Study Area, a number of different factors have been taken into consideration. These include:
- The nature and scope of the Proposed Development;
 - The proximity of heritage assets to the Site;
 - The degree of inter-visibility between heritage assets and the Site taking into consideration, for instance, interposing townscape features; and
 - The significance and sensitivity of the relevant heritage assets and their setting.
- 7.102 Of the heritage assets identified within the Study Area, there is potential for significant environmental effects on the following:
- Blackfriars Bridge (grade II listed) to the south of the Site;
 - Blackfriars Street group: The Crown Tavern, 14 and 16 Blackfriars Street and 10 and 12 Blackfriars Street (all grade II listed) to the west of the Site;
 - 4 Booth Street (grade II listed) to the west of the Site;
 - 62 Chapel Street (grade II listed) to the west of the Site;
 - Church of the Sacred Trinity and Salford War Memorial (grade II* and II listed) to the north west of the Site;
 - Haywards Building (grade II listed) to the south of the Site;
 - Barton Arcade (grade II* listed) to the south of the Site;
 - Royal Exchange (grade II listed) to the south east of the Site;
 - St Ann's Square Group: 16 St Ann's Square, 18 and 20 St Ann's Square and 22 St Ann's Square (all grade II listed) to the south east of the Site;
 - Cateaton Street Group: Sinclairs Oyster Bar and The Old Wellington Inn, Mitre Hotel and Mynshulls House (all grade II listed) to the north east of the Site;

- Cathedral Church of St Mary (grade I listed) to the north east of the Site;
- Former Corn and Produce Exchange (grade II listed) to the north east of the Site;
- Chethams School complex: South east wing to Chethams Hospital, Detached block of schoolroom approximately 20m south of Chethams Hospital, Chethams Hospital and attached wall (grade I and II listed) to the north of the Site;
- Victoria Bridge (grade II listed) to the north of the Site;
- Railway Viaduct and Retaining Walls at Junction with Greengate (grade II listed) to the north west of the Site;
- Hanging Bridge (scheduled monument) to the north east of the Site;
- Cathedral Conservation Area to the north of the Site;
- Parsonage Gardens Conservation Area to the south of the Site;
- St Ann's Square Conservation Area to the south east of the Site;
- Flat Iron Conservation Area to the west of the Site;
- Dial House (non designated) to the west of the Site; and
- Warehouse on Booth Street (non designated).

Demolition and Construction

- 7.103 It is concluded that during the demolition and construction phase there would be temporary adverse effects on Blackfriars Bridge, the Cateaton Street group (Mynshull's House and the Mitre Hotel), the Cathedral Church of St Mary, Victoria Bridge, the Railway Viaduct and Bridges at Greengate, the Cathedral Conservation Area and Dial House. These effects range from **minor adverse** to **moderate adverse**. For all other identified heritage assets the effects of the demolition and construction phase are considered to be **negligible**. All effects are considered **not significant**.

Completed Development

- 7.104 When completed we have concluded that the Proposed Development would have a moderate adverse effect on the Cathedral Church of St Mary and a **minor adverse** effect on the Cathedral Conservation Area. For all other assets the effect would be **negligible**, and all effects are considered **not significant**.

Other Information

References

The Planning (Listed Buildings and Conservation Areas) Act 1990

Ministry of Housing, Communities and Local Government, (2021), National Planning Policy Framework (NPPF)

Ministry of Housing, Communities and Local Government, (2021), Planning Policy Guidance (PPG)

Manchester City Council, (2012), Manchester's Local Development Framework Core Strategy Development Plan Document (2012) and Extant Unitary Development Policies (UDP)

Historic England, (2017), Good Practice Advice Note 3: The Setting of Heritage Assets

Historic England, (2015), Good Practice Advice Note 2: Managing Significance in Decision Taking in the Historic Environment

Design Manual for Roads and Bridges (DMRB) (2019) ((LA 104 Environmental Assessment and Monitoring) and (LA 106 Cultural Heritage Assessment))

8. Wind Microclimate

Introduction

- 8.1 This chapter assesses the effects of the Proposed Development on Wind Microclimate in relation to pedestrian comfort and safety. In particular, it considers the potential wind microclimate effects and likely effects of the Proposed Development on the following:
- Undesirable wind speeds at ground and raised levels of the Site, surrounding buildings and nearby areas of public realm during the construction phase; and
 - Undesirable wind speeds at ground and raised levels of the Site, surrounding buildings and nearby areas of the public realm during the operational phase.
- 8.2 The chapter describes the methods used to assess the likely significant effects, the baseline conditions currently existing at the Site and surroundings, the potential direct and indirect effects of the development arising from wind downwash, funnelling, corner accelerations and gusting, the mitigation measures required to prevent, reduce, or offset the identified significant effects and the residual effects. The chapter has been written by GIA.

Planning Policy Context

National Planning Policy

National Planning Policy Framework

- 8.3 The National Planning Policy Framework (NPPF) was revised in July 2021 by the Department of Communities and Local Government (DCLG). The relevant paragraphs are as follows:
- 8.4 Paragraph 130 of the National Planning Policy Framework states that:

“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 users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience."*

- 8.5 There is no specific planning policy guidance dealing with microclimate in terms of pedestrian comfort set out in the revised NPPF.

Planning Practice Guidance (2018)

- 8.6 The Department for Communities and Local Government (DCLG) web-based Planning Practice Guidance resource includes a section on design and sets out how a building's size and shape can affect the wind microclimate. The section addressing Design - How should buildings and the spaces between them be considered? 'Consider scale' Paragraph O26, states that: "*Account should be taken of local climatic conditions, including daylight and sunlight, wind, temperature and frost pockets.*"

Local Planning Policy

Manchester Core Strategy (2012-2027)

- 8.7 **Policy EN2 – Tall Buildings** – States that, 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.

Other Relevant Policy, Standards and Guidance

- 8.8 The assessment was performed using the London Docklands Development Corporation (LDDC) variant of the Lawson Comfort Criteria. The Lawson Criteria are well-established in the UK for quantifying wind conditions in relation to build developments and, although not a UK 'standard', the criteria are recognised by local authorities as a suitable benchmark for wind assessments. The LDDC variant is established as the most practically applicable variant of the Lawson Criteria, and is used industry wide. The Lawson Criteria (LDDC variant) have been adopted for this assessment.

Assessment Methodology and Significance Criteria

- 8.9 The assessment was performed using GIA's high-resolution Computational Fluid Dynamics (CFD) modelling.

- 8.10 CFD is a digital modelling technique, which simulates the effect of wind for the built environment. The air is divided into hundreds of millions of “cells”, within which the equations of motion are solved. GIA uses cloud computing from Amazon Web Services (AWS) to run the simulations, to ensure vast scalability and appropriate resource availability for any project.

Meteorological Conditions

- 8.11 On-site and local wind speeds (both mean and peak gust speeds) were combined with 30 years-worth of weather data for Manchester International Airport, corrected for terrain local to the airport and the Site, to obtain annual and seasonal frequency and magnitude of wind speeds across the model. This allows the ‘grading’ of the pedestrian level winds according to the Lawson Comfort Criteria, which are explained later in this chapter.
- 8.12 The wind microclimate effects are assessed annually and seasonally. The windiest season (typically the winter months of December, January and February) are reported as this is when the strongest winds are expected, summer conditions (June, July, August) are reported as this is the season when pedestrian usage of outdoor spaces is expected to be highest.
- 8.13 Approximately 30 years of meteorological data were used in the assessment, corrected for meteorological data standard conditions of 10m above open, flat, level country terrain. The data was corrected to account for the terrain roughness at the Site, using ESDU 2010 Item01008 ‘Computer program for wind speeds and turbulent properties: flat or hilly sites in terrain with roughness changes’.
- 8.14 Seasonal wind roses for the airport are shown in Error! Reference source not found.. The dominant wind direction is from the south-west. The correction factors, which allow conversion between wind speeds recorded at the airport (measured 10m above ground) and those measured at the Site (at a reference height of 120m) are shown in Table 8.1; it should be noted that the terrain analysis has been performed using sectors of 30°.

Table 8.1: Site Wind Correction Factors

0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
1.47	1.45	1.45	1.42	1.35	1.31	1.31	1.31	1.32	1.30	1.43	1.41

Characterisation of the Baseline

- 8.15 The existing baseline conditions are defined as the current site conditions at the time of the planning submission (2021) plus current surrounding properties and those schemes with planning permission that are currently under construction and are assumed to be fully built out for the purposes of the baseline scenario.
- 8.16 Baseline conditions were established by CFD testing of a scenario consisting of the existing on-site buildings with the existing surrounding context.

CFD Testing

- 8.17 The CFD testing was performed using a digital model of the Site and a 400m radius of the area surrounding the Site (the Study Area).
- 8.18 Wind speeds were measured at 1.5m above the ground for the Site and surrounding area, and at 1.5m above the terraces and balconies within the Proposed Development.
- 8.19 Mean wind speeds were measured directly from the CFD model, peak gust wind speeds were calculated by combining measured mean wind speeds and turbulent kinetic energy.
- 8.20 The model was run at full scale from 18 wind angles, spaced using 10° or 30° increments such that no sector contributes more than 10% of the annual wind.
- 8.21 An atmospheric boundary layer profile, representative of a dense urban location, was generated using the OpenFOAM atmospheric modelling library.
- 8.22 The CFD model captured details down to 0.05m. The size of the model was between 123 million and 183 million cells, depending on the scenario tested.

Lawson Comfort Criteria

- 8.23 The LDDC variant of the Lawson Comfort Criteria was used to establish microclimate conditions. The Lawson Comfort Criteria is shown in Table 8.2 and the Lawson Safety Criteria is shown in Table 8.3.

Table 8.2: Lawson Comfort Criteria

Key	Comfort Category	Mean Wind Speed (5% exceedance)	Description
	Sitting	4 m/s	Acceptable for outdoor sitting use (e.g. cafes, benches, balconies)
	Standing	6 m/s	Acceptable for main building entrances, pick-up / drop-off points and bus stops
	Walking (leisure)	8 m/s	Acceptable for strolling

Key	Comfort Category	Mean Wind Speed (5% exceedance)	Description
	Walking (business)	10 m/s	Acceptable for external pavements, walking purposefully without lingering
	Uncomfortable	>10 m/s	Not comfortable for regular pedestrian access

Table 8.3: Lawson Safety Criteria

Key	Safety Category	Mean Wind Speed (0.022% exceedance)	Description
	No Safety Exceedance	<15 m/s	
	S15 (Distress)	>15 m/s	Unsafe for frail individuals, or cyclists
	S20 (Safety)	>20 m/s	Wind conditions considered unsafe for all users

Target Wind Conditions

- 8.24 For a typical mixed-use urban area within which the Site is located, the desired wind microclimate would typically need to have areas acceptable for sitting, standing (including at entrances of buildings) and walking use. Uncomfortable conditions are not acceptable in any area which is accessible to pedestrians.

Amenity Areas

- 8.25 Any amenity spaces are targeted to be suitable for a mixture of standing and sitting in summer conditions.
- 8.26 The following amenity spaces are proposed within the Proposed Development:

- Ground level amenity area along the River Irwell.
- Level 14 roof terrace.
- Level 26 roof terrace.
- Balconies on the west elevation.
- Balconies on the south elevation.

Entrances

- 8.27 The areas immediately outside any building entrances should be suitable for standing use during winter to provide a “buffer” between the still conditions in interior spaces and the general thoroughfare.

Bus Stops

- 8.28 Bus stops are targeted to be suitable for standing, as pedestrians would be expected to dwell in these spaces for a longer duration than a general thoroughfare.
- 8.29 There are bus stops around the development both to the south on Blackfriars Street and to the east on Deansgate.

Thoroughfares

- 8.30 The target is for the majority of thoroughfares to be suitable for leisure walking. Localised areas of business walking can be tolerated as a transitory pedestrian will pass through them relatively quickly, but an extensive area of business walking on a thoroughfare is not acceptable.
- 8.31 Within roadways, business walking is acceptable as these areas will only be used by people undertaking high energy activities such as cycling or brisk walking to cross the road.

Strong Winds

- 8.32 A strong wind is defined as anywhere where there is an exceedance of either the distress (S15) or safety (S20) criteria of the Lawson Safety Criteria (as outlined in Table 8.2). Strong winds pose a risk to pedestrian safety, so are not acceptable anywhere which is accessible to pedestrians.

Identification of Sensitive Receptors

- 8.33 Sensitive receptors are identified according to the expected pedestrian activities for different regions in the Site and surrounding area.
- 8.34 All receptors are considered of **high** sensitivity to strong winds, as these can pose a risk to pedestrian safety.

- 8.35 General thoroughfares are of **medium** sensitivity to pedestrian comfort, as users are not expected to dwell for significant periods in specific regions.
- 8.36 Bus stops, building entrances and amenity spaces are of **high** sensitivity to pedestrian comfort.

Characterisation of Effect

- 8.37 All wind effects will be either site or local effects.
- 8.38 All effects for the completed and operational Proposed Development will be **permanent** effects, any effects during construction will be **temporary** effects.
- 8.39 All wind effects are **direct** effects resulting from the impact of the Proposed Development on the local wind environment.

Significance Criteria

- 8.40 The assessment involves an appraisal of the modelled pedestrian conditions within a space against the intended use of the space using the Lawson Criteria. The significance criteria used to determine whether an effect is significant and the level of significance is set out below:
- Major Beneficial: wind conditions are three categories calmer than required;
 - Moderate Beneficial: wind conditions are two categories calmer than required;
 - Minor Beneficial: wind conditions are a category calmer than required;
 - Negligible; wind conditions are those required;
 - Minor Adverse: wind conditions are a category windier than required;
 - Moderate Adverse: wind conditions are two categories windier than required; and,
 - Major Adverse: wind conditions are three categories windier than required.
- 8.41 Additionally, any risk to pedestrian safety due to strong winds is classified as a **Major Adverse** effect.
- 8.42 Any adverse effects (for strong winds and comfort) are categorised as significant, as these will require mitigation in order to achieve suitable comfort and safety conditions. Any neutral or beneficial effects will have suitable conditions for the intended use without mitigation, so are not classed as significant.

Assumptions/Limitations

- 8.43 The accuracy of the results is dependent upon the accuracy of the architectural CAD model used to construct the CFD model.

- 8.44 There is an inherent assumption that on-site wind speeds will scale linearly with the measured wind speeds at the airport (Manchester International).
- 8.45 It is assumed that, during the construction process, wind conditions will gradually change from the Baseline Conditions to the conditions for the Completed Proposed Development.
- 8.46 It is assumed that on-site activity during construction will be able to withstand a higher category of pedestrian comfort level that for the Proposed Development.

Consultation

Table 8.4: Consultation

Consultee	Date and Time	Comments	Actions
MCC	17/06/21	EIA Scoping report submitted detailing the proposed approach of the Wind Assessment.	Wind scoped in
MCC	21/07/21	Liason with MCC regarding change of methodology from wind tunnel to CFD (see Appendix 2.3).	Methodology changed to CFD

Baseline Conditions

Pedestrian Comfort

- 8.47 Error! Reference source not found. shows the winter comfort level for the existing site with existing surrounds.
Error! Reference source not found. shows the summer comfort level for the existing site with existing surrounds.
- 8.48 Winter conditions range between sitting, standing and leisure walking throughout the Study Area. Summer conditions range between sitting and standing throughout the Study Area.
- 8.49 Conditions at the bus stops are suitable for sitting in any season. This is suitable for the intended use.
- 8.50 There are no regions of leisure walking adjacent to any buildings, so all building entrances will be suitable for either sitting or standing. This is suitable for the intended use.

Strong Winds

- 8.51 Error! Reference source not found. shows the strong winds for the existing site with existing surrounds.
- 8.52 There are no recorded risks of strong winds anywhere within the Study Area.

Embedded Mitigation

Construction

- 8.53 There is no embedded mitigation during the construction phase which is relevant to the wind microclimate assessment.

Completed Development

- 8.54 There are no embedded mitigation measures which have been embedded into the design of the Proposed Development.

Assessment of Likely Significant Effects

Demolition and Construction

- 8.55 As the baseline conditions are relatively calm, and the existing on-site building is not of significance height, the demolition of the existing building which is being applied for under application ref. 130049/DEM/2021 but is being assessed within this ES, should not reasonably be expected to have an impact on local conditions. This can be treated as a **negligible** wind effect (**not significant**).
- 8.56 During the construction of the Proposed Development, conditions will gradually change from the baseline conditions to the conditions experienced during the operational phase. As there are no significant adverse effects at ground level during the operational phase it is reasonable to expect that there will not be any adverse effects during this transition. Therefore, during the construction phase this can reasonably be treated a **negligible** wind effect (**not significant**).

The Completed and Operational Development

Pedestrian Comfort

- 8.57 Error! Reference source not found. shows the winter comfort level at ground level for the Proposed Development with existing surrounds. Error! Reference source not found. shows the summer comfort level at ground level for the Proposed Development with existing surrounds.
- 8.58 Winter conditions range between sitting, standing and leisure walking throughout the Study Area. Summer conditions range between sitting and standing throughout the Study Area.
- 8.59 All thoroughfares and roadways are suitable for leisure walking at worst. This is suitable for the intended use and any wind effects are **negligible (not significant)**.

- 8.60 Conditions at the bus stops are suitable for sitting or standing in any season. This is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 8.61 There are no regions of leisure walking adjacent to any buildings, so all building entrances will be suitable for either sitting or standing. This is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 8.62 The proposed ground level amenity is suitable for a mixture of sitting and standing in either winter or summer conditions. This is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 8.63 Error! Reference source not found. and Error! Reference source not found. show the winter comfort level at terrace level for the Proposed Development with existing surrounds. Error! Reference source not found. and Error! Reference source not found. show the summer comfort level at terrace level for the Proposed Development with existing surrounds.
- 8.64 Conditions at the level 14 roof terrace are suitable for a mixture of standing and leisure walking in winter and a mixture of sitting and standing in summer conditions (there is a small area which is suitable for business walking in winter and leisure walking in summer, but this is not within the accessible area of the terrace). It should be noted that no terrace furniture or landscaping were included, which would reasonably be expected to create further regions of calmer conditions, but even without these, this is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 8.65 Conditions at the level 26 roof terrace are suitable for sitting in either winter or summer conditions (there are small areas which are suitable for business walking or uncomfortable, but this is not within the accessible area of the terrace). This is a category calmer than required, which is a **minor beneficial effect (not significant)**.
- 8.66 Conditions for the west facing balconies are suitable for sitting in either summer or winter conditions. This is a category calmer than required, which is a **minor beneficial effect (not significant)**.
- 8.67 Conditions for the south facing balconies are suitable for a mixture of sitting, standing and leisure walking in winter conditions and for a mixture of sitting and standing in summer conditions. This is suitable for the intended use and any wind effects are **negligible (not significant)**.

Strong Winds

- 8.68 Error! Reference source not found. shows the strong winds at ground level for the Proposed Development with existing surrounds.
- 8.69 Error! Reference source not found. and Error! Reference source not found. show the strong winds at terrace level for the Proposed Development with existing surrounds.

- 8.70 There are no recorded risks of strong winds at ground level anywhere within the Study Area. This is suitable for the intended use and is a **negligible** wind effect (**not significant**).
- 8.71 There are some small regions of strong winds around the extremity of the roof terrace areas, but none of these are within accessible regions and hence there are no recorded risks of strong winds for the usable regions at terrace or balcony levels. This is suitable for the intended use and is a **negligible** wind effect (**not significant**).

Additional Mitigation / Enhancement Measures

Construction

- 8.72 As the Proposed Development is anticipated to have negligible effects with regards to wind microclimate during the construction phase, no additional mitigation measures have been proposed.

Completed Development

- 8.73 As the Proposed Development is anticipated to have negligible / minor beneficial effects with regards to wind microclimate during the completed development phase, no additional mitigation measures have been proposed.

Likely Residual Effects of the Development and their Significance

- 8.74 No significant residual effects are expected, as all effects range between negligible and minor beneficial.

Table 8.5: Residual Effects Summary

Description of Effect	Potential effect including significance	Mitigation	Residual Effect including significance
Construction and Demolition			
Local thoroughfares	Negligible	None required	Negligible
Building entrances	Negligible	None required	Negligible
Bus stops	Negligible	None required	Negligible
Completed Development			
Local thoroughfares	Negligible	None required	Negligible
Building entrances	Negligible	None required	Negligible

Description of Effect	Potential effect including significance	Mitigation	Residual Effect including significance
Bus stops	Negligible	None required	Negligible
Amenity spaces	Negligible to Minor Beneficial	None required	Negligible to Minor Beneficial

Conclusions

- 8.75 Wind microclimate conditions for the Proposed Development were assessed using high-resolution CFD.
- 8.76 There is not expected to be any significant risk to pedestrian safety due to strong winds, either at ground level, on the balconies, or on the roof terraces.
- 8.77 Pedestrian wind comfort is expected to be suitable in all cases, including general thoroughfares, building entrances, bus stops and amenity spaces.
- 8.78 Overall no adverse wind effects are anticipated, and no wind mitigation measures are expected to be required.

9. Socioeconomics

Introduction

- 9.1 This chapter assesses the significance of the socio-economic effects of the Proposed Development on the identified study area. In particular, the assessment considers:
- Economic and employment effects related to direct, indirect and induced job creation during demolition and construction and with the completed development, expenditure from the temporary construction workforce and an increase in household spend with the completed development;
 - Housing effects related to an increase in housing stock with the completed development in place; and
 - Social and community infrastructure effects related to a change in the demand for education, healthcare and community facilities, and demand on open space and recreational space with the completed development in place.
- 9.2 The chapter describes the methods used to assess the likely significant effects, the baseline conditions currently existing at the Site and surroundings, the potential direct and indirect effects of the development arising from the proposed new housing and employment space, the mitigation measures required to prevent, reduce, or offset the identified significant effects and the residual effects. It has been written by Avison Young.

Planning Policy Context

National Planning Policy

National Planning Policy Framework

- 9.3 The National Planning Policy Framework (NPPF) (2021) sets out the Government's planning policies and how these are expected to be applied. Central to this framework is the presumption in favour of sustainable development; it is identified as "*the golden thread running through both plan-making and decision-taking*" (para 14). Three dimensions of sustainable development are defined by the NPPF in setting out the role of the planning system:
- Economic - the planning system is able to perform an economic role through supporting growth and innovation.
 - Social - the planning system can perform a social role by supporting strong, vibrant and healthy communities. This includes providing the supply of housing required to meet the needs of present and future generations.

- Environmental - the planning system is able to perform an environmental role by protecting and enhancing the natural, built and historic environment.
- 9.4 NPPF notes that these roles are mutually dependent and so should not be undertaken in isolation: "*to achieve sustainable development, economic, social and environmental gains should be sought jointly and simultaneously through the planning system*" (para 8).
- 9.5 Of particular relevance to the assessment of socio-economics are the '*positive improvements*' identified by the NPPF which the planning system should seek to achieve (para. 9): Making it easier for jobs to be created in cities, towns and villages; and improving the conditions in which people live, work, travel and take leisure.
- 9.6 Other policies and strategies that have been introduced by the Government in an attempt to bolster house building and reactivate the housing market include:
- Investing in Britain's Future (2013).
 - Help to Buy.
 - Fiscal Benefits to Local Authorities and incentives for House Builders.
 - National Infrastructure Delivery Plan (2016).
 - The Housing White Paper (2017).

Local Planning Policy

Manchester City Council's (MCC) Core Strategy (2012)

- 9.7 MCC's Core Strategy is the key document in Manchester's Local Development Plan. The Strategy outlines the long-term strategic priorities for the unitary authority and serves as part of the framework against which planning applications are currently assessed.
- 9.8 The relevant elements of the Strategy are identified below:
- Objective S03: Housing - The Strategy aims to provide a significant increase in high-quality housing provision at sustainable locations through the City. The objective's emphasis on high-quality housing includes creating sustainable lifetime neighbourhoods with high-quality environments, good local facilities and with easy access to employment opportunities;
 - Policy H1: Overall Housing Provision - This policy states that between 2009 and 2027, approximately 60,000 homes will be delivered in the City. It adds that new housing will predominantly in the Regional Centre and Inner Areas of Manchester; and
 - Policy H8: Affordable Housing - This policy states that all residential development on sites of 0.3 hectares and above or where the units proposed numbers 15 or higher will be subject to the requirement for affordable housing or an equivalent financial contribution. This policy states that new development will contribute to a

20% new housing provision to be affordable. The proportion of affordable housing units will reflect the type and size of the overall development. It adds that where appropriate, provision will be made within Section 106 agreements to amend the proportion of affordable housing considering economic conditions and subject to a financial viability assessment.

- Policy EN9: Green Infrastructure - states that new development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises the Council also encourages developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure.

Ramada Complex Strategic Regional Framework (SRF)

- 9.9 The Ramada Complex Strategic Regeneration Framework (SRF) (Rev 04, 2018) was prepared with the intention of acting as guidance as to the comprehensive regeneration of land adjoining Blackfriars/Deansgate and the River Irwell in Manchester City Centre. The Site proposed for redevelopment as part of this application is the focus of this SRF.
- 9.10 The SRF commits to facilitating the delivery of '*...a series of significant regeneration benefits, which in turn will help drive wider economic growth objectives, enhancing productivity and improving quality of life within Manchester City Centre*' (p.4).
- 9.11 Objectives of the SRF that are specifically linked to socio-economics are as follows:
- New landmark City Centre Destination: Including publicly accessible open space.
 - High quality and distinctive new homes: Delivery of approximately 600 one, two and three bedroom apartments contributing to an overall balanced supply of housing for Manchester.
 - Local Socio-Economic Impact: considered management of existing leisure employment, and provision of short and long term employment through construction and completed development commitments, including promotion of pathways to employment through active participation and promotion of local training and improving skills initiatives.

Other Relevant Policy

The Manchester Strategy – Our Manchester (2016)

- 9.12 The Manchester Strategy sets out a long-term vision for Manchester's future. The overarching vision is for Manchester to be in the top flight of world-class cities in 2025. The five key themes of the Strategy are:
- A thriving and sustainable city;
 - A highly skilled city;
 - A progressive and equitable city;

- A liveable and low-carbon city; and
- A connected city.

Manchester Residential Growth Strategy (2016)

9.13 Within the context of the Our Manchester Strategy, the Residential Growth Strategy (2016-2025) sets out the city's plans to deliver a minimum of 25,000 new homes over the next decade. The Strategy has six priorities to achieve this growth:

- Increase house-building on existing and new sites;
- Improve the quality and sustainability of the city's housing;
- Increase opportunities for home ownership;
- Expand the family-housing offer;
- Professionalise the private-rented sector; and
- Provide appropriate housing options for retirement living.

9.14 In March 2016 the Executive endorsed the Manchester Residential Growth Strategy which set a minimum target of 25,000 new homes to be delivered within the city by 2025. The Residential Growth Strategy proposes a set of priorities to support the city's sustained economic growth and ensure that there are affordably priced houses and apartments for sale and rent, which meet the needs of economically active households who want to live in the city.

Manchester Green and Blue Infrastructure Strategy

9.15 Manchester Green and Blue Infrastructure Strategy and Action Plan aims to build on investment to date and create a high quality, well maintained green and blue spaces which are integral part of neighbourhoods.

9.16 The Strategy identifies a number of actions, including embedding green infrastructure as part of residential development and within city centre developments. The Strategy recommends that Developers should consider how green and open space can work best to achieve this and form an integrated part of the overall scheme.

Assessment Methodology and Significance Criteria

9.17 The study areas utilised for each of the effects assessed within this chapter are outlined below. Distances specified are considered to be appropriate to enable the assessment of likely significant effects.

Economic and Employment Effects

9.18 The Additionality Guide (HCA, 2014) notes that there are two levels at which economic effects should be considered:

- Local; and
- Regional.

- 9.19 The Additionality Guide advises that the '*local level for projects that generate employment effects or other economic benefits is often considered to be within the relevant travel to work area*'. The Site is situated within Manchester City Council (MCC) and therefore it is considered appropriate to set the 'local level' as Manchester City. This has been termed the 'district' level for the purposes of this chapter in respect to economic and employment effects.
- 9.20 The administrative area of MCC is situated within the Greater Manchester region and there are substantial linkages via road and rail infrastructure between MCC and the wider city region. As such, the employment effects of the Proposed Development are considered to extend across Greater Manchester. Therefore, it is appropriate to set the 'sub-regional level' as Greater Manchester. This area incorporates MCC's administrative area alongside Bolton, Bury, Oldham, Rochdale, Salford, Tameside, Trafford, Stockport, and Wigan. This has been termed the 'sub-regional' level for the purposes of this chapter in respect to economic and employment effects.
- 9.21 Statistics for the North West, England / Great Britain / UK have been provided within this chapter for context. In addition, statistics are also provided for the ward (Deansgate) in which the Site is located for context.

Housing effects

- 9.22 The study areas for the assessment of effects related to housing was the administrative area of MCC. As above for employment and economic effects, this is referred to as the 'district' level.

Community and Social Infrastructure effects

- 9.23 The study area adopted for the assessment of effects related to changes in demand on primary education and community facilities was 2.5km from the Site as this aligns with an average walking distance within 30 minutes. For secondary schools a 5km study area was adopted given secondary aged pupils are likely to travel further for school.
- 9.24 For healthcare, the study area adopted is the Primary Care Networks the Site lies within or is located adjacent to.
- 9.25 Where relevant, these study areas are referred to as the 'local level'.
- 9.26 The study area used to identify existing open and recreational spaces is 800m from the Site, equating to a 10-minute walk.

Method of Baseline Data Collection

- 9.27 In order to assess the likely socio-economic effects of the Proposed Development, baseline information on a variety of socio-economic indicators has been obtained through a desk-based study and interpreted for the relevant study areas for each likely effect. As noted in Paragraph 9.14, data for Deansgate ward, North West region and England / Great Britain / UK has also been obtained to provide context.

9.28 Data included in this chapter has been collected from the following sources:

- The Office for National Statistics (ONS) Census Data;
- The National Online Manpower Information System (NOMIS);
- Annual Survey of Hours and Earnings;
- Indices of Multiple Deprivation 2019;
- NHS Find a GP Website;
- School Information Service Website;
- Greater Manchester Combined Authority documents; and
- MCC documents.

9.29 The indicators have been grouped into several subject areas as follows:

- Population and Age Profile;
- Deprivation;
- Employment and Economy;
- Housing;
- Social and Community Infrastructure (including education, health and community facilities); and
- Open and Recreational Space.

9.30 Taken together, it is considered that these subject areas provide a robust indication of the prevailing socio-economic baseline conditions relevant to the assessment reported within this chapter.

Assessment Methodology

Demolition and Construction

Direct, Indirect and Induced Job Creation

9.31 The employment effects during demolition and construction are assessed on the basis of the number of direct, indirect and induced jobs which are estimated to be generated during this stage of the Proposed Development.

9.32 The methodology adopted for the assessment is in line with the approach formulated by the Birmingham Economic Information Centre in 'The Economic Impact of Development Investment in Birmingham 1998-2010'. This formula uses the expenditure associated with demolition and construction, divided by an assumed cost for one-year temporary construction jobs. This figure is then converted into full-time equivalent (FTE) jobs, where it is assumed that one job over a ten year period is equivalent to one FTE, meaning that the number of temporary construction jobs has been divided by ten (one construction FTE = 10 temporary person years of construction

employment). The FTEs per annum were then calculated by dividing the total FTEs by the overall demolition and construction period of 2.5 years.

- 9.33 At this stage and considering the information available, this is considered to be a robust approach to enable the assessment of the likely significant employment effects during demolition and construction.
- 9.34 Table 9.1 presents the factors used for the assessment reported within this chapter. The anticipated total construction cost is an indicative estimate that has been generated only for the purposes of assisting calculations for direct employment opportunities and should not be relied upon for any other purpose.

Table 9.1: Direct Construction Job Calculation Factors

Factor	Description
Anticipated total demolition and construction cost	£65,000,000
Average turnover per construction employee*	£35,563

Notes to Table 9.1: * the mean value for 'North West - Construction of buildings'.

- 9.35 For the purposes of the assessment, the evaluation for the district level (Manchester City) and sub-regional level (Greater Manchester) is not mutually exclusive (i.e. the number of jobs is considered in relation to the total employees at both the district and sub-regional levels). As such, the estimated number of jobs were evaluated against the total number of employees in industry sector F - Construction as of 2019 at both the district (Manchester City) and sub-regional (Greater Manchester) levels to determine the magnitude of impact.
- 9.36 Given the short-term nature of demolition and construction, the additionality factors of leakage and displacement referred to in the Additionality Guide were not applied in the calculations for this stage of the Proposed Development.
- 9.37 Indirect and induced job creation during demolition and construction was calculated using a multiplier of 2.7, which aligns with the composite output multiplier for the construction sector noted in the Additionality Guide. At this stage, it is not possible to isolate the industry sector where the impact may occur. Therefore, these figures were evaluated against the total number of employees in all industry sectors as of 2019 at the district and sub-regional levels to determine the magnitude of impact.
- 9.38 The Site is currently vacant and, as such, for the purposes of this assessment, it is assumed that there are no jobs being displaced or lost as a result of this Proposed Development.

Expenditure from Temporary Construction Workforce

- 9.39 During demolition and construction, it is anticipated that the temporary construction workforce will spend on sustenance and amenities.

- 9.40 Using professional judgement, a conservative estimation was made that 60% of the workforce will spend £6 per day on food and drink on 232 days per annum. The 232 working days was based on the assumption that a FTE employee works five days a week, with four weeks holiday and eight bank holidays off per year.

Completed Development

Direct Job Creation

- 9.41 The employment effects arising from the completed development are based on the number of jobs which are estimated to be generated.
- 9.42 Given the long-term and permanent nature of the Proposed Development, one FTE is assumed to be equivalent to one job.
- 9.43 As with the assessment of demolition and construction, the evaluation for the district (Manchester City) and sub-regional levels (Greater Manchester) was not mutually exclusive (i.e. the number of FTE / jobs was considered in relation to the number of relevant industry sector employees at both the district and sub-regional levels).
- 9.44 In order to calculate the gross FTE jobs generated by the completed development, the assessment reported within this chapter uses the factors set out in the Employment Density Guide (HCA, 2015).
- 9.45 It has been assumed that, based on proposed use classes of the development, any of the following employment sectors could occupy the floorspace:
- Retail / leisure / food and beverage floorspace (Use Class E / Sui Generis) - G: Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles, N: Administrative and Support Service Activities, and I: Accommodation and Food Service Activities.
- 9.46 The net direct FTE jobs are therefore evaluated against the total number of employees in this industry sector at the district (Manchester City) and sub-regional (Greater Manchester) levels to determine the magnitude of impact at each geographic scale. The creation of jobs related to the Proposed Development are also considered in the context of the existing employment provision.

Increase in Household Spend

- 9.47 The assessment of effects relating to household spend was undertaken based on the anticipated spend from the residents within the completed development and qualitative comparison against the wider household spend in the wider district and sub-regional levels.
- 9.48 Household expenditure was calculated using the latest estimates of average household weekly expenditure (£454.70) for the North West region from the Family Spending Report (ONS, 2020) which provides data for the financial year ending 2019.
- 9.49 The assessment has been based on the Proposed Development of 300 residential units.

Increase in Housing Stock

- 9.50 A quantitative assessment of effects relating to housing stock was undertaken by evaluating the quantum of units that will be delivered by the Proposed Development against the planning policy housing targets and objectives set out in the Baseline Conditions section.
- 9.51 As noted above in relation to an increase of household spend, the assessment has been based on the Proposed Development of 300 residential units.

Change in Demand for Social and Community Infrastructure

- 9.52 A quantitative assessment of effects was undertaken by identifying the likely population to be generated by the Proposed Development and comparing this against the capacity of the educational and healthcare facilities which are outlined in the Baseline Conditions section.
- 9.53 The assessment is based on the Proposed Development of 300 residential units. The total anticipated population generated by the Proposed Development was based on an average multiplier of 2.3 individuals per residential unit.
- 9.54 To calculate child yield, the estimated number of children aged 5-11 (193) and 12-19 (including 12-16 and 17-19 categories) (1,624) were divided by the estimated number of households in the Deansgate Ward (the ward that the Site is located within) (ONS, 2019b). On the reasonable assumption that a household and residential unit are considered to be equivalent, this provided the following child yields:
- 5-11: 0.03 per residential unit; and
 - 12-19: 0.23 per residential unit.

Change in Demand for Open and Recreational Space

- 9.55 A qualitative assessment of effects related to open and recreational space was undertaken which takes into consideration the availability on the Site itself. It also considers the provision within 800m of the Site, which is equivalent to a 10-minute walk.

Characterisation of Impact

- 9.56 The assessment identifies the sensitivity of each identified receptor. In a socio-economic assessment, receptors are not sensitive to changing environmental conditions in the same way as many environmental receptors are. To address this, the assessment has drawn on a combination of measurable indicators and a consideration of the importance of the receptor in policy terms to gauge the receptor's sensitivity. This is considered alongside the weight attached to these issues in local policy.
- 9.57 Table 9.2 sets out the sensitivity criteria used in the assessment.

Table 9.2: Criteria for Sensitivity

Sensitivity	Criteria
High	Change related to the receptor accorded a high priority in local, regional, or national economic regeneration policy. Evidence of direct and significant socio-economic challenges including: • Areas with levels of unemployment well in excess of regional / national averages and high levels of relative deprivation (i.e. top 10%); • Areas with an acute housing shortage; • Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have no capacity / are over-subscribed; and • Areas with a considerable shortfall of open and recreational space / poor-quality resources.
Medium	Change relating to the receptor has medium priority in local, regional, and national economic and regeneration policy. Some evidence of socio-economic challenges, including: • Areas with levels of unemployment above regional / national averages and levels of relative deprivation (i.e. top 50%); • Areas with a moderate housing shortage; • Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have limited capacity; and • Areas with a shortfall of open and recreational spaces / moderate-quality resources.
Low	Change related to the receptor is accorded a low priority in local, regional, and national economic and regeneration policy. Little evidence of socio-economic challenges, including: • Areas with levels of unemployment in line with regional / national averages and levels of relative deprivation (i.e. bottom 50%); • Areas with a limited housing shortage; • Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have some capacity; and • Areas with a surplus of open and recreational space / high-quality resources.

Sensitivity	Criteria
Negligible	The receptor is not considered a priority in local, regional, and national economic development and regeneration policy. No socio-economic issues relating to a receptor, including: • Areas with levels of unemployment less than regional / national averages and low levels of relative deprivation (i.e. bottom 10%); • Areas with a minimal housing shortage; • Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have substantial surplus capacity; and • Areas with a considerable surplus of open and recreational space / very high-quality resources.

9.58 The magnitude of impact upon each receptor was determined by considering the predicted deviation from baseline conditions, both before and - if required - after mitigation. The criteria used for the assessment of the magnitude of impact, which can be either positive (beneficial) or negative (adverse) is shown below in Table 9.3.

Table 9.3: Criteria for Magnitude of Impact

Magnitude of Impact	Description / Criteria
Substantial	Proposed development would cause a large change to existing socio-economic conditions in terms of absolute and / or percentage change, such as: • Greater than 5% increase / decrease on existing baseline levels of employment; • Greater than 5% increase / decrease of housing stock in relation to contribution to planning policy targets; • Greater than 5% increase / decrease in provision of open and recreational space; • Considerable increase / decrease in quality of open and recreational space; and • Considerable increase / decrease in demand on social and community infrastructure
Moderate	Proposed development would cause a moderate change to existing socio-economic conditions in terms of absolute and / or percentage change, such as: • 1% - 5% increase / decrease on existing baseline levels of employment;

Magnitude of Impact	Description / Criteria
	1% - 5% increase / decrease of housing stock in relation to contribution to planning policy targets; 1% - 5% increase / decrease in provision of open and recreational space; - Moderate increase / decrease in quality of open and recreational space; and - Moderate increase / decrease in demand on social and community infrastructure.
Minor	Proposed development would cause a minor change to existing socio-economic conditions in terms of absolute and / or percentage change, including: 0.1% - 0.99% increase / decrease on existing baseline levels of employment; 0.1% - 0.99% increase / decrease of housing stock in relation to contribution to planning policy targets; 0.1% - 0.99% increase / decrease in provision of open and recreational space; - Limited increase / decrease in quality of open and recreational space; and - Limited increase / decrease in demand on social and community infrastructure.
Negligible	No discernible change in baseline socio-economic conditions.

Significance Criteria

9.59 There are no industry standard significance criteria for the assessment of socio-economic effects. The assessment is quantitative where possible. In circumstance where this is not possible, the assessment is qualitative in nature based on professional judgement.

9.60 The significance of effect is identified by combining the sensitivity of the receptor against the magnitude of impact using the matrix in Table 9.4. However, the assessment also takes account of the following factors in determining the significance of effects:

- Extent;
- Duration;
- Timing;
- Frequency;
- Reversibility; and
- Likelihood.

Table 9.4: Significance of Effect

Magnitude of Impact	Sensitivity of Receptor			
	High	Medium	Low	Negligible
Substantial	Major	Major	Moderate	Negligible
Moderate	Major	Moderate	Minor	Negligible
Minor	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

- 9.61 Any effect that is moderate or above is considered to be 'significant' (including for both adverse and beneficial effects).

Assumptions/Limitations

- 9.62 The assessment of effects has relied upon the use of secondary data within calculations as assumptions in order to generate an understanding of the likely effects resulting from the Proposed Development.

Consultation

- 9.63 The proposed approach of the assessment of socio-economic impacts was presented in the EIA scoping report that was submitted to MCC in June 2021 with an invitation for comment by issue of a scoping opinion. The scoping opinion (MCC, August 2021, see **Appendix 2.2**) confirms the proposed assessment approach. The proposed approach in respect of socio-economic assessment was considered to be acceptable. Nevertheless, the comment made in the Scoping Opinion which has relevance to the socio-economic assessment is outlined in Table 9.5 and actions to address within this chapter are reiterated.

Table 9.5: Consultation

Consultee	Date and Time	Comments	Actions
Manchester City Council	13 August 2021, Scoping Opinion	The scoping report identifies the development site as being located within Manchester City Centre. For planning purposes, the development site is located in the Regional Centre (policy EC3) as	The significance of the Site at the local and regional scale is acknowledged and is reflected throughout the assessment. As such, the baseline and impacts

Consultee	Date and Time	Comments	Actions
		defined within the Manchester Core Strategy (2012). The significance of the Site in regional terms should be reflected throughout the ES. The Environmental Chapters must therefore consider the impacts of the Proposed Development on the local context 'Regional Centre' together with Manchester City Centre, the North West Region and the national context (where appropriate) in order to determine any wider significant environmental impacts	associated with the local, district level (Manchester City) are considered alongside those at the wider regional level (Greater Manchester).

Baseline Conditions

Population and Age Profile

- 9.64 The total estimated resident population for Manchester City in 2020 was 555,700 (Nomis, 2020). The total estimated resident population within Greater Manchester was 2,848, 300 in 2020.
- 9.65 The 2020 estimates for the proportion of resident individuals aged 16-64 in Manchester City, Greater Manchester, the North West and Great Britain are presented in Table 9.6. The figures show that there was a far higher proportion of residents aged 16-64 in Manchester City (70.5%) compared with the average for Greater Manchester (63.6%). Manchester City's 16-64 resident population was also higher than both the North West region (62.1%) and Great Britain (62.4%).

Table 9.6: Summary of Resident Population Aged 16-64 (2020)

Area	Percentage of resident population aged 16-64
Manchester City	70.5%
Greater Manchester	63.6%
North West	62.1%
Great Britain	62.4%

- 9.66 Since the 2011 Census, the average growth rate of the resident population of Manchester is 0.7% and has experienced the second largest growth of cities within England (after London) in the same period (ONS, 2020). As of 2020, Manchester and Salford are now the fastest growing cities (ranked 1st and 2nd respectively) in the UK, and Greater Manchester is the fastest growing metropolitan area in the UK (ONS, 2020). Manchester's Core Strategy (2012) predicts that the city's population will increase to 581,300 by 2027, which is an increase of 4% from 2020 position (Nomis, 2020).

Deprivation

- 9.67 The Indices of Multiple Deprivation 2019 use a combination of information relating to the domains of income, employment, education, health, skills and training, barrier to housing and services, and crime to create an overall score of deprivation for local authorities within England. A low rank indicates greater, relative deprivation; hence the most deprived area is ranked 1.
- 9.68 Overall, Manchester was ranked 6th most deprived on Rank of Average Score and 2nd most deprived based on Rank of Average Rank of all local authorities across the 2019 IMD Income, Employment, Education, Health, and Crime domains and the Income Deprivation Affecting Children sub-domains. Manchester overall is within the 10% most deprived areas in England. This is further underlined by identification of the fact that 43% of Manchester's Lower-layer Super Output Areas (LSOA) are in the most deprived 10% nationally.
- 9.69 Within Greater Manchester area, Manchester has the greatest proportion of LSOAs in the most deprived 10% in England, as shown in Table 9.7.

Table 9.7: Greater Manchester authorities' proportion of LSOAs in 10% most deprived in England (IMD 2019)

Authority	Percentage of LSOAs in 10% most deprived
Manchester	43%
Oldham	30%
Salford	30%
Rochdale	30%
Bolton	24%
Tameside	21%
Wigan	17%
Bury	10%
Stockport	9%
Trafford	5%

- 9.70 It is noted that, overall, there has been an increase in relative deprivation in all districts within Greater Manchester between 2015 and 2019, with the exception of Manchester city itself. The baseline with respect to deprivation has remained fairly consistent across all domains between 2015 and 2019 in Manchester.
- 9.71 Overall, Greater Manchester was ranked 3 out of 36 Local Enterprise Partnerships (LEP) in England. Therefore, at the regional level, Greater Manchester is in the top 10% most deprived LEPs in England.

Employment and Economy

Economic Activity / Inactivity

- 9.72 According to NOMIS, the job density level in 2019 (i.e. the ratio of jobs available divided by the resident population aged between 16 and 64) was 1.18 in Manchester and 0.86 in Greater Manchester. The job density across the North West was 0.86 and across Great Britain was 0.87. This indicates that the jobs density in Manchester is higher than the averages across the Greater Manchester sub-region, the North West and Great Britain.
- 9.73 NOMIS states that the estimated total number of employees (excluding farm-based agriculture, self-employed, government-supported trainees and HM forces) in Trafford was 404,000 and across Greater Manchester was 1,358,000 as of 2019.
- 9.74 Between January 2020 and December 2020, the estimated proportion of people resident in Manchester classified as 'Economically Active - In Employment' was 66.3%, which is lower than the average of 72.5% across Greater Manchester sub-region, and lower than 74.2% across the North West region and 75.4% across Great Britain.
- 9.75 The estimated proportion of people resident in Manchester classified as 'Economically Inactive' between January 2020 and December 2020 was 27.5%, which is higher than the sub-regional average of Greater Manchester (23.3%), regional average for the North West (22.4%) and the national average of Great Britain (20.9%) (NOMIS, 2021).
- 9.76 According to NOMIS (2021), the estimated total number of the population within Manchester who claimed out of work benefits was 31,465 as of July 2021. This equates to 8.0% of the population, which is slightly higher than the Greater Manchester region proportion (6.9%), and lower still than the regional and national proportions (6.0% and 5.5% respectively).

Economy

- 9.77 Manchester's economy has grown in the last 20 years, facilitated by its strategic location, historic links and experience in a range of industries and skills, and excellent connectivity. According to Business Register and Employment Survey collated by ONS, comparison of 2015 and 2019 datasets show an increase in employment levels in Manchester district and in Greater Manchester sub-region, increasing by 15% and 19% respectively during that time period. To add further context, between 2018 and 2019, the North West region saw the largest

estimate percentage increase in employees of all UK regions, with Manchester experiencing the largest increase of employees within the North West region (ONS, 2020). 'Our Manchester Industrial Strategy' (Manchester City Council, 2019) indicates that the city has proven itself as an example of post-industrial success, and is now established and recognised as a leading global city, with many strong assets and has '*a significant international profile*' on which to continue its growth.

9.78 Table 9.8 presents the estimated employee job proportions by industry sector in 2019, considering Manchester district, Greater Manchester sub-region, the North West region and Great Britain. It is noted that the percentage of individuals working in Sector I: Accommodation and Food Services, Sector J: Information and Communication, Sector K: Financial and Insurance Activities, and Sector M: Professional, Scientific and Technical Activities is higher in Manchester than in Greater Manchester, the North West region and Great Britain and as a whole. The proportion of people working in Sector F: Construction and in Sector C: Manufacturing is lower than for the other spatial scales.

Table 9.8: Estimated Employee Jobs by Industry Sector (2019)

Industry Sector	Manchester	Greater Manchester	North West	Great Britain
B: Mining and Quarrying	0.0%	0.0%	0.1%	0.2%
C: Manufacturing	2.7%	7.4%	9.3%	8.0%
D: Electricity, Gas, Steam and Air Conditioning Supply	0.1%	0.9%	0.5%	0.4%
E: Water Supply; Sewerage, Waste Management and Remediation Activities	0.2%	0.5%	0.7%	0.7%
F: Construction	2.0%	4.3%	4.6%	4.9%
G: Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	11.9%	16.2%	16.3%	15.0%
H: Transportation and Storage	7.2%	6.1%	5.6%	4.9%
I: Accommodation and Food Service Activities.	8.2%	6.2%	6.9%	7.7%
J: Information and Communication	4.7%	3.7%	2.8%	4.3%
K: Financial and Insurance Activities	5.0%	3.2%	2.8%	3.5%
L: Real Estate Activities	2.2%	1.8%	1.5%	1.7%

Industry Sector	Manchester	Greater Manchester	North West	Great Britain
M: Professional, Scientific and Technical Activities	13.6%	9.9%	8.8%	8.8%
N: Administrative and Support Service Activities	11.9%	10.1%	8.6%	8.9%
O: Public Administration and Defence; Compulsory Social Security	4.7%	4.2%	4.6%	4.4%
P: Education	9.9%	8.4%	8.0%	8.7%
Q: Human Health and Social Work Activities	12.4%	12.8%	14.2%	13.1%
R: Arts, Entertainment and Recreation	2.2%	2.4%	2.6%	2.5%
S: Other Service Activities	1.7%	1.9%	1.9%	2.0%

Notes: % is a proportion of total employee jobs excluding farm-based agriculture. Employee jobs exclude self-employed, government-supported trainees and HM Forces. Data excludes farm-based agriculture.

Housing

Housing Need

- 9.79 The principle of residential-led development at the Site is supported by a suite of national, regional, and local planning policies and strategic frameworks.
- 9.80 The SRF sets out an assumption for high density development that maximises the potential of the land, without overdeveloping. The SRF lists a number of appropriate uses at the Site and first and foremost in this list is the provision of a premium residential offer which will complement the vision of providing a full service business and lifestyle hotel at this location alongside commercial and retail development and public realm enhancements.
- 9.81 The SRF seeks to deliver circa. 600 one, two and three bedroom distinctive, high quality residential apartments which will contribute to the overall balanced supply of housing for Manchester to meet a diverse range of people and families wishing to live in the City Centre. It is recognised that these new homes are essential to attract a professional and skilled workforce that will support the continued economic growth of Manchester, and the range of houses the SRF seeks to provide has been done intentionally so that the offer will be attractive to different groups, including families.
- 9.82 The SRF goes on to state that there is an identified need for 'higher value' homes within the City Centre, to add to a balanced supply of housing within Manchester. The SRF outlines the market position for Manchester and

highlights its expedient growth over the past years, which has seen the highest number of residential units under construction recorded in ten years.¹ Due to historic undersupply, however, it is noted there still remains a significant shortfall against the Manchester Residential Growth Strategy (2016) target to provide 25,000 new homes in a ten-year period between 2016 and 2025.

- 9.83 The SRF therefore states that the residential market continues to grow, underpinned by the City's resilient economic growth investment in infrastructure and employment sector diversification, and it is recognised that the SRF Masterplan site presents an excellent opportunity to meet this growing demand for a distinctive residential product in Manchester.

Social and Community Infrastructure

Existing Education Facilities

- 9.84 There are 18 primary schools within 2.5km of the Site. Their current roll and capacity (as of July 2021) are outlined in Table 9.9 and shows there is a cumulative surplus of 528 available places.

Table 9.9: Existing Primary Schools within 2.5km of the Site (as of July 2021)

School Name	Current Capacity	Current Roll	Net Capacity
The Cathedral School of St Peter and St John RC Primary	240	203	37
Friars Primary School	450	323	127
St Philips CoFE Primary School	210	212	-2
Cheetwood Primary School	210	208	2
New Islington Free School	420	318	102
River View Community Primary School	420	483	-63
Abbott Community Primary School	240	244	-4
St Patricks RC Primary School	250	176	74
St Wilfrid's RC Primary School	210	222	-12
Unity Primary School	300	290	10
St Chad's RC Primary School	240	231	9
St Anne's RC Primary School	218	202	16
Medlock Primary School	500	438	62

¹ Source: Deloitte 2018 Crane Survey

School Name	Current Capacity	Current Roll	Net Capacity
St Malachy's RC Primary School	248	221	27
Rolls Crescent Primary School	502	402	100
Primrose Hill Primary School	465	440	25
St Paul's CofE Primary School	240	221	19
Saviour CofE Primary School	210	211	-1
Total	5,573	5,045	528

9.85 There are 19 existing secondary schools within 5km of the Site and their current roll and capacity (as of July 2021) are outlined in Table 9.10. There is shown to be a surplus of 1,173 secondary places.

Table 9.10: Existing Secondary Schools within 5km of the Site (as of July 2021)

Secondary School	Current Capacity	Current Roll	Net Capacity
Eden Boys Leadership Academy	800	495	305
Eden Girls Leadership Academy	800	497	303
Trinity CofE High School	1500	1483	17
Albion Academy	875	758	117
Oasis Academy MediaCityUK	1150	803	347
Manchester Communication Academy	1200	1191	9
Beis Yaakov High School	275	349	-74
Manchester Academy	1170	1014	156
Abraham Moss Community School	1830	1823	7
Aldridge UTC	400	321	79
East Manchester Academy	1000	983	17
Dean Trust Ardwick	1200	1268	-68
King David High School	800	779	21
Buile Hill High School	900	779	121

Secondary School	Current Capacity	Current Roll	Net Capacity
William Hulme Grammar School	1300	1518	-218
Stretford High School	942	944	-2
St Peters RC High School	1000	1016	-16
Whalley Range 11-18 High School	1650	1573	77
All Hallows RC High School	645	670	-25
Total	19,437	18,264	1,173

Existing Health Facilities

- 9.86 The nearest hospital with an accident and emergency (A&E) department is Manchester Royal Infirmary Hospital, situated approximately 1.2 km to the southeast of the Site.
- 9.87 There are at least 12 General Practitioner (GP) surgeries within 2.5km of the Site. Table 9.11 shows the patient roll and capacity of the GP surgeries identified.

Table 9.11: Existing GP Surgeries within the study area

Practice	No. of registered patients	No. of GPs	Ratio of Registered GP: Registered Patients
City Health Centre (GTD)	2,466	8	1: 308
Blackfriars Medical Practice	12,880	6	1: 2,147
Trinity Medical Centre	3,638	8	1: 455
Ancoats Urban Village Medical Practice	13,595	14	1: 971
University of Salford Health Centre	5,117	8	1: 640
Arch Medical Practice	18,674	15	1: 1,245
New Islington Medical Centre	7,404	5	1: 1,481

Practice	No. of registered patients	No. of GPs	Ratio of Registered GP: Registered Patients
Whitley Road Medical Centre	7,082	5	1: 1,416
Victoria Mill Medical Practice	3,336	2	1: 1,668
New Collegiate Medical Centre	13,802	6	1: 2,300
Ordsall Health Surgery	10,226	6	1: 1,704
Total	98,220	83	1: 1,183

9.88 Based on the information outlined in Table 9.11, there is a total of 98,220 patients registered at the GPs in the study area (NHS, 2021). Although there are a number of surgeries shown to have GP: patient ratios above the national target of 1:1,800, the overall ratio of GPs: patients for GP surgeries within the study area is 1: 1,183, which is below the national target and therefore indicates there is capacity within the local area for additional patients.

9.89 There are 14 dentist surgeries within 2.5km of the Site, approximately half of which are accepting new NHS patients at present. There are also a number of pharmacists and opticians within 2.5 km of the Site.

Existing Community Facilities

9.90 There are a large number of community facilities within 1km of the Site, including:

- Places of Worship (e.g. St Ann's CofE, Fourth Church of Christ Scientist, Sacred Trinity Church, Faith Life Centre and City Church Manchester);
- Libraries and museums (e.g. Manchester Central Library, The Portico Library, Science and Industry Museum, People's History Museum, National Football Museum, Manchester Art Gallery); and
- Theatres and Cinemas (e.g. Manchester Opera House, Royal Exchange Theatre, Palace Theatre).

Open and Recreational Space

9.91 There are no open spaces within the Site.

- 9.92 There are four public realm spaces within 800m of the Site: Parsonage Gardens is c. 60m south west of the Site, Cathedral Gardens is 300m north east of the Site, Great Northern Square is 500m south of the Site, Piccadilly Gardens is 800m southeast of the Site. These areas are limited in extent and options for use.

Embedded Mitigation

- 9.93 This section describes the measures which have been 'embedded' into the development.

Demolition and Construction

- 9.94 There are no embedded mitigation measures of relevance to socio-economics relating to demolition and construction.

The Completed and Operational Development

- 9.95 The Proposed Development includes for areas of public realm and private amenity space for proposed residents (see landscaping plans in **Appendix 5.1**). The design of the Site and associated landscaping has considered the existing landscape resource and the visual receptors and amenity of the Site to the provision of public realm. The area of public realm offered by the Proposed Development equates to approximately 1,391m². The area of private amenity space, available to proposed residents only amounts to 977m².

Assessment of Likely Significant Effects

Direct, Indirect and Induced Job Creation

- 9.96 The impact on existing jobs is considered within the evaluation of effects of direct, indirect and induced job creation effects below in relation to the completed development and operational stage.
- 9.97 Based on the approximate build cost of £65 million, the Proposed Development will support the creation of 2,835 FTE-years in the construction industry over the 2.5 year demolition and construction period. This is equivalent to 1,134 gross construction jobs (FTEs) to be created for the 2.5 year period.
- 9.98 Using the industry standard approach set out earlier in this chapter, it is estimated that there will be 420 total gross direct jobs during demolition and construction.
- 9.99 In addition to the direct employment opportunities, the demolition and construction works will lead to an increase in spending in the economy by contractors. Such multiplier effects are anticipated both in terms of the sourcing of supplies (indirect employment across wider supply chains) and spending by on the Site workers (induced employment) within and outside of their working hours. Based on a multiplier of 2.7, it is anticipated that there will be 714 total gross indirect and induced jobs generated during demolition and construction.

- 9.100 Within Manchester, 2.0% of the employee workforce was employed in Sector F - Construction as of 2019, which equates to approximately 8,080 employees. Based on that assumption that an average of direct 420 FTEs will be generated during the demolition and construction stage, this represents approximately 5.2% of the employees in Sector F - Construction at the district level (Manchester). In addition, 714 indirect and induced jobs will be created by the demolition and construction works which represents 8.9% of the total employee workforce in Manchester. Overall, the magnitude of impact is considered to be substantial.
- 9.101 As a result of a rating of substantial magnitude of impact and (worst case) high sensitivity of receptors (the economic activity of the district is currently slightly below the regional averages and national averages, and almost half of Manchester's LSOAs are in the top 10% most deprived LEPs in England), the likely effects of the direct, indirect and induced job creation during demolition and construction are considered to be **major beneficial** in the short-term at the district level which is **significant**.
- 9.102 The individuals employed in Sector F - Construction account for 4.3% of the jobs within Greater Manchester as of 2019, which equates to approximately 58,000 employees. Based on the assumption that an average of 420 direct FTEs will be generated each year during the demolition and construction stage, this represents approximately 0.7% of the employees in Sector F - Construction at the sub-regional level (Greater Manchester). In addition, 714 indirect and induced jobs will be created by the demolition and construction works per annum which represents 1.2% of the total employee workforce across Greater Manchester. Overall, the magnitude of impact is considered to be minor.
- 9.103 As a result of a minor magnitude of impact and high sensitivity of receptors (the economic activity of the sub-region is currently slightly below the regional averages and national averages, and Greater Manchester is in the top 10% most deprived LEPs in England), the likely effects of the direct, indirect and induced job creation during demolition and construction are considered to be **moderate beneficial** in the short-term at the sub-regional level which is **not significant**.

Expenditure from the Temporary Construction Workforce

- 9.104 Based on the assumption that 60% of the FTE construction workers would spend £6 a day for 232 days a year, a gross spend of circa £2,367,792 during the demolition and construction works is expected.
- 9.105 Given that there is local retail provision located in areas in walking distance from the Site, it is anticipated that localised spending is unlikely to leak other parts of Greater Manchester, bringing benefits primarily at the district level. Therefore, the magnitude of impact at the district level is considered to be moderate and at the sub-regional level is considered to be negligible.
- 9.106 As a result of a rating of moderate magnitude of impact and (worst case) high sensitivity of receptors (the economic activity of the district is currently slightly below the regional averages and national averages, and almost half of Manchester's LSOAs are in the top 10% most deprived LEPs in England), the likely effects of the

expenditure from the temporary construction workforce are considered to be **major beneficial** in the short-term at the district level which is **significant**.

- 9.107 As a result of a negligible magnitude of impact and high sensitivity of receptors (the economic activity of the sub-region is currently slightly below the regional averages and national averages, and Greater Manchester is in the top 10% most deprived LEPs in England), the likely effects of the expenditure from the temporary construction workforce are considered to be **negligible** in the short-term at the sub-regional level which is **not significant**.

Completed Development

Direct, Indirect and Induced Job Creation

- 9.108 Due to the floorspace proposed (permanent retail space proposed for Food and Beverage use), it is anticipated that employment opportunities will be created by the completed development. The completed development is estimated to result in approximately 25 gross direct FTE jobs.
- 9.109 As set out earlier in this chapter the industry sectors which the Proposed Development would likely draw employees from is assumed to be Sector G: Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles, N: Administrative and Support Service Activities, and I: Accommodation and Food Service Activities.
- 9.110 Compared with the number of employees within these industry sectors in Manchester (48,000) as of 2019, the number of additional direct jobs as a result of the Proposed Development at operational stage represents approximately 0.05% of the employees at the district level. The magnitude of impact is considered to be negligible at the district level.
- 9.111 As a result of a rating of negligible magnitude of impact and high sensitivity of receptors (the economic activity of the district is currently slightly below the regional averages and national averages, and almost half of Manchester's LSOAs are in the top 10% most deprived LEPs in England), the likely effects of job creation from the completed development are considered to be **negligible** significance in the long-term at the district level which is **not significant**.
- 9.112 Compared with the number of employees within these industry sectors in Greater Manchester (220,000) as of 2019) the number of additional direct jobs as a result of the Proposed Development at operational stage represents approximately 0.01% of the employees at the sub-regional level (Greater Manchester). The magnitude of impact is therefore considered to be negligible at the sub-regional level.
- 9.113 As a result of a rating of negligible magnitude of impact and high sensitivity of receptors (the economic activity of the sub-region is currently slightly below the regional averages and national averages, and Greater Manchester is in the top 10% most deprived LEPs in England), the likely effects of job creation from the completed development are considered to be **negligible** in the long-term at the sub-regional level which is **not significant**.

Increase in Household Spend

- 9.114 The new residential population within the completed development would result in increased household spending in the local area.
- 9.115 The report on Family Spending reveals that the average weekly household expenditure in the North West for the period between the financial year ending 2018 and financial year ending 2020 was £461.80 (excluding mortgage interest payments and Council Tax, licences fines and transfers, holiday spending and money transfers and credit), which is equivalent to an annual figure of £24,013.60. Assuming that VAT of 20% had been paid on all of this spending, the average annual household expenditure (net of indirect taxation and housing) was £19,210.88 for the North West during the period April 2018 to March 2020.
- 9.116 Based on this analysis and the net addition of 300 households to the local area, it is estimated that the gross additional household expenditure generated by the new residential population at the Site would be around £138,540 per week and £7,204,080 per annum. In the context of household spending within the district from existing housing stock this is considered to represent a moderate magnitude of impact. At the sub-regional level, this is considered to represent a minor magnitude of impact.
- 9.117 As a result of a rating of moderate magnitude of impact and (worst case) high sensitivity of receptors (the economic activity of the district is currently slightly below the regional averages and national averages, and almost half of Manchester's LSOAs are in the top 10% most deprived LEPs in England), the likely effects from an increase in household spend from the completed development are considered to be of **major beneficial** significance in long-term at the district level which is **significant**.
- 9.118 As a result of a rating of minor magnitude of impact and high sensitivity of receptors (the economic activity of the sub-region is currently slightly below the regional averages and national averages, and Greater Manchester is in the top 10% most deprived LEPs in England), the likely effects from an increase in household spend from the completed development are considered to be **moderate beneficial** in the long-term at the sub-regional level which is **significant**.

Increase in Housing Stock

- 9.119 The Proposed Development will involve the provision of 300 residential units. The SRF seeks to deliver circa. 600 one-, two- and three-bedroom distinctive, high quality residential apartments. This is set in the context of the Manchester Residential Growth Strategy (2016) target to provide 25,000 new homes in a ten-year period between 2016 and 2025.
- 9.120 This high quality residential-led development in SRF area within Manchester city centre with units of various tenures and sizes will diversify the housing market in the area and would deliver substantial regeneration benefits by developing an under-utilised site which represents a valuable land resource but currently adds little to the character, vitality and viability of the area.

- 9.121 Overall, the magnitude of impact associated with the completed development in relation to the provision of housing stock and contribution towards the identified annual housing need is considered to be 1.2% (300 of a target of 25,000) at the district level.
- 9.122 As a result of the moderate magnitude of impact and high sensitivity of receptors (acute housing shortage), the likely effects related to an increase in housing stock are considered to be of **major beneficial** significance in the long-term at the district level which is **significant**.

Change in Demand on Social and Community Infrastructure

- 9.123 New residents help to sustain essential local services, such as those provided by education, healthcare and community facilities. However, they also generate additional demands for social and community infrastructure.
- 9.124 As noted above, the Proposed Development will comprise 300 residential units. Based on the proposed make-up of the dwellings in terms of number of rooms per dwelling, the Proposed Development is estimated to yield approximately 872 individuals.

Education

- 9.125 Based on a pupil product ratio calculation of 0.03 primary places per unit, it is estimated that there would be 26 children of primary school age generated by the completed development. Based on the data presented in Table 9.9, there is a surplus of 528 primary school places within the 2.5km study area. Therefore, there is sufficient capacity to accommodate the primary school aged children generated by the completed development. As such, the magnitude of impact is considered to be negligible.
- 9.126 As a result of the negligible magnitude of impact and low sensitivity of primary educational facilities (due to the existing capacity within the area), the likely effects on primary educational facilities are considered to be **negligible** in the long-term at the local level which is **not significant**.
- 9.127 Based on a pupil product ratio calculation of 0.23 secondary places per unit, it is estimated that there would be 201 children of secondary school age generated by the completed development. Based on the data presented in Table 9.10, there is a surplus of 1,173 secondary places secondary school places within the 5km study area. Therefore, there is there is sufficient capacity to accommodate the secondary school aged children generated by the completed development. As such, the magnitude of impact is considered to be negligible.
- 9.128 As a result of the negligible magnitude of impact and the low sensitivity of secondary educational facilities (due to the existing capacity within the area), the likely effects on secondary educational facilities are considered to be **negligible** in the long-term at the local level which is **not significant**.

Healthcare

- 9.129 The completed development will lead to an increase in the number of patients in the local area. As noted above, the Proposed Development is estimated to yield 872 individuals in total.

- 9.130 As noted in the baseline conditions section there are currently 12 GP surgeries within the study area and the GP to patient ratio is currently lower (at 1: 1,183) than the national target of 1 GP to 1,800 patients, indicating capacity in the local GP provision. The total estimated resident population of the Proposed Development represents approximately 0.86 % of the existing total registered patients in the area. Therefore, whilst there would be an increase in demand for GP services there would be capacity even if all new residents are to be registered at GPs in the local area (ratio would increase to 1: 1,193). As such, the magnitude of impact is considered to be negligible.
- 9.131 As a result of the negligible magnitude of impact and low sensitivity of receptor (due to there being capacity in existing GP provision in the local area), the likely effects on primary healthcare facilities are considered to be of **negligible** significance in the long-term at the local level which is **not significant**.
- 9.132 There are approximately 14 dentist surgeries within 2.5km of the Site. At least half of these dental practices were found to be admitting NHS patients at the time of the assessment and, as such, it is considered that there is sufficient capacity within the existing infrastructure with respect of dental health provision to accommodate the proposed residents generated by the Proposed Development. As such, the magnitude of impact is considered to be negligible.
- 9.133 As a result of the negligible magnitude of impact and the low sensitivity of dental healthcare provision (due to the existing capacity within the area), the likely effects on such facilities are considered to be **negligible** in the long-term at the local level which is **not significant**.

Community Facilities

- 9.134 As noted in the Baseline Conditions section, there are a number of community facilities such as places of worship, libraries and museums and theatres within 2.5km of the Site. There is no available data in relation to the need for such facilities in relation to population. Therefore, the effect is considered qualitatively.
- 9.135 It is anticipated that the existing community facilities could absorb demand given the number and variety of facilities available in the area surrounding the Site. On the basis that there will be sufficient capacity to accommodate the new population generated by the Proposed Development, the magnitude of impact is considered to be negligible.
- 9.136 As a result of the negligible magnitude of impact and the low sensitivity of community facilities (due to the anticipated capacity of such facilities), the likely effects on community facilities are considered to be **negligible** in the long-term at the local level which is **not significant**.

Changes in Demand on Open and Recreational Space

- 9.137 As noted in the Baseline Conditions section, the Site is situated in walking distance to four city-centre public realm spaces.

- 9.138 It is anticipated that the residents of the Proposed Development will increase demand on the existing network of accessible open and recreational spaces. To assist in this, and in response to Core Strategy promotion of green infrastructure in built development schemes, the proposals have taken all available opportunities to maximise green infrastructure on the Site. The public realm surrounding the Site will be enhanced as part of the proposals, helping to define the entrances to the building and re-integrate the development back into the street scene. The design of the new public realm includes areas of ornamental planting, along with new paving and trees which will create a high-quality environment for pedestrians and space for people to dwell.
- 9.139 The proposals also include an area of public realm to the riverside, a private residents terrace to the riverside, and two private residents roof terraces allowing both the public occupiers to benefit from the location of the building, making use of both the access to the river and also the south and southern orientation. These areas of public realm will comprise areas of seating, activities, loungers, planters, trees, shrubs, paving and portacabins. The planting provided will in particular contribute to the aesthetics of the external amenity space and will aid in breaking up the massing of development in this location, providing a visual break with green infrastructure.
- 9.140 In total, Proposed Development will provide additional public realm space, available for use to the public and proposed residents, amounting to approximately 1,391m².
- 9.141 Private amenity space proposed amounts to 977m².
- 9.142 Considering the area of public realm offered by the Proposed Development equates to over 5% of the total overall proposed developable area of 3,627 sqm. The overall magnitude of impact is considered to be substantial (greater than 5% increase in provision of open and recreational space within the context of the Proposed Development quantum), considered in the context of the fact that there is currently no existing open space within the Site. As such, the sensitivity of open and recreational spaces is considered to be high (no open or recreational space provided for within the Site at present, and limited accessibility of the Site to public open spaces and recreational areas). Therefore, the likely effects related to open and recreational spaces are considered to be of **major beneficial** significance in the long-term at the local level which is **significant**.

Additional Mitigation / Enhancement Measures

- 9.143 This section describes the measures which are required to mitigate any significant environmental effects with regards to socioeconomics.

Demolition and Construction

Direct, Indirect and Induced Job Creation

- 9.144 As the effects of the demolition and construction stage are beneficial, no mitigation is considered to be required.

Expenditure from the Temporary Construction Workforce

- 9.145 As the effects of the demolition and construction stage are beneficial, no mitigation is considered to be required.

Completed Development

Direct, Indirect and Induced Job Creation

- 9.146 As the effects of the Proposed Development are beneficial, no mitigation is considered to be required.

Increase in Household Spend

- 9.147 As the effects of the Proposed Development are beneficial, no mitigation is considered to be required.

Increase in Housing Stock

- 9.148 As the effects of the Proposed Development are beneficial, no mitigation is considered to be required.

Change in Demand on Social and Community Infrastructure

Education

- 9.149 As the effects of the Proposed Development are considered to be not significant for primary or secondary age education, no mitigation is considered to be required.

Healthcare

- 9.150 As the effects of the Proposed Development are considered to be not significant, no mitigation is considered to be required.

Community Facilities

- 9.151 As the effects of the Proposed Development are considered to be not significant, no mitigation is considered to be required.

Change in Demand for Open and Recreational Space

- 9.152 As the effects of the Proposed Development are considered to be beneficial, no mitigation is considered to be required.

Likely Residual Effects of the Development and their Significance

- 9.153 There were no impacts identified earlier in 'Assessment of Likely Significant Effects' earlier in this chapter that were significant adverse and, as such, there has not been need for recommendation of any additional mitigation. Therefore, the residual impacts identified in this section simply reflect the impacts identified earlier in the chapter.

Demolition and Construction

9.154 The residual impacts of the demolition and construction phase are as follows:

- Direct, Indirect and Induced Job Creation: **major beneficial** in the short-term at the district level which is **significant** and **minor beneficial** in the short-term at the sub-regional level which is **not significant**; and
- Expenditure from the Temporary Construction Workforce: **major beneficial** in the short-term at the district level which is **significant** and **negligible** in the short-term at the sub-regional level which is **not significant**.

Completed Development

9.155 The residual impacts of the completed development are as follows:

- Direct, Indirect and Induced Job Creation: **negligible** in the long-term at the district level which is **not significant** and **negligible** in the long-term at the sub-regional level which is **not significant**;
- Increase in Household Spend: **major beneficial** in the long-term at the district level which is **significant** and **moderate beneficial** at the sub-regional level which is **not significant**;
- Increase in Housing Stock: **major beneficial** in the long-term at the district level which is **significant**; and
- Change in Demand on Social and Community Infrastructure:
 - Education:
 - Primary education - **Negligible** in the long-term at the local level which is **not significant**.
 - Secondary education – **Negligible** in the long term at the local level which is **not significant**.
 - Healthcare: **Negligible** in the long-term at the local level which is **not significant**.
 - Community facilities: **Negligible** in the long-term at the local level which is **not significant**.
- Open and Recreational Space: **major beneficial** in the long-term at the local level which is **significant**.

9.156 A summary is provided in Table 9.12.

Table 9.12: Residual Effects Summary

Description of Effect	Potential impact including significance	Mitigation	Residual Effect including significance
Construction and Demolition			
Direct, indirect and induced job creation	Major beneficial at the district level (significant). Minor beneficial at the sub-regional level (not	n/a	Major beneficial at the district level (significant). Minor beneficial at the sub-regional level (not

Description of Effect	Potential impact including significance	Mitigation	Residual Effect including significance
	significant).		significant).
Expenditure from the temporary construction workforce	Major beneficial at the district level (significant). Negligible at the sub-regional level (not significant).	n/a	Major beneficial at the district level (significant). Negligible at the sub-regional level (not significant).
Completed Development			
Direct, indirect and induced job creation	Negligible at the district level (not significant). Negligible at the sub-regional level (not significant).	n/a	Negligible at the district level (not significant). Negligible at the sub-regional level (not significant).
Increase in household spend	Major beneficial at the district level (significant). Moderate beneficial at the sub-regional level (significant).	n/a	Major beneficial at the district level (significant). Moderate beneficial at the sub-regional level (significant).
Increase in housing stock	Major beneficial at the district level (significant).	n/a	Major beneficial at the district level (significant).
Change in demand on social and community infrastructure	Education Primary school capacity: Negligible at the local level (not significant). Secondary school capacity: Negligible at the local level (not significant). Healthcare Negligible at the local level (not significant).	n/a	Education Primary school capacity: Negligible at the local level (not significant). Secondary school capacity: Negligible at the local level (not significant). Healthcare Negligible at the local level (not significant).

Description of Effect	Potential impact including significance	Mitigation	Residual Effect including significance
	Community Facilities Negligible at the local level (not significant). Open and Recreational Space Major beneficial at the local level (not significant)		Community Facilities Negligible at the local level (not significant). Open and Recreational Space Major beneficial at the local level (not significant)

Conclusions

- 9.157 The total estimated resident population for Manchester in 2020 was 555,700. ONS study published in 2020 revealed that Manchester and Salford are now the fastest growing cities (ranked 1st and 2nd respectively) in the UK, and Greater Manchester is the fastest growing metropolitan area in the UK. Manchester overall is within the 10% most deprived areas in England, underlined by the fact that 43% of Manchester's Lower-layer Super Output Areas (LSOA) are in the most deprived 10% nationally.
- 9.158 Manchester's economy has grown in the last 20 years, facilitated by its strategic location, historic links and experience in a range of industries and skills, and excellent connectivity. 'Our Manchester Industrial Strategy' (Manchester City Council, 2019) indicates that the city has proven itself as an example of post-industrial success, and is now established and recognised as a leading global city, with many strong assets and has '*a significant international profile*' on which to continue its growth.
- 9.159 There is a surplus of primary school and secondary school places within the study area. In addition, the ratio of GPs: patients for GP surgeries within the study area is below the national target of 1:1,800.
- 9.160 During demolition and construction, it is anticipated that there would be of 1,134 FTEs jobs created during the 2.5-year build period. Overall, the likely residual effects related to direct, indirect and induced job creation are considered to be of major beneficial significance at the district level (Manchester) and minor beneficial at the sub-regional level (Greater Manchester).
- 9.161 The completed development is estimated to result in approximately 25 direct FTE jobs. Future residents moving into the completed development would lead to an increase in household spend within the district and sub-regional areas. This is considered to represent an effect of negligible beneficial significance at the district level and a negligible effect at the sub-regional level.

- 9.162 The Proposed Development represents 1.2% of the total housing target identified in Manchester Residential Growth Strategy (2016) to provide 25,000 new homes in a ten-year period between 2016 and 2025. The proposals represent a high quality residential-led development in Manchester city centre and would deliver substantial regeneration benefits by developing an under-utilised site which represents a valuable land resource but currently adds little to the character, vitality and viability of the area. This is considered to represent an effect of major beneficial significance at the district level.
- 9.163 It is estimated that the Proposed Development would have an additional resident population of 872 of which 26 would be of primary school age and 201 would be of secondary school age. It has been concluded that there is sufficient capacity within existing primary and secondary schools to provide for the additional population on the Site and therefore the likely residual effects are negligible and not significant.
- 9.164 In terms of primary healthcare facilities, there is a current surplus in GP provision and dental health care within the local area which could absorb the demand from additional resident population. As a result, the likely residual effects are overall considered to be negligible and not significant.
- 9.165 There are a variety of community facilities within the vicinity of the Site. It is considered that they will have capacity to accommodate the additional population generated by the completed development. Therefore, the likely residual effects on community facilities are considered to be negligible and not significant.
- 9.166 The Proposed Development includes for 1,391m² of public realm. This is in contrast to the existing site which includes no areas of public open space. Given this, the likely residual effects on the demand for open space is considered to be of major beneficial and significant.
- 9.167 Overall, there are no significant residual adverse effects. There are significant residual beneficial effects at construction stage in relation to job creation and workforce expenditure in the local economy and at completed development and operational stage relating to increase in household spend, increase in quality and quantity of housing stock, and provision of open and recreational space.

10. Human Health

Introduction

- 10.1 This chapter assesses the effects of the Proposed Development on human health. The assessment considers the World Health Organisation definition of health, to include consideration of health as *"a state of complete physical, social and mental wellbeing."*
- 10.2 The chapter describes the methods used to assess the likely significant effects, the baseline conditions currently existing at the Site and surroundings, the potential direct and indirect likely significant effects of the Proposed Development arising from the wider determinants of health including place-making, environmental, economic and social factors, the mitigation measures required to prevent, reduce, or offset the identified significant effects and the residual effects. It has been written by Avison Young.

Planning Policy Context

National Planning Policy

National Planning Policy Framework

- 10.3 The revised National Planning Policy Framework (NPPF) (2021) acknowledges the importance of considering health impacts during the planning process and covers many issues that are directly related to the determinants of health.
- 10.4 The NPPF identifies the three mutually dependent roles that the planning system needs to consider delivering the *"presumption in favour of sustainable development"*. The role of particular relevance to health is the 'social role'. Paragraph 8 of the NPPF states the planning system should support *"strong, vibrant and healthy communities... by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being."*
- 10.5 The NPPF also acknowledges that planning policies and decisions should aim to achieve health, inclusive and safe places which:

"a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;

b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of attractive, well-designed, clear and legible

pedestrian and cycle routes, and high quality public space, which encourage the active and continual use of public areas; and

c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.” (Paragraph 92)

National Planning Practice Guidance (Various)

- 10.6 The National Planning Practice Guidance (NPPG) includes guidance on the importance of addressing health and wellbeing through planning. The NPPG (para. 003 Reference ID: ID:53-003-20191101 (Revision Date 01 11 2019) defines a healthy place as:

“A healthy place is one which supports and promotes healthy behaviours and environments and a reduction in health inequalities for people of all ages. It will provide the community with opportunities to improve their physical and mental health, and support community engagement and wellbeing.

It is a place which is inclusive and promotes social interaction. The National Design Guide sets out further detail on promoting social interaction through inclusive design including guidance on tenure neutral design and spaces that can be shared by all residents.

It meets the needs of children and young people to grow and develop, as well as being adaptable to the needs of an increasingly elderly population and those with dementia and other sensory or mobility impairments.”

National Guidance and Strategies

The Marmot Review (2010)

- 10.7 Fair Society, Healthy Lives: A Strategic Review of Health Inequalities in England Post-2010 ('The Marmot Review') was published on 11 February 2010 (Institute of Health and Equity, 2010). This was the culmination of a year-long independent review into health inequalities in England. Six policy objectives were developed:

- Give every child the best start in life;
- Enable all children, young people and adults to maximise their capabilities and have control over their lives;
- Create fair employment and good work for all;
- Ensure healthy standard of living for all;
- Create and develop healthy and sustainable places and communities; and
- Strengthen the role and impact of ill health prevention.

- 10.8 The Marmot Review reported on a substantial body of evidence on the influence the built environment has on the determinants of health. According to the Commission on the Social Determinants of Health, *“Where people live affects their health and chances of leading flourishing lives. Communities and neighbourhoods that ensure access to basic*

goods, that are socially cohesive, that are designed to promote good physical and psychological wellbeing and that are protective of the natural environment are essential”.

- 10.9 In turn, the manner in which settlements are planned and designed contributes significantly to the health of the people who live in them. Bad planning and design results in poor health outcomes; conversely, good planning and design can be positively health-enhancing.

Health Equity in England: The Marmot Review 10 Years On (2020)

- 10.10 Health Equity in England: The Marmot Review 10 Years On was produced by the Institute of Health Equity and commissioned by the Health Foundation to mark 10 years on from the landmark study The Marmot Review. The report identified that since 2010:

- People can expect to spend more of their lives in poor health;
- Improvements to life expectancy have stalled, and declined for the poorest 10% of women;
- The health gap has grown between wealthy and deprived areas; and
- Place matters – living in a deprived area of the north east is worse for your health than living in a similarly deprived area in London, to the extent that life expectancy is nearly five years less.

- 10.11 The report identifies that actions are needed in all six domains set out in the 2010 Review to improve the lives people are able to lead and hence achieve a greater degree of health equity and better health and wellbeing for all. The report also sets out new recommendations in five of these areas, to account for profound changes in health and the social determinants since 2010.

Local Planning Policy

Manchester City Council (MCC) Core Strategy (adopted 2012)

- 10.12 MCC's Core Strategy is the key document in Manchester's Local Development Plan. It is founded on a Vision to 2027 that includes *“an increased and sustainable healthy population...”*. The following policies are relevant to Health:

- Policy SP1 Spatial Principles includes requirement that development should make a positive contribution to neighbourhoods including *“making a positive contribution to the health, safety and wellbeing of residents”*.
- Policy CC3 Housing advises that the most intensive development of housing will be in the City Centre with key locations for residential development including the Northern Quarter.
- Policy CC6 High Density Development is a location where land should be used to maximise its efficiency.
- Policy CC7 Mixed Use Development guides that the City Centre presents the most viable opportunities for mixed use development.
- Policy H1 Overall Housing Provision defines high-density developments as those with over 75 units and states that they are appropriate in the City Centre.

- Policy H2 states that the key location for new residential development will be within the area to the east and north of Manchester City Centre identified as a strategic location for new housing.
- Policy H8 Affordable Housing requires new development to contribute to a 20% target for new housing to be affordable.
- Policy EN4 seeks to reduce CO₂ emission and reduce fuel poverty by enabling low and zero carbon development.
- Policy EN8 Adaptation to Climate Change includes requirements to minimise flood risk and reduce urban overheating.
- Policy EN9 Green Infrastructure provides guidance on provision of new, and improvements to, the quality and accessibility of existing green infrastructure assets.
- Policies EN10 & 11 safeguard and create new open space, sport & recreation facilities.
- Health is further protected through Policies EN14 Flood Risk, EN16 Air Quality, EN17 Water Quality, and EN18 Contaminated Land & Ground Stability.
- Policy T1 Sustainable Transport requires *"delivery of a sustainable, high quality, integrated transport system to encourage modal shift away from car travel... and to prepare for carbon free modes of transport"*.
- Policy T2 will actively manage the pattern of development to ensure that there are accessible areas of opportunity and need.
- Policy T3 supports proposals that contribute to an economically and environmentally sustainable transport network through strategic integration of strategic transport projects. Progression towards sustainable transport will promote healthier living and well-being.
- Policy DM1 Development Management requires that all development should have regard to specific issues including *"Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation"*; Accessibility: *buildings and neighbourhoods fully accessible to disabled people, access to new development by sustainable transport modes*; *"Community safety & crime prevention"*; and *"Design for Health"*.

Greater Manchester Spatial Framework (GMSF, Publication Draft, 2020)

- The GMSF focuses on identifying future housing and employment land requirement in the ten local authorities which form Greater Manchester up to 2035. At a late stage of preparation, after examination and then adopted, it will be the overarching development plan for Greater Manchester. The GMSF Vision includes GM as *"a place where people live healthy lives"*; and Strategic Objectives include No 10 *"to promote the health and wellbeing of communities"*. The overall draft Strategy and many of the policies in the plan support improvements in health and wellbeing, and reductions in health inequalities, such as by: *promoting a successful economy; increasing supply of high quality and affordable homes; enabling people to adopt healthier lifestyles; and reducing risks to human health*.

Other Relevant Policy, Standards and Guidance

The Greater Manchester Taking Charge of our Health & Social Care (2015)

- 10.13 Sets out the challenges and ambitions for the 37 NHS organisations and local authorities in Greater Manchester with a 5-year strategy to 2021. The ambition is for Greater Manchester *"to become a financially self-sustaining city region...with the size, assets, skilled and healthy population... to rival any global city."* The Vision is *"to deliver the fastest and greatest improvement in the health and wellbeing"* of the 2.8 million population, creating a strong, safe and sustainable health and care system that is fit for the future. In 2016, the Taking charge Together project was initiated to help achieve this vision *"to create an environment where more of GM's residents take charge and responsibility of their own health, the health of their families, and even the health of our communities"*.

The Manchester Strategy – Our Manchester (2016)

- 10.14 The Manchester Strategy to 2025 comprises the Vision and five themes for the strategy including a progressive and equitable city where *"health will improve..."*.

Healthy Urban Planning Checklist (3rd Edition) (2017)

- 10.15 The checklist (London Healthy Urban Development Unit, 2017) (hereafter referred to as 'the HUDU Checklist') aims to promote healthy urban planning by ensuring that the health and wellbeing implications of local plans and major planning applications are consistently taken into account. Although created for London it has many principles that are applicable to any development, particularly where it is residential led.
- 10.16 The checklist is divided into four themes (see Table 10.1). Each theme contains a number of questions focussed on a planning issue. Under each theme are related health and wellbeing issues, many of which are identified in local joint strategic needs assessments and health and wellbeing strategies.
- 10.17 Other relevant guidance documents include:
- Health in Environmental Impact Assessment – A Primer for a Proportionate Approach (Institute of Environmental Management and Assessment, 2017)
 - Addressing Human Health in Environmental Impact Assessment – Consultation Draft (International Association for Impact Assessment, 2019)
 - Health Impact Assessment in Spatial Planning (Public Health England, 2020)

Assessment Methodology and Significance Criteria

Scope of the Assessment

- 10.18 The scope of the assessment was presented within the EIA Scoping Report submitted in June 2021, which included information about the baseline and proposed methodology for the assessment. The EIA Scoping Opinion received

from MCC on 20th August 2021, noted the following comments specifically in relation to the scope of the assessment:

“Matters of wind microclimate, climate change and Socioeconomic effects have all been scoped into the ES due to these disciplines having significant environmental impacts. All of these matters affect Human Health and therefore the Proposed Development is likely to give rise to significant environmental impacts on the Human Health which should be considered and evaluated through the ES.

This should include an assessment of the impact on human health with regards to any air quality considerations, climate change and quality of life, particularly during the construction process when heavy plant, machinery, dust and emissions are likely to be generated together with any noise, disturbance, traffic/transport and air quality considerations during the operational phases of the development.”

10.19 Table 10.1 details the elements of the determinants of health that have been considered in this assessment.

Table 10.1: HUDU Checklist – Assessment Framework

Theme	Planning Issue	Health and Wellbeing Issue	Demolition and Construction issues	Completed Development issues
Healthy Housing	- Housing design - Accessible housing - Healthy living - Housing mix and affordability	- Lack of living space - overcrowding - Unhealthy living environment – daylight, ventilation, noise - Excess deaths due to cold / overheating - Injuries in the home - Mental illness from social isolation and fear of crime	Not considered during the demolition and construction phase as healthy housing is not relevant.	All issues considered.
Active Travel	- Promoting Walking and Cycling - Safety - Connectivity - Minimising Car Use	- Physical inactivity, cardiovascular disease and obesity - Road and traffic injuries - Mental illness from social isolation - Noise and air pollution from traffic	All issues considered.	All issues considered.
Healthy Environment	- Construction - Air quality - Noise - Contaminated land - Open space - Play space - Biodiversity - Local food growing - Flood risk	- Disturbance and stress caused by construction activity - Poor air quality - lung and heart disease - Disturbance from noisy activities and uses - Health risks from toxicity of contaminated land	Air quality and noise effects could be experienced during the demolition and construction phase and are therefore considered. Standalone reports submitted with the	Standalone reports submitted with the planning application have confirmed there is no potential for significant adverse effects with regards to air quality, noise, contaminated

Theme	Planning Issue	Health and Wellbeing Issue	Demolition and Construction issues	Completed Development issues
	Overheating	- Physical inactivity, cardiovascular disease and obesity - Mental health benefits from access to nature and green space and water - Opportunities for food growing – active lifestyles, healthy diet and tackling food poverty - Excess summer deaths due to overheating	planning application have confirmed there is no potential for significant adverse effects with regards to contaminated land, biodiversity and flood risk and as such they are not considered in the demolition and construction phase assessment. Matters relating to open space, play space, food growing, and overheating are not relevant to the demolition and construction assessment.	land, biodiversity and flood risk and as such they are not considered in the completed development phase assessment. Matters relating to food growing are not considered due to the restricted footprint of the Proposed Development and the Site's city centre location. All other issues are considered.
Vibrant Neighbourhoods	- Healthcare services - Education - Access to social infrastructure - Local employment and healthy workplaces - Access to local food shops - Public buildings and spaces	- Access to services and health inequalities - Mental illness and poor self-esteem associated with unemployment and poverty - Limited access to healthy food linked to obesity and related diseases - Poor environment leading to physical inactivity - Ill health exacerbated through isolation, lack of social contact and fear of crime	Local employment is considered in the demolition and construction phase assessment. All other issues are not considered relevant to the demolition and construction phase assessment.	All issues will be considered in the completed development phase assessment. Access to local food shops is considered together within access to social infrastructure. Public buildings and spaces are considered within social infrastructure.

Study Area

10.20 The Health Characteristics section of the baseline provides details of current health and wellbeing issues in the study area population and aims to provide an indication of the distribution of vulnerable groups.

10.21 Different sources of information present data at different geographical scales. The Study Area includes the following geographical areas for which baseline data is provided as relevant:

- Greater Manchester;
- Manchester;
- The Lower-layer Super Output Area (LSOA) and Ward in which the Site is located.

10.22 Comparisons between the Study Area and Great Britain, England and the North West England Region have been made to show how the Study Area compares to the averages across these geographical areas.

Identifying Sensitive Receptors

10.23 The following groups have been identified as sensitive receptors to human health and are considered in the remainder of this chapter:

- Existing residents located within the area surrounding the Site;
- Existing residents in the wider area of Manchester where identified as applicable in other ES Chapters and standalone reports;
- Existing community service users, including local schools and healthcare facilities where appropriate to the particular health issue being considered (vehicular road users are considered from a connectivity perspective);
- New residents likely to live in the Proposed Development;
- Construction workers during the demolition/construction of the Proposed Development.

10.24 Some groups are more vulnerable to health impacts from the Proposed Development and therefore disproportionately experience the effects of development. In addition to addressing the overall effects on health and wellbeing of the sensitive receptors noted above, the assessment identifies the impacts on specific vulnerable groups that could occupy the Proposed Development.

10.25 The vulnerable groups used in this assessment have been determined in consideration of the baseline health profile, local priorities and the characteristics of the Proposed Development. The vulnerable groups considered in this assessment are:

- Older people (65 and over);
- Children (aged 0-17);
- Those with a high level of deprivation, low income or unemployment;
- Groups with pre-existing health conditions;
- New parents or pregnant women;
- Groups with strong views / perceived risks or uncertainties regarding proposed development.

- 10.26 It is assumed that it is likely the first five groups listed (within the existing residents category) are more vulnerable to demolition / construction impacts as they are more likely to be in the home during working hours.

Assessment Method

- 10.27 The approach to this assessment involves a desk-top investigation of health impacts.
- 10.28 The established definition of health from the World Health Organisation (WHO) is that *"health is a state of complete physical, social and mental wellbeing and not simply the absence of disease or infirmity"*. This assessment uses the WHO definition of health, recognising that although illness and disease (mortality and morbidity) are useful ways of understanding and measuring health, they need to be fitted within a broader understanding of health and wellbeing to be properly useful.
- 10.29 The definition of health reflects the understanding that an individual's inherited traits interact with lifestyle, community, environmental, social and economic factors as well as a much wider range of issues to determine their health outcomes, as shown in **Figure 10.1**.

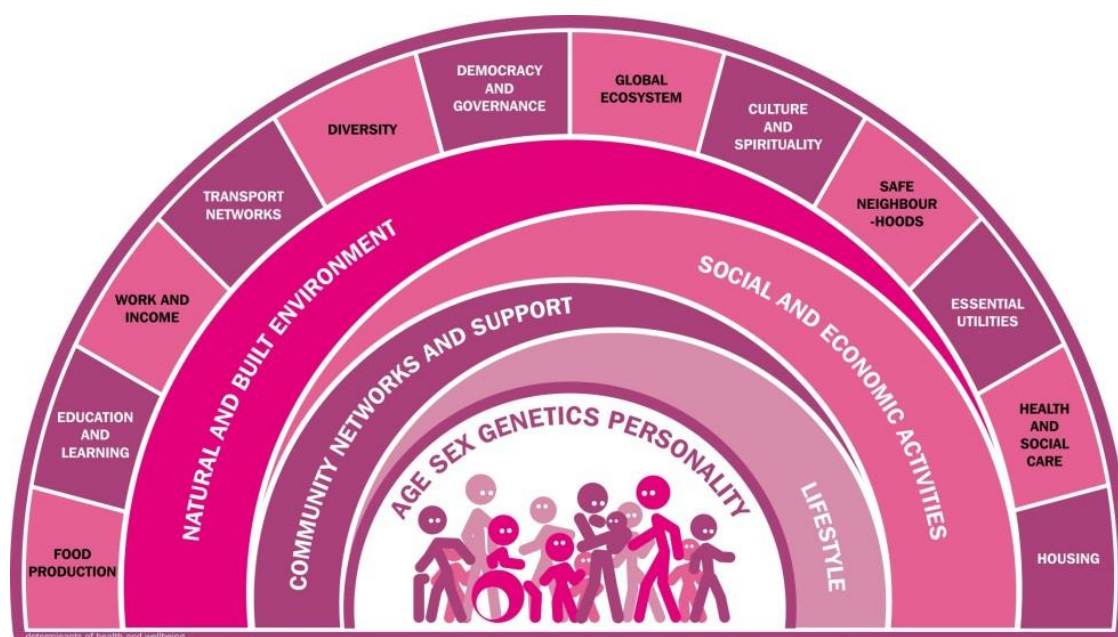


Figure 10.1: The Determinants of Health and Wellbeing

- 10.30 Many of these 'determinants' can be influenced by the quality of people's living and working environments. Therefore, in planning for the Proposed Development it is understood that health is not only about avoiding environmental impacts but also contributing to the factors that improve wellbeing, it will include social cohesion, access to jobs, access to affordable housing and access to green infrastructure.
- 10.31 The assessment has been undertaken against determinants of health (or health issues). The determinants considered are presented within the structure from the HUDU Checklist (see Table 10.1) and are based on national and local policy and guidance strategies.

- 10.32 Table 10.1 indicates the determinants of health that have been considered in this assessment and the associated pathways to specific health outcomes based upon themes in the HUDU Checklist. By assessing the Proposed Development against these themes, it is possible to identify the positive or negative effect of the Proposed Development on the health and wellbeing of the sensitive receptors and provide a basis for setting actions for further mitigation and enhancement. Certain issues have been scoped out of the construction phase assessment (e.g. housing standards) where not considered applicable. Other scoping issues are noted in Table 10.1 to demonstrate how and where the HUDU Checklist defines 'planning issues' have been considered within the assessment.
- 10.33 The findings of this assessment have also drawn on various technical assessments included within the ES and standalone reports, including; air quality, noise, ground conditions, hydrology, flood risk and drainage, transport and Socioeconomics which have all considered potential risks to human health. The assessment undertaken is largely qualitative, except where data is readily available to enable quantification or where quantification of health impacts is undertaken in other assessments.
- 10.34 The likely significant effects within each health determinant, taking embedded mitigation into account, are considered for both demolition and construction and completed development phases, where appropriate, and presented within the impact Tables 10.2-10.11.

Characterisation of Effect

- 10.35 An effect is deemed to be possible where there is a relevant source (aspect of the Proposed Development), pathway (route by which the source affects the receptor - causation) and receptor (recipient that can be affected by the source).
- 10.36 Qualitative judgement is needed where these factors are in place, to establish whether a significant effect is likely. This is related to the strength of the evidence base regarding causation, the magnitude of impact and the sensitivity of the receptors.
- 10.37 Whilst very localised issues may arise and warrant consideration within the application response, the key consideration with regard to significance is whether it is likely receptors will experience a change in health outcomes and whether this is likely to contribute or detract from providing a high level of protection to public health.
- 10.38 The following questions are relevant as noted below:

Strength of Evidence

- What is the strength of evidence base linking the aspect of the Proposed Development to health outcomes?
- Have significant effects been identified in other assessments in the ES and standalone reports which are linked to human health (i.e. are environmental standards threatened)?;

Magnitude of Impact

- Is the effect at an individual or population level?;
- Is the impact linked to local public health priority objectives? (as identified through review of baseline sources);
- Is the impact reversible or irreversible?;
- Does the impact occur over the short (less than one year), medium (one to five years) or long (over five years) term?;
- Is the impact permanent or temporary?;
- Does the impact increase or decrease with time?;

Sensitivity of Receptors

- Are vulnerable groups (as identified for this assessment) likely to be affected?

Significance criteria

- 10.39 The IEMA 'Health in Environmental Impact Assessment – A Primer for a Proportionate Approach' notes the complexities to defining significance for population and human health. There is an absence of significance criteria or a defined threshold for determining significance for population and health in UK EIA practice.
- 10.40 In addition to this, the International Association for Impact Assessment (IAIA) 'Addressing Human Health in Environmental Impact Assessment – Consultation Draft' notes that whilst sensitivity and magnitude are part of determining health significance *"...they tend not to capture other information, on importance, desirability and acceptability, that is relevant to presenting a robust 'reasoned conclusion'. For this reason, a simple sensitivity v. magnitude matrix approach is not recommended."*
- 10.41 This guidance instead states that determination of significance should draw from a wider range of relevant information to support professional judgment including:
- Scientific literature;
 - Baseline conditions for the population;
 - Consultation for the project;
 - Health priorities in the jurisdiction;
 - Regulatory standards in the jurisdiction; and
 - Policy context in the jurisdiction.
- 10.42 As such, the typical matrix of determining impact significant in EIAs, is therefore not applied in this human health assessment. However, the generic significance criteria (noted in Chapter 2 of the ES) have been considered, taking

into account the questions under 'Magnitude of Impact' and drawing on the wider range of relevant information as noted above.

- 10.43 Effects that are described as 'minor' or 'negligible' are determined to be 'Not Significant' and effects that are described as 'moderate', or 'major' are determined to be 'Significant'.

Assumptions/Limitations

- 10.44 As illustrated in **Figure 10.1**, there are many determinants that can have an impact on an individual's health. It is possible for the Proposed Development to create conditions that could lead to enhanced health outcomes, but there are other factors determining health that cannot be managed by the Proposed Development. These factors include:

- Performance of the wider economy;
- Existing health of the new population;
- Price of fresh food;
- National Government policy; and
- Genetic factors.

- 10.45 Census and other baseline health data characterises the study area at a single temporal point. Available census data is from 2011, which is likely to have evolved in the last 10 years. Data is often aggregated at different scales in different sources. For example, census data is aggregated at the lower super output area level in census data but regional trends presented within the Joint Strategic Needs Assessment (JSNA). Therefore, comparisons can be limited.

- 10.46 There is a significant amount of literature regarding the evidence base for pathways between aspects of development and health outcomes. In order to provide a proportional assessment, a full literature review is not provided and the aspects considered in the HUDU Checklist provide the starting point. However, a summary of pathways is provided in Table 10.1.

- 10.47 It should be noted that the focus of this assessment is public or population level health and individual occupational health and safety issues are not within the remit of this assessment.

Consultation

- 10.48 Consultation has been undertaken through the EIA scoping process.
- 10.49 The public have been consulted through a process of consultation as described in the Statement of Community Involvement (SCI) submitted as part of the Supporting Planning Statement (SPS) with the planning application.

10.50

Baseline Conditions

- 10.51 This section describes the baseline conditions of the study area. A description is given of the general health characteristics of the local population along with information under each of the HUDU Checklist themes.
- 10.52 The Site is located within Manchester city and the ward of Deansgate. The LSOA in which the Site is situated is Manchester 054C. There are existing residents located within the LSOA identified, containing 1,578 residents (ONS, 2020).
- 10.53 It should be noted that the ward of Deansgate was created after the 2011 census. As such, 2011 census data at the ward level represents the former City Centre ward.
- 10.54 Manchester City as a whole contained 555,700 residents in 2020. The total population of Greater Manchester was estimated to be 2,848,300 in 2020.

General Health Characteristics and Distribution of Vulnerable Groups

Age profile

- 10.55 Manchester has a larger population of young working age people and a smaller population of older working age and retirement age people, in comparison to England (**Figure 10.2**).

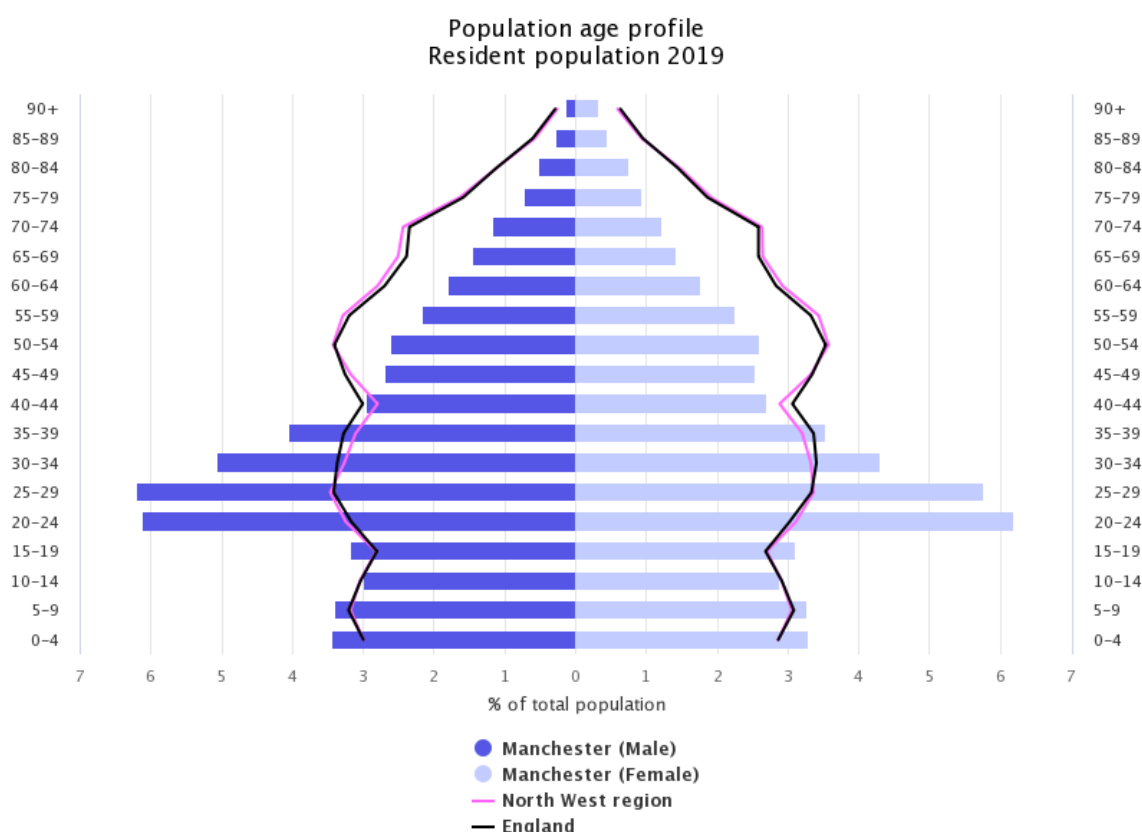


Figure 10.2: Age profile of Manchester (Public Health England, 2019)

- 10.56 As noted in Chapter 9 Socioeconomics, the population of Manchester has a growth rate of 0.7% and has experienced the second largest growth of cities within England (after London) in the same period (ONS, 2020). As of 2020, Manchester and Salford are now the fastest growing cities (ranked 1st and 2nd respectively) in the UK, and Greater Manchester is the fastest growing metropolitan area in the UK (ONS, 2020).
- 10.57 The working age population in Manchester (i.e. those individuals aged 16-64), according to 2020 estimates, is 391,700. This represents 70.5% of the city's population. This is greater percentage than Greater Manchester, the North West and Great Britain which are 63.6%, 62.1%, and 62.4% respectively.
- 10.58 The population of Manchester aged 65+ was estimated to be 555,741 in 2020 (ONS, 2021) which represents 8.8% of the city's population. This is lower than the percentages for Greater Manchester, the North West and Great Britain which are 15.9%, 18.8% and 18.7% respectively.

Pre-existing health conditions

- 10.59 The North West region as a whole is highlighted as an area with low life expectancy in England. Life expectancy in Manchester is 76.4 for men and 80.3 for women. These are slightly lower than the England averages which is 79.4 years for males and 83.1 years for females.
- 10.60 In Manchester overall the standard indicators for adult health are worse than or similar to the England average, including under 75 mortality rate from all causes, cardiovascular disease, cancer, suicide rate, killed and seriously

injured casualties on England's roads, emergency hospital admissions for intentional self-harm, diabetes diagnosis rate, dementia diagnosis rate, excess winter deaths, tuberculosis incidence, and sexually transmitted diseases.

- 10.61 As indicated by the PHE Local Health Profiles, the emergency hospital admissions are particularly high for all causes for Manchester, especially in regard to admissions for chronic obstructive pulmonary disease and strokes.
- 10.62 Within Manchester, 60% of the adult population are classified as obese or overweight. This is slightly better than the North West and England Averages which are 65.9% and 62.8% respectively (Local Authority Health Profiles, 2020). However, obesity in children (year 6) in Manchester at 27.3% which is higher than the North West and England average (22.8% and 21.0% respectively). Hospital admissions directly attributed to obesity in Manchester was 20 per 100,000. This is higher than the North West which is 13 admissions per 100,000 and slightly above the national rate in England which is 20 per 100,000 (Hospital Episode Statistics, 2019).
- 10.63 The general health of Manchester, according to the 2011 census is divided into five categories: very good, good, fair, bad, and very bad. 5.4% of respondents said that their health in general is bad and 1.7% responded that their health was very bad. This is comparable to the bad health responses in the North West and England average (5.3% and 4.2%, respectively) and very bad health responses (1.5% and 1.3% respectively) (ONS, 2013). Around 9.4% of respondents said that their day to day activities were limited a lot by long term health problems or disability. This is slightly above the England average (8.3%) but less than the average for the north west (10.3%).

Healthy Housing

- 10.64 As noted in Chapter 9 Socioeconomics, Manchester has aimed to meet a housing target provide 25,000 new homes in a ten-year period between 2016 and 2025.
- 10.65 The average house price in the Manchester is £187,000 and average annual earnings sits at £31,623. The Median house price to earnings ratio in Manchester is therefore 5.91 This compares to England's average ratio of 7.84%, the North West's average ratio of 5.75%.

Active Travel

- 10.66 According to 2011 census data, the majority of households in Greater Manchester travel to work by car or van (62.5%). However, travel patterns associated with the Manchester City Centre area show much lower levels of car trip demand (18.3%) for journeys and a commensurate higher take up of sustainable travel modes (walk / cycle and public transport) when compared to the rest of the conurbation. Indeed, journeys to work from city centre home origins illustrate car use levels at less than a third of that for the remainder of the Greater Manchester conurbation.
- 10.67 The census data shows that 49.5% of journeys to work in the city centre are made on foot, this is higher than Greater Manchester as a whole in which on 11.4% of journeys are made on foot.

- 10.68 The location of the Site allows for practical cycle access to the majority of the built-up area surrounding the city centre reaching to Salford, Whalley Range, Longsight, Harphurhey and Crumpsall. There are several dedicated cycle facilities around the Site including on-road routes along Deansgate.
- 10.69 National Cycle Route 66 can be accessed approximately 1km to the southeast of the development site. National Cycle Route 66 runs from central Manchester to Spurn Head via Bradford, Leeds, York, Beverley, and Kingston upon Hull. National Route 66 currently begins close to Manchester Piccadilly Station and runs traffic-free along the Rochdale Canal to just past Failsworth. A cycleable route continues along the canal past this point but it isn't signed as Route 66. Continuing along the Rochdale Canal National Route 66 is almost entirely traffic-free throughout this section.
- 10.70 The Site provides excellent accessibility to bus, Metrolink (tram) and rail networks by virtue of its location. Current planning guidance recognises 400m as a maximum walking distance to a bus stop from a new development, with 250m identified as a more desirable walk catchment for regular use.
- 10.71 Bus stops are located immediately adjacent to the Site on both Blackfriars Street (Stop NC) and Deansgate (Stop ND). These stops are served by a range of high frequency services during the core daytime period (07:00 – 09:00) providing access to key local destinations to the north and west of the city centre such as Eccles, Prestwich and Bury. The Site is also located just over 500m walk from Shudehill bus and coach interchange, one of the main bus stations in Manchester City Centre providing additional frequency services to a wide range of destinations across Greater Manchester and beyond.
- 10.72 In addition to standard public bus services, the Site is also located close to stops served by Route 2 of the Manchester city centre 'Metroshuttle' free mini-bus service. Stops serving Metroshuttle Route 2 are located on Deansgate. Metroshuttle Route 2 operates on a 10-minute weekday and Saturday daytime frequency (increasing to 12 minutes on Sunday) and provides connections to key city centre destinations such as Shudehill interchange, Victoria Station Approach, Salford Central Rail Station, Manchester Oxford Road rail station and Manchester Piccadilly rail station.
- 10.73 Route 1 can be accessed via the stop on St Mary's Gate some 140m from the application site. Metroshuttle Route 1 operates on a 10-minute weekday and Saturday daytime frequency (increasing to 12 minutes on Sunday) and provides a loop from Manchester Piccadilly through Chinatown and King Street to Salford Central Rail Station and Spinningfields.
- 10.74 The closest railway station to the Site is Victoria Station which is situated approximately 360m to the northeast of the Site. Victoria Rail station facilitates east / west services across the region.
- 10.75 Transport for Greater Manchester (TfGM) provide a rating for a location's accessibility to public transport known as a Greater Manchester Accessibility Level (GMAL). Each area is graded between 1 and 8, where a score of 1 is

very low access to public transport, and 8 is very high access to public transport. According to TfGM's GMAL dataset the Site has a GMAL of 8 indicating a very high level of accessibility.

- 10.76 Traffic accident data reviewed within the Transport Statement (Focus TP, August 2021) has not identified any untypical accidents.

Healthy Environment

- 10.77 The Site is located within Environment Agency Flood Zone 3 (indicating a greater than 1 in 100 annual probability of flooding). The Site is at Very Low risk with regards to pluvial flooding. The western extent of the Site is located within an area at risk from flooding from reservoirs.
- 10.78 Activity levels in adults has changed significantly between the 2019-20 and 2018-19 periods, with a decrease in active adults and a corresponding increase in inactive adults. In Manchester, 63.4% of the population are identified as 'Active' (150 minutes+ a week), 12.7% are 'Fairly Active' (30-149 minutes a week) and 23.6% are 'Inactive' (<30 minutes a week) (Sport England, 2020).
- 10.79 It should be acknowledged that the above data has been collected for the period May 2019 to May 2020, during which time the UK has experienced multiple periods of coronavirus (Covid-19) restrictions. Sport England (2021) acknowledge the disruption this has caused to activity levels, in which the number of active adults fell by 1.9% compared to 12 months earlier, whilst the number of inactive adults rose by 2.6% across the UK. Prior to the introduction of restrictions in mid-March 2020, activity levels in England were increasing. The types of activity changed, with increasing numbers of adults taking up activities such as walking, running and cycling, and at home alternatives emerged such as fitness classes. Their report found that the impact on activity levels was slightly greater amongst those from lower Socioeconomic groups.
- 10.80 As noted the Air Quality Assessment (Redmore, August 2021) which is submitted in support of the planning application, the Site is located within the Greater Manchester Combined Authority Air Quality Management Area (AQMA) as annual mean concentrations of NO₂ (Nitrogen Dioxide – a pollutant from road traffic) have been above the relevant Air Quality Objective (AQO).
- 10.81 Annual mean NO₂ concentrations were above the relevant AQO (40 µg/m³) at one monitoring station in recent years in the surrounding area of the Site. This was the MA24 monitor on Princess Street (approximately 570m southeast of the Site). As this site is positioned at a roadside location within an AQMA, elevated concentrations would be expected.
- 10.82 Pollutant concentrations at the Site have been predicted for current and future conditions up to 2023 using DEFRA's 1km by 1km grid database. Predicted background NO₂, PM₁₀ and PM_{2.5} concentrations are below the relevant AQOs and Air Quality Target Values (AQTV) at the Site.

- 10.83 Existing receptors sensitive to both demolition and construction dust and operational air quality have been identified in the air quality assessment. There are multiple residential receptors within 350 m from the Site boundary that may be sensitive to dust during the demolition and construction phase.

Vibrant Neighbourhoods

- 10.84 Chapter 9 Socioeconomics notes that there are 12 General Practitioner (GP) surgeries within 2.5km of the Site. The average patient per full-time equivalent (FTE) GP ratio is 1,183, lower than the national target of 1:1,800. This therefore indicates there is capacity within the local area for additional patients.
- 10.85 There are 14 dentist surgeries within 2.5km of the Site, approximately half of which are accepting new NHS patients at present.
- 10.86 As noted in Chapter 9 Socioeconomics, there are 18 primary schools within 2.5km of the Site. Although existing information shows that four of the schools are over capacity, there are 528 spare places across the 18 schools. There are 19 secondary schools within 5km of the Site. Overall, there are 1,173 spare places across 13 of these schools.
- 10.87 As noted in Chapter 9 Socioeconomics, Professional, Scientific and Technical Activities are the main sources of employment, accounting for 13.6% of all employment in Manchester (compared to around 8.8% regionally and 8.8% nationally).
- 10.88 The closest food store to the Site (Tesco Express) is located approximately 50m to the south of the Site, on Deansgate.
- 10.89 The Site is located in Manchester City Centre within walking distance to multiple shops and amenities. In the vicinity of the Site these include:
- Arndale Shopping Centre.
 - Selfridges.
 - Harvey Nicholls department store.
 - Exchange Square food court.
 - Manchester Cathedral.
 - The Printworks urban entertainment venue including a cinema, clubs and eateries.
 - Bars.
 - Restaurants.
 - Libraries.
 - Museums.

Embedded Mitigation

10.90 This section describes the measures which have been 'embedded' into the Proposed Development.

Demolition and Construction

10.91 There have been no mitigation measures embedded into the demolition and construction phase.

The Completed and Operational Development

10.92 Mitigation embedded into the completed development includes:

- Delivery of 300 homes;
- Delivery of employment space (Use Class E and Sui Generis);
- Areas of public amenity space will be incorporated into the Proposed Development;
- Residential dwellings on the lower basement floors will be set at or above 27.78m AOD, commercial uses on the lower basement level will be set to 26.63m AOD;
- Surface water runoff from the Site will be reduced by 50% from the existing rates; and
- The surface water drainage for the Site will be set to create overland flow paths to ensure that there is no increased risk of surface water flooding to existing properties and, where achievable, any existing risk is mitigated.

Assessment of Likely Significant Effects

10.93 This section sets out the predicted impacts and subsequent effects arising from the construction and occupation of the Proposed Development on human health. The assessment considers the embedded mitigation measures, which are incorporated into the design of the Proposed Development.

Demolition and Construction

10.94 Tables 10.2-10.4 summarise the assessment of significant effects to human health from the demolition and construction of the Proposed Development.

Table 10.2: The Assessment of the effects on the active travel health determinant from the demolition and construction phase of the Proposed Development

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Safety	There would be increased volumes of traffic on the local highway network associated with construction traffic as workers travel to and from the Site each day along with the movement of materials by HGV. However, the volume of construction traffic, as estimated, is not expected to represent a significant increase in traffic. Heavy plant and machinery will be present on site which could result in impacts on safety.	Receptor Groups: - Existing community service users – cycleways Vulnerable Groups: - All vulnerable groups identified	There is a potential for minor adverse effects (not significant) on human health due to the increased risk of accidents. This is based on the fact that there will be additional construction traffic on the surrounding roads and accessing the Site (albeit not a significant volume) rather than any specific safety issue.
Connectivity	There would be increased volumes of traffic on the local highway network associated with construction traffic as workers travel to and from the Site each day along with the movement of materials by HGV. There is potential for impact on pedestrians and cyclists in terms of delay, amenity and fear and intimidation.	Receptor Groups: - Existing residents in the surrounding area - Existing community service users Vulnerable Groups: - All vulnerable groups identified	It is not anticipated that demolition and construction will affect the ability of the existing community to access facilities or social networks and therefore no significant effects on human health associated with connectivity are anticipated. However, it is anticipated that there are likely to be minor effects (not significant) on human health with regard to the presence of construction traffic which may deter some people from walking / cycling in proximity to the Site.

Table 10.3: The assessment of effects on the Healthy Environment health determinant from the construction phase of the Proposed Development

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Air Quality	The undertaking of activities such as demolition, excavation, ground works, construction, concrete batching and storage of materials has the potential to result in fugitive dust emissions throughout the demolition and construction phase. Vehicle movements both on-site and on the local road network also have the potential to result in the re-suspension of dust from haul road and highway surfaces. As noted in the air quality assessment, the potential risk of human health impacts is high from demolition and trackout and medium from earthworks and construction activities.	Receptor Groups: - Existing residents within the Site and within the area immediately surrounding the Site Vulnerable Groups: - All vulnerable groups identified	It is anticipated that there are likely to be moderate adverse (significant) effects (without mitigation) on human health, which are stress / nuisance related, for receptors within 50 m of construction vehicle routes for limited periods of time during the construction period due to construction dust. This is more likely to affect vulnerable groups as they are most likely to be at home.
Noise	It is inevitable with any major development that there will be some disturbance caused to those nearby during the demolition and construction phase. This has the potential to impact the local noise climate and result in nuisance to the local population No significant effects are anticipated with regards to construction generated road traffic, although any increase in noise levels will be limited to daytime hours only.	Receptors Groups: - Existing residents within the area immediately surrounding the Site Vulnerable Groups: - All vulnerable groups identified	It is anticipated that there may be minor adverse effects (without mitigation) on human health, which are nuisance related, of receptors within 20 m of construction activity for limited periods of time during the construction period due to construction noise and vibration. This is more likely to affect vulnerable groups as they are most likely to be at home.

Table 10.4: The assessment of effects on the vibrant neighbourhoods health determinant from the construction phase of the Proposed Development

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Local Employment	The Socioeconomics assessment identifies that 420 temporary construction jobs will be created directly from the Proposed Development, increasing construction employment in Manchester by 5.2%. In addition, 714 indirect and induced jobs will be created by the demolition and construction works which represents 8.9% of the total employee workforce in Manchester. This will provide a major benefit in the short term at local authority level.	Receptor Group: - Existing residents in the wider Manchester area Vulnerable Groups: - Those with a high level of deprivation, low income or unemployment	There is anticipated to be major beneficial (significant) effects on the direct, indirect and induced job creation during the demolition and construction phase.
Community cohesion	There is potential for stress and uncertainty during the planning and construction phases.	Receptor Group: - Existing residents in the wider area Vulnerable Groups: - Groups with strong views / perceived risks or uncertainties regarding proposed development	There are likely moderate adverse (significant) effects on human health associated with stress to a vulnerable group during planning and construction phases.

Completed Development

10.95 Tables 10.5-10.8 summarise the assessment of significant effects to human health from the completed development. Table 10.5 presents the assessment of effects on the healthy housing health determinant from the Proposed Development once completed and operational.

Table 10.5: The Assessment of the effects on the Healthy Housing health determinant from the Proposed Development once completed and operational

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Housing Design / Accessible Housing / Healthy Living	The proposed dwellings will each be apartments which are spread across one floor. This will provide accessible housing for those with reduced mobility. The Proposed Development will introduce a tall building onto the Site which has the potential to impact wind conditions. The Proposed Development has the potential to be impacted on by climate change as extreme weather events become more common. The Site is partially located in Flood Zone 3 and as such the future users of the Site and Proposed Development could be at risk from flooding.	Receptors Groups: - New Residents - Existing residents in the wider area - Existing community service users, including (footpaths and cycleways) - New community service users (footpaths and cycleways) Vulnerable Groups: - Older people (65 and over) Groups with pre-existing health conditions	The Proposed Development has been designed to be in accordance with Building Regulations (M4) which ensures that people are able to access and use buildings and their facilities. There will be negligible effects (not significant) on human health with regard to housing design. The Wind Assessment (Chapter 8: Wind Microclimate) has confirmed that pedestrian comfort and safety will not be impacted on by the Proposed Development and as such there will be a negligible effects (not significant) on human health. The Climate Change assessment (Chapter 11: Climate Change) states that prior to mitigation, there could be a minor to moderate adverse effect (significant) with regards to climate change resilience which could result in moderate adverse effects on human health. The Flood Risk Assessment (Shepherd Gilmour, October 2021) notes that the embedded mitigation measures (noted above) will mitigate potential risks with regards to flooding. As such, there are

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
			negligible effects (not significant) anticipated with regards to flooding.
Housing Mix and affordability	Chapter 9 Socioeconomics reports a major beneficial effect on housing supply in Manchester. The proposals will provide 300 high quality residential dwellings for up to 872 individuals.	Receptors Groups: - New Residents Vulnerable Groups: - Those with a high level of deprivation, low income or unemployment	A major beneficial effect on human health is anticipated due to contribution to housing supply resulting in improvements to future residents wellbeing.

Table 10.6: The assessment of effects on the active transport health determinant from the Proposed Development once completed and operational.

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Walking and Cycling	There is anticipated to be a negligible effect on pedestrians and cyclists in the areas surrounding the Site. However, there is also potential for new pedestrian and cycle linkages between the Site and surrounding area. The development will provide 300 secure cycle parking spaces. There is a potential for the Proposed Development to effect wind conditions impacting on pedestrian comfort and safety.	Receptor Groups: - Existing community service users, including (footpaths and cycleways) - New community service users (footpaths and cycleways) Vulnerable Groups: - All vulnerable groups identified	No significant effects on human health identified. The wind assessment (Chapter 8: Wind Microclimate) has confirmed that pedestrian comfort and safety will not be impacted on by the Proposed Development and as such there will be no likely significant effects on human health.

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Safety	There are no unusual accident trends in the surrounding areas to the Site the Transport Statement does not note significant effects associated with safety. The Proposed Development includes for 36 car parking spaces. It is not anticipated that there would be any effect on safety.	Receptor Groups: - Existing community service users Vulnerable Groups: - All vulnerable groups identified	There are no clear and substantive prevailing road safety issues and the developments 36 car parking spaces are not anticipated to result in changes to the traffic conditions, as such, negligible (not significant) effects on human health have been identified.
Connectivity	It is not anticipated that the Proposed Development will result in significant changes to the traffic conditions on the local highways network. No specific effects in relation to connectivity have been identified.	Receptor Groups: - Existing residents in the wider area - New residents - Existing community service users - New community service users Vulnerable Groups: - All vulnerable groups identified	As the proposals will not result in any significant change to traffic conditions, there will be negligible (not significant) effects on human health.
Minimising Car Use	The Proposed Development incorporates 36 car park spaces. The proposals include suitable levels of secure cycle parking (1 cycle space per unit) which enable future residents to store bikes safely.	Receptor Groups: - New residents Vulnerable Groups: - Older people (65 and over)	The provision of 300 cycle spaces will result in a minor beneficial (not significant) effect on human health identified.

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
		- Children (aged 0-17) - Those with a high level of deprivation, low income or unemployment - Groups with pre-existing health conditions	

Table 10.7: The assessment of effects on the healthy environment health determinant from the Proposed Development once completed and operational

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Play space, open space and physical recreation.	Public realm is proposed as part of this application, including the provision of new riverside public realm areas with food and drink establishments to the west of the existing hotel building, and amenity space for residents in the area west of the residential building. This has a potential to impact on peoples accessibility to open space and for recreation activities.	Receptor Groups: - Existing residents within the Site and within the area immediately surrounding the Site - New residents likely to live in the Proposed Development Vulnerable Groups - All vulnerable groups identified	The introduction of a new public realm is anticipated to be a minor beneficial effect (not significant) on human health to the receptor groups.

Table 10.8: The assessment of effects on the social infrastructure health determinant from the Proposed Development once completed and operational

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Health Services	The requirement for health services will impose additional demands and costs upon the existing provision. A fully occupied development would increase the average patient list size per FTE GP from 1,183 to 1,193, however, this will still be significantly below the national target of 1 GP to 1,800 patients.	Sensitive Receptors: - Existing community service users - New Community Service users Vulnerable Groups: - All vulnerable groups identified	The Proposed Development is not anticipated to result in increased pressure on health services and as such a negligible effect (not significant) is anticipated on human health with regard to access to healthcare.
Education	As noted in Chapter 9 Socioeconomics, there is a surplus of 528 spaces within the 18 primary schools in the surrounding 2.5km of the Site. It is anticipated that there would be 26 children of primary school age generated by the completed development. Therefore, there is sufficient capacity from primary schools to accommodate pupils from the Proposed Development. There are 1,173 spare secondary school places in 19 schools within 5km of the Proposed Development. It is estimated that there would be 201 children of secondary school age generated by the completed development. Therefore, there is sufficient capacity from secondary schools to accommodate pupils from the Proposed Development.	Receptor Groups: - Existing community service users - New Community Service users Vulnerable Groups: - Children (aged 0-17)	There is ample primary and secondary school spaces within the schools in the surrounding areas of the site. The education facilities will be able to accommodate the additional pupils which the Proposed Development will yield and as such a negligible effect (not significant) on human health and education anticipated.

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
Access to Social Infrastructure, public buildings and spaces and local food shops	New residents from the Proposed Development could place increased demand on community facilities in the areas surrounding the Site. There is no available data in relation to the need for such facilities in relation to population. It is anticipated that the existing community facilities could absorb demand given the number and variety of facilities available in the area surrounding the Site.	Receptor Groups: - Existing community service users - New Community Service users Vulnerable Groups: - All vulnerable groups identified	The existing facilities and services in the areas surrounding the Site are anticipated to absorb any additional demand as a result of the Proposed Development and as such negligible (not significant) effects on human health are anticipated.
Local Employment	Chapter 9: Socioeconomics notes that the Proposed Development is estimated to generate employment opportunities in retail, commercial and leisure uses. It is estimated that there will be 25 FTE direct jobs generated as a result of the proposals.	Receptor Groups: - Existing Residents within and surrounding the Site - New residents Vulnerable Groups: - Those with a high level of deprivation, low income or unemployment	There are likely to be negligible (not significant) effects on human health associated with an increase in employment.
Community Cohesion	A new public realm as well as drinking and eating establishments are proposed as part of the development. This could attract existing and new residents to use the Site benefitting the community at large. New developments could result in impacts on community links and walking routes.	Receptor Groups: - Existing Residents within and surrounding the Site - New residents Vulnerable Groups: - All vulnerable groups identified	No new roads are proposed, and traffic flows are not anticipated to change and therefore community links and walking routes will be unaffected. The new public realm and drinking and eating establishments will attract people to the Site creating a safe and permeable environment with places where people can meet informally. The drinking and eating establishments will also provide

Health Determinant	Potential Impacts	Receptor Group and Vulnerable Group	Likely Significant Effects
			additional jobs which can improve both social cohesion and mental wellbeing. It is anticipated that there will be a minor beneficial (not significant) effect on community cohesion.

Additional Mitigation / Enhancement Measures

Demolition and Construction

Safety

- 10.96 The impact during the construction of the development should be appropriately managed via a proper planned approach in terms of construction traffic and the construction of building and this should be supported by a CEMP.

Connectivity

- 10.97 The following measures should be implemented to reduce the potential effects on connectivity:
- Appropriate pedestrian and cycle routes to be maintained throughout demolition and construction.
 - The impact during the demolition and construction phase should be appropriately managed via a proper planned approach in terms of construction traffic and this should be supported by the CEMP. Measures in the CEMP should include:
 - Access arrangements to the Site;
 - The estimated number of vehicles per day/week;
 - Details of the vehicle holding areas;
 - Wheel washing facilities;
 - Estimates for the number and type of parking suspensions that will be required; and
 - Details of any diversion, disruption or other abnormal use of the public highway during demolition, excavation and construction works.

Air Quality

- 10.98 Implementation of measures through a CEMP as described within the Institute of Air Quality Management Guidance under the themes of communication, site management, monitoring, preparing and maintaining the Site, operating vehicle machinery and sustainable travel, operations, waste management, demolition, earthworks and construction and trackout. The Air Quality Assessment has recommended potential mitigation measures to reduce impacts as a result of fugitive dust emissions during the construction phase. These are summarised in Table 10.9 below.

Table 10.9: Air Quality Mitigation

Issue	Control Measure
Communications	• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager • Display the head or regional office contact information • Develop and implement a Dust Management Plan (DMP) or similar, which may include measures to control other emissions, approved by the LA
Site management	• Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken • Make the complaints log available to the LA upon request • Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book
Monitoring	• Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the LA upon request • Increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
Site preparation	• Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site • Fully enclose specific operations where there is a high potential for dust production and they are active for an extensive period

Issue	Control Measure
	- Avoid site runoff of water or mud - Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used
Operating vehicle/machinery and sustainable travel	- Ensure all vehicles switch off engines when stationary - no idling vehicles - Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable
Operations	- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques - Ensure an adequate water supply on the site for effective dust suppression, using non-potable water where possible and appropriate - Use enclosed chutes and conveyors and covered skips - Minimise drop heights and use fine water sprays wherever appropriate - Ensure equipment is available to clean any dry spillages, and clean up spillages as soon as reasonably practicable using wet cleaning methods
Waste management	Avoid bonfires and burning of waste materials
Earthworks	- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable - Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable
Construction	- Avoid scabbling (roughening of concrete surfaces), if possible - Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out
Trackout	- Use water-assisted dust sweeper on access and local roads, if required - Avoid dry sweeping of large areas

Issue	Control Measure
	• Ensure vehicles entering and leaving site are covered to prevent escape of materials • Record all inspections of haul routes and any subsequent action in a site log book • Implement a wheel washing system, if required

Noise

10.99 Best Practicable Means should be adopted to control noise from the Site during demolition and construction, which should be secured through a CEMP. Such measures where appropriate may include 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;
- Care to be taken when erecting or striking scaffolds to avoid impact noise from banging steel. All operatives undertaking such activities to be instructed on the importance of handling the scaffolds to reduce noise to a minimum;
- The majority of deliveries to be programmed to arrive during normal working hours only. Care to be taken when unloading vehicles to minimise noise.
- Delivery vehicles to be routed so as 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;
- All plant to be sited so that the noise impact at nearby noise sensitive properties is minimised;
- Local hoarding, screens or barriers to be erected as necessary to shield particularly noisy activities; and,
- Problems concerning noise from construction works can often be avoided by taking a considerate and neighbourly approach to relations with the local residents.
- Works should only take place during given periods, e.g. during normal construction hours and not at night.

Local Employment

10.100 As major beneficial effects are anticipated with regards to local employment, no mitigation measures are required.

Community Cohesion

- 10.101 A programme of communication should be established, and implementation of further plans for engaging and with the community to ensure they are informed on key activities at the site.

The Completed and Operational Development

Housing Design / Accessible Housing / Healthy Living

- 10.102 Various measures will be implemented to improve climate change resilience at the completed development phase, these include:

- Soils used to support vegetation and ensuring those soils on site which support trees and green spaces, are maintained in good condition.
- Use of fans, internal plants, use of blinds and curtains to help achieve a more comfortable environment at times of heat stress.
- The use of good quality insulation in the building design and natural ventilation. Potential use of active ventilation and dehumidification if specific issues are identified to control relative humidity.
- Ensuring sensitive electrical circuits are installed sufficiently above any potential flood water levels, and developing readiness plans to respond to flooding in the event lower levels of the building are affected.
- Regular inspection of structure and cladding to ensure it is maintained in good order.
- High quality energy efficient lighting used throughout building. Additional internal lighting in the form of lamps or other portable lighting to augment building lights if required to mitigate increased cloud cover.

Housing Mix and affordability

- 10.103 As the potential effects are anticipated to be major beneficial with regards to housing mix and affordability, no mitigation measures are required.

Walking and Cycling

- 10.104 As the potential effects are anticipated to be negligible with regards to walking and cycling, no mitigation measures are required.

Safety

- 10.105 As the potential effects are anticipated to be negligible with regards to safety, no mitigation measures are required.

Connectivity

- 10.106 As the potential effects are anticipated to be negligible with regards to connectivity, no mitigation measures are required.

Minimising Car Use

10.107 The developer has developed a Travel Plan to set out measures to encourage residents to travel by sustainable modes. Measures include:

- Encouraging Efficient Car Use
 - Promote information outlining the benefits of the Enterprise Car Club scheme and the details of car pick / up drop off locations within a local walking distance of the Renaissance residential development. Investigate the potential to provide first year annual registration to the City Car Club scheme for one new resident at each of the apartment unit (£10 per person for 1st year membership, including £10 driving credit).
 - Promote information encouraging residents to investigate websites such as CarShareGM.com / Liftshare.com for opportunities to share regular journeys.
- Encouraging Increased Use of Public Transport
 - Provide Local Public Transport route maps (Manchester North & South Bus Maps / Manchester City Centre Bus Map / Metrolink System Map / City Centre Free- Bus Map / North West Rail System Map) for the Manchester City Centre area (as produced by TfGM at the time of site occupation).
 - Promote information relating to the TfGM website for access to online public transport information.
- Encouraging Increased Walking
 - Provide information / maps about the local footpath network and local shops and services within a suitable walking catchment of the Renaissance residential development.
 - Provide information regarding the health benefits of walking, such as details of the 'Walking the Way to Health' initiatives.
 - Promote the 'Walkit' (<http://walkit.com/cities/manchester/>) pedestrian journey planning website for journeys to local destinations within Manchester City Centre.
- Encouraging Increased Use of Cycling
 - Provide a copy of the book 'Cycling to Work: A Beginners Guide' (McMullen, M, 2007) or similar cycle promotion literature in the 'Home User Guide'.
 - Ensure links to the most recent version of the Manchester cycle maps are available on the Renaissance residential development digital application.
 - Alternatively copies of paper maps can be ordered via the TfGM Cycling website (www.cycling.tfgm.com/maps).

- Promote events via the Renaissance residential development digital application such as National Bike Week where families, students and commuters are encouraged to leave their cars at home and try cycling.
- Provide details of local cycle training courses operated by TfGM and partners, to new residents.
- Provide information concerning the health benefits of cycling, and direct residents to other key cycling information sources such as www.sustrans.org.uk, <https://tfgm.com/cycling-and-walking>, www.loveyourbike.org, etc.

Play Space, Open Space and Physical Recreation

- 10.108 As the potential effects are anticipated to be negligible with regards to play space, open space and physical recreation, no mitigation measures are required.

Health Services

- 10.109 As the potential effects are anticipated to be negligible with regards to health services, no mitigation measures are required.

Education

- 10.110 As the potential effects are anticipated to be negligible with regards to education, no mitigation measures are required.

Access to Social Infrastructure, Public Buildings and Spaces and Local Food Shops

- 10.111 As the potential effects are anticipated to be negligible with regards to access to social infrastructure, public buildings and spaces and local food shops, no mitigation measures are required.

Local Employment

- 10.112 As the potential effects are anticipated to be negligible with regards to local employment, no mitigation measures are required.

Community Cohesion

- 10.113 As the potential effects are anticipated to be minor beneficial with regards to community cohesion, no mitigation measures are required.

Likely Residual Effects of the Development and their Significance

- 10.114 Significant effects identified in tables 10.2-10.8 have been taken forward into the table below.

Table 10.10: Residual Effects Summary

Description of Effect	Nature and Significance of Effect	Mitigation	Residual Effect including Significance
Construction and Demolition			
Potential effects on Safety of pedestrians and cyclists	Minor adverse (not significant)	Measures implemented within the CEMP	Negligible which is not significant
Increased volumes of construction traffic resulting in effects on Connectivity	Minor adverse (not significant)	Measures implemented within the CEMP	Negligible which is not significant
Construction activities resulting in effects on Air Quality	Moderate adverse (significant)	Measures implemented within the CEMP	Negligible which is not significant
Construction activities resulting in effects on Noise	Minor adverse (not significant)	Measures implemented within the CEMP	Negligible which is not significant
Jobs created during the construction phase effecting Local Employment	Major beneficial (significant)	None required	Major beneficial which is significant
Stress and uncertainty during the planning and construction phases causing effects on community cohesion	Moderate adverse (significant)	Programme of communication, and implementation of further plans for engaging and seeking the views of the community	Negligible which is not significant
Completed Development			
Availability of good Housing Design / Accessible Housing / Healthy Living	Negligible to moderate adverse (significant)	• Soils used to support vegetation which will be maintained. • Use of fans, internal plants, use of blinds and curtains. • Use of good quality insulation in the building design and natural ventilation. • Potential use of active ventilation and	Negligible which is not significant

Description of Effect	Nature and Significance of Effect	Mitigation	Residual Effect including Significance
		dehumidification if required. - Sensitive electrical circuits to be installed sufficiently above any potential flood water levels - Regular inspection of structure and cladding. - High quality energy efficient lighting used throughout building.	
Effects of the Proposed Development on Housing Mix and affordability	Major beneficial (significant)	None required	Major beneficial which is significant
Potential effects on Walking and Cycling	Negligible (not significant)	None required	Negligible which is not significant
Potential effects on Safety	Negligible (not significant)	None required	Negligible which is not significant
Potential effects on Connectivity	Negligible (not significant)	None required	Negligible which is not significant
Potential effects on Minimising Car Use	Minor beneficial (not significant)	Implement Travel Plan	Minor beneficial which is not significant
Potential effects on Play space, open space and physical recreation.	Negligible (not significant)	None required	Negligible which is not significant
Potential effects on access to Health Services	Negligible (not significant)	None required	Negligible which is not significant
Potential effects on access to Education	Negligible (not significant)	None required	Negligible which is not significant

Description of Effect	Nature and Significance of Effect	Mitigation	Residual Effect including Significance
Potential effects on Access to Social Infrastructure, public buildings and spaces and local food shops	Minor beneficial (not significant)	None required	Minor beneficial which is not significant
Potential effects on Local Employment	Moderate beneficial (significant)	None required	Moderate beneficial which is significant
Potential effects on Community Cohesion	Minor beneficial (not significant)	None required	Minor beneficial which is not significant

Conclusions

- 10.115 This chapter presents the findings of a desk-based assessment of the human health impacts of the Proposed Development.
- 10.116 This assessment considers the wider determinants of human health, using the HUDU Checklist as an assessment structure which includes drawing on the findings of other relevant chapters of this ES and other relevant planning application documents. This includes as assessment on:
- Healthy Housing.
 - Active Travel.
 - Healthy Environment.
 - Vibrant Neighbourhoods.
- 10.117 Healthy Housing was discounted from the demolition and construction phase assessment
- 10.118 During the construction phase of the development, there is a potential for the construction activities and associated construction traffic to have an adverse impact on human health with regards to safety, connectivity, air quality, noise and community cohesion. However, through the implementation of a CEMP and a programme of communication, the residual risk to human health is anticipated to be predominantly **negligible (not significant)**. A **major beneficial (significant)** effect is anticipated on local employment as the construction phase is anticipated to result in 420 temporary construction jobs and 714 indirect and induced jobs.
- 10.119 At the completed development phase, there are a number of potential impacts that may have an adverse effect on human health. The proposed development has been appropriately designed to ensure that there are no

significant adverse effects on human health with regards to flooding, wind, and accessibility. Additional mitigation is proposed to ensure that there are no significant adverse effects with regards to climate change resilience. These measures include:

- Soils used to support vegetation which will be maintained.
- Use of fans, internal plants, use of blinds and curtains.
- Use of good quality insulation in the building design and natural ventilation.
- Potential use of active ventilation and dehumidification if required.
- Sensitive electrical circuits to be installed sufficiently above any potential flood water levels
- Regular inspection of structure and cladding.
- High quality energy efficient lighting used throughout building.

10.120 As the proposals are not anticipated to change the traffic conditions on the local highways network and provision of a new public realm, there is anticipated to be **negligible (not significant)** effects on pedestrian walking, cycling, safety, connectivity. **Minor beneficial (not significant)** effects are anticipated with regards to minimising car use, people's accessibility to open space for recreation activities, and community cohesion.

10.121 It is anticipated that the existing community infrastructure, such as education facilities, healthcare facilities, public buildings and spaces and local food shops, will be able to accommodate the additional population that the Proposed Development will generate in the area. As such, **negligible (not significant)** effects are anticipated.

10.122 The proposed development will generate employment opportunities in retail, commercial and leisure uses. It is anticipated that this will result in a **negligible (not significant)** effect on human health as this can improve both social cohesion and mental wellbeing.

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11. Climate Change

Introduction

- 11.1 This Chapter has been prepared by Wardell Armstrong and reports on the implications of the Proposed Development in terms of climate change in the context of the Site and surrounding area, and the wider environment, recognising that climate change is a global issue.
- 11.2 The climate change assessment will be presented in two parts within this chapter:
- A. Assessment of Impacts: A conventional impact assessment that will focus on the potential impacts of the Proposed Development (i.e. greenhouse gas (GHG) emissions on the climate); This will include an overview of how the Proposed Development aids in the mitigation of climate change; and
 - B. Assessment of Climate Resilience: A review of the resilience of the Proposed Development to the potential effects arising from projected changes in future climate. This will include a qualitative discussion of the vulnerability and sensitivity of the Proposed Development to climate change effects, with an assessment of the magnitude of effects.
- 11.3 Part A of the chapter describes the methods used to assess the impacts, the baseline conditions currently existing at the site and surroundings, the potential direct and indirect impacts of the development on Climate Change, the mitigation measures required to prevent, reduce, or offset both the impacts and the residual impacts.
- 11.4 Part B of the Chapter considers how the Proposed Development adapts to a changing climate, how other EIA topics and sensitive receptors could be affected, and how resilience can be designed into the Proposed Development.
- 11.5 This Chapter is not intended to be read as a standalone assessment and reference should be made to other assessments that have been undertaken to support the planning application including:
- Energy Statement: *"Environmental Standards and Circular Economy Statement"* (Turley),
 - Air quality assessment: (Redmore Environmental)
 - Flood risk: *"Flood Risk Assessment & Drainage Statement"* (Shepherd Gilmour Consulting Engineers),
 - Ecology report: *"Extended Phase 1 Habitat Survey and Inspection of Building for Bats"* (Penny Anderson Associates)
 - Transport Statement (Focus Transport Planning).

Planning Policy Context

Legislation

Climate Change Act (2008)

- 11.6 The Climate Change Act 2008 establishes the framework for the UK to set and deliver greenhouse gas emission reduction targets; mainly through the establishment of the Committee on Climate Change which ensures targets are evidence based and independently assessed. The Act commits the UK government to reduce greenhouse gas emissions to net zero carbon by 2050. In addition to this, the Government is also required to regularly report on emission target progress, assess the risks and opportunities to the UK associated with climate change, and develop preparation and adaptive plans for these.
- 11.7 The UK Climate Change Risk Assessment is required to be produced every five years under the Climate Change Act 2008, in order to look at the risks and opportunities arising for the UK from climate change. The 2017 series of reports, alongside other documents from the European Commission and National House Building Council Foundation are used in this chapter to assess potential vulnerabilities and adaptive potential of the Proposed Development and site regarding climate change impacts.

Town and Country Planning EIA Regulations 2017

- 11.8 On the 16th May 2017, the European Commission Environmental Impact Assessment Directive (2014/52/EU) was incorporated into English law under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. This legislation requires the consideration of climate change within an EIA. The key text in relation to climate change is provided below.

Schedule 3: Regulation 5(4)

1(f): "The characteristics of development must be considered with particular regard to the risk of major accidents and/or disasters relevant to the development concerned, including those caused by climate change, in accordance with scientific knowledge."

Schedule 4: Regulation 18(3) INFORMATION FOR INCLUSION IN ENVIRONMENTAL STATEMENTS

"A description of the likely significant effects of the development on the environment resulting from, inter alia:" ...

4: "A description of the factors specified in regulation 4(2) likely to be significantly affected by the development...climate (for example greenhouse gas emissions, impacts relevant to adaptation)

5(f): "the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the Proposed Development to climate change"

Building Regulations

- 11.9 Parts of the subsequent discussion relate to energy use in buildings due to the direct relation with greenhouse gas emissions. Part L of The Building Regulations set fabric energy efficiency standards, energy efficiency requirements and CO_{2e} emissions limits for dwellings and non-residential buildings. Approved document 'L1A and L2A 2013 edition incorporation 2016 amendments'¹ provide details on the assessment criteria and methodologies used to test whether buildings are compliant. Aside from any local planning policy requirements it must be demonstrated that a building is compliant with the building regulations to be approved by building control. These regulations are the government's key mechanism for reducing CO_{2e} emissions in buildings.
- 11.10 Calculations are undertaken using a prescribed methodology - the Standard Assessment Procedure (SAP). A Target Emissions Rate (TER) is calculated, which represents the minimum standard for a building of that size. A Dwelling Emissions Rate (DER) is then calculated which is an estimation of likely emissions for the development in question. The DER must not exceed the TER for a building to be compliant. In addition to the TER, fabric energy efficiency standards define the thermal performance limits of building elements such as walls, doors and roof.
- 11.11 Whilst these assessments are typically undertaken post planning when specification and information regarding mechanical and electrical systems have been produced, the regulations are significant to this assessment because it legally binds new buildings to be constructed to a minimum standard, which can be utilised as a baseline.
- 11.12 In October 2019 consultation began on the Future Homes Standard (FHS) which outlines proposed improvements to Part L (conservation of fuel and power) and Part F (ventilation) of The Building Regulations applicable to new residential dwellings. The proposed changes include stricter energy efficiency, carbon emissions standards as well as the introduction of measuring a dwelling's 'primary energy use'.
- 11.13 On 19 January 2021, the Government published its response to the FHS consultation, at the same time as publishing a new consultation on 'Future Building Standards' (FBS). The FBS is a similar concept to the FHS, aimed at provoking decarbonisation in new non-residential and existing residential buildings. As part of the FBS, the Government is consulting on a preferred 27% reduction in carbon emissions relative to Part L 2013 levels for non-residential buildings for the interim period, to facilitate the eventual realisation of zero-carbon buildings.
- 11.14 The FHS consultation response set out a clear timeline for the introduction of the FHS and the interim arrangements. It is intended (subject to the FBS consultation) that a new Part L 2021 (and Part F 2021) will be introduced towards the end of 2021 and come into effect during 2022. This will formally instigate the interim arrangements for both residential and non-residential developments. Buildings approved prior to June 2022 and commenced prior to June 2023 will remain eligible to be built out under Part L 2013, but this will only apply to individual units not a site in its entirety.

¹ Ministry of Housing, Communities and Local Government (2018). Approved Document L1A: conservation of fuel and power in new dwellings, 2013 edition with 2016 amendments.

- 11.15 The consultation response also confirmed the Government's intention that Part L 2021 will apply the 31% emission reduction interim uplift target over Part L 2013 for residential development, moving to a more stringent 80% emissions reduction target by 2025.

National Planning Policy

National Planning Policy Framework

- 11.16 The policies within the NPPF relevant to climate change can be found in chapter 14 'Meeting the challenge of climate change, flooding and coastal change'. Those most specific to this assessment are detailed below:

Paragraph 152: *"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."*

Paragraph 153: *"Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure."*

Paragraph 154: *"New development should be planned for in ways that: a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards."*

Paragraph 155: *"To help increase the use and supply of renewable and low carbon energy and heat, plans should: a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts); b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers."*

Paragraph 157: *"In determining planning applications, local planning authorities should expect new development to: a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not*

feasible or viable; and b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption."

Paragraph 161: "All plans should apply a sequential, risk-based approach to the location of development – taking into account the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by: a) applying the sequential test and then, if necessary, the exception test as set out below; b) safeguarding land from development that is required, or likely to be required, for current or future flood management; c) using opportunities provided by new development to reduce the causes and impacts of flooding (where appropriate through the use of natural flood management techniques); and d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations".

Any Other Relevant National Planning or Development Strategies

- 11.17 The UK Government has set out plans to be net zero carbon in the future to tackle climate change. In the Road to Zero strategy published in 2018², the UK government announced that it wants every new home to have a charge point, where appropriate, to help future proof homes for the transition to electric vehicles (EV). The government want to introduce an EV charging requirement in the English Building Regulations and also to transpose the requirements of the European Union (EU) Energy Performance of Buildings Directive (EPBD)³. This EV policy is still in consultation (although now closed to responses). If adopted, this would require every new residential building with an associated car parking space to have a 32A (7.2kW) charge point installed, and every new non-residential building with more than ten car parking spaces to have one charge point and cable routes for an electric vehicle charge point for one in five spaces. In addition to this, an EV infrastructure strategy is expected to be published later this year (2021) as referenced in the most recent Net Zero Strategy: Build Back Greener³. The EV strategy will outline a vision for infrastructure rollout and the roles for public and private sectors.

Local Planning Policy

Manchester City Council Core Strategy 2012-2027

- 11.18 The assessment will consider any local planning policy requirements within Manchester City Council's Core Strategy 2012-2027. The main policies relating to climate change include:
- Policy EC1: Employment and Economic Growth in Manchester
 - Policy C 2: District Centres
 - Policy CC 1: Primary Economic Development Focus: City Centre and Fringe
 - Policy EN 2: Tall Buildings

² HM Government, Industrial Strategy, Department for Transport (2018). 'The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy'.

³ HM Government, Business, Energy & Industrial Strategy (2021). 'Net Zero Strategy: Build Back Greener'

- Policy EN 4: Reducing CO₂ Emissions by Enabling Low and Zero Carbon Development
- Policy EN 5: Strategic Areas for low and zero carbon decentralised energy infrastructure
- Policy EN 6: Target Framework for CO₂ reductions from low or zero carbon energy supplies
- Policy EN 7: Energy Infrastructure opportunities
- Policy EN 8: Adaptation to Climate Change
- Policy EN 9: Green Infrastructure
- Policy EN 14: Flood Risk
- Policy EN 15: Biodiversity and Geological Conservation
- Policy PA 1: Developer Contributions
- Policy DM 1: Development Management

11.19 Policy EN4 states that all development must follow the principle of the Energy Hierarchy and be designed “to reduce the need for energy through design features that provide passive heating, natural lighting and cooling; to reduce the need for energy through energy efficient features such as improved insulation and glazing; to meet residual energy requirements through the use of low or zero carbon energy generating technologies.” This policy also requires consideration of opportunities for low and zero carbon energy supplies, mechanisms to help improve energy efficiency, connections and/or contributions to low or zero carbon decentralised energy schemes, and the use of building materials with low embodied carbon in new development and refurbishment schemes.

11.20 Policy EN6 sets out CO₂ emissions reduction targets with guidance for completion of the Energy Statement that is required to support the application. As this is a mixed residential and commercial development, the CO₂ emissions reduction targets outlined in the policy will apply to the development depending on the sections under consideration.

Table 11.1: Domestic CO₂ emissions reduction targets

Target	% Minimum requirement
Target 1: Network development area	CHP/district heating anchor or connection or where not feasible a 15% increase on Part L 2010
Target 2: Electricity intense buildings	+15% increase on Part L 2010
Target 3: Micro generation area	+15%increase on Part L 2010

Table 11.2: Non-domestic CO₂ emissions reduction targets

Target	% Minimum requirement
Target 1: Network development area	CHP/district heating anchor or connection or where not feasible, a 15% increase on Part L 2010
Target 2: Electricity Intense buildings (Applies to commercial uses with a high proportion of emission from electricity use (>45 kg CO ₂ /m ²)	+10% increase on Part L 2010
Target 3: Micro generation area	+15% increase on part L

- 11.21 Policy EN6 also states that where the CO₂ emissions reduction required under any future revision to Part L of the Building Regulations becomes greater than the '% Minimum requirement', the reduction required under building regulations would apply. The proposed target framework in Policy EN6 is expressed in terms of CO₂ reduction rather than a requirement for renewable energy, providing flexibility to the developer in terms of how the target is met. It is worth mentioning that Part L 2013 already partially meets the '% minimum requirement' for an increase above Part L 2010. The transitional arrangements for Part L 2021 and the Future Homes Standard, which requires at least a 31% increase on Part L 2013 will need to be met to comply with this aspect of Policy EN6. The proposed phasing for this development has anticipated construction between Q1 2022 and Q3 2024. On this basis, the tower block will be complete prior to the introduction of the full Future Homes Standard, with its 75- 80% emission reduction requirement on Part L 2013, in 2025.
- 11.22 Policy EN8 requires all new development to be adaptable to climate change in terms of the design, layout, siting, and function of both buildings and associated external spaces. It states that 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 rainwater 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; and
 - The opportunity to provide linked and diverse green space to enhance natural habitats which will assist species adaptation.
- 11.23 Developers will be permitted to use green infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO₂ mitigation under Policy EN6, subject to sufficient evidence to quantify their contribution to compliance.

- 11.24 The Council is keen to see all measures taken to reduce the negative impacts of climate change and ensure that the building stock is fully future proofed and capable of adapting to the changes in climate expected over the plan period and beyond. Further guidance on climate change adaptation measures, including guidance on passive urban design and building design, is provided in an SPD. Manchester's Climate Change Action Plan will also be considered.

Manchester City Council Climate Change Action Plan 2020-25

- 11.25 The Council declared a Climate Emergency in July 2019 and developed a Climate Change Action Plan which was approved by Executive in March 2020. The Climate Change Action Plan 2020-25 sets an ambition for the Council to reduce its direct CO₂ emissions by 50% between 2020 and 2025 based on a 13% year on year reduction trajectory. The Council seeks to support and influence the city to reduce its emissions and protect residents from the impacts of climate change.

Emerging Local Plan

- 11.26 One of the strategic aims for the emerging Local Plan is for Manchester to be a zero-carbon city by 2038 at the latest, and the Council has agreed to the establishment of science-based carbon-reduction targets. While the emerging Local Plan and the science-based carbon-reduction targets are currently being developed for Manchester, it is still a good idea to be aware of these considerations.

Other Relevant Policy, Standards and Guidance

- 11.27 Due to the relatively recent incorporation of climate change within EIA regulations, there is currently little guidance on best practise techniques and methodologies to use in the assessment of effects.
- 11.28 This assessment has considered the following recent guidance:
- The Institute of Environmental Management and Assessment (IEMA), 'Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance' (2017)⁴;
 - IEMA and European Commission, 'Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment' (2013)⁵;
 - BSI - PAS 2080:2016 'Carbon Management in Infrastructure'⁷;
 - European Investment Bank (EIB) (2020)⁸; and
 - IEMA, 'Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation' (2020)⁹.

⁴ The Institute of Environmental Management & Assessment (IEMA) (2017). 'Environmental impact assessment guide to assessing greenhouse gas emissions and evaluating their significance'. IEMA, Lincoln.

⁵ The Institute of Environmental Management & Assessment (IEMA) (2013). 'Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment'.

⁶ European Commission (2013). 'Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment'.

⁷ British Standards Institute (2016). Publicly Available Specification (PAS) 2080:2016 'Carbon Management in Infrastructure'.

⁸ European Investment Bank (2020). 'EIB induced GHG footprint. The carbon footprint of projects financed by the bank. Methodologies for the assessment of Proposed Development GHG emissions and emissions variants'.

- Royal Institute of Chartered Surveyors (RICS), 'Whole Life Carbon Assessment for the Built Environment' (2017)¹⁰.
- 11.29 Although not specifically designed for EIA purposes, the European Investment Bank (EIB) guidance sets out a credible and viable definition for the baseline scenario in terms of climate change. This methodological approach is given additional validity as it is recommended by the European Commission in its guidance document; Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (2013).
- 11.30 In summary, the baseline scenario does not consider a *"do nothing scenario"*. It assumes that there is demand for housing and supply is required for housing targets to be met. Therefore, the assessment baseline scenario can be considered to be a 'typical' development which:
- Delivers the same outputs as the Proposed Development; and
 - Is built to standard building regulations using normal construction practices; and
 - Is constructed in a nominal location.
- 11.31 A 2019 technical note from European Bank for Reconstruction and Development (EBRD)¹¹ states that this type of baseline is appropriate since *"it is recognised that 'something' must be done"* and allows for a comparison of relative effect.
- 11.32 The preferred EIB method differs from the IEMA guidance published in *'Environmental Impact Assessment Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance'* that suggests that all emissions are significant and therefore, unless a project is removing as much carbon from the atmosphere as it is emitting its impacts will be considered significant. However, the IEMA method does not enable the scale of effect to be identified and for which measurable mitigation measures can be identified that reduce the residual effects to within an acceptable level.

Part A: Assessment of Climate Change Impacts

Introduction

- 11.33 This part of the assessment focuses on the impact of the scheme on global climate change through carbon emissions. This is very different to impacts arising from other EIA topics which consider spatially defined receptors within a limited geographical location.
- 11.34 Climate change is a global phenomenon. It is understood that certain regions, populations and species are more sensitive to climate change than others, but it would not be reasonable to provide an assessment of the

⁹ The Institute of Environmental Management and Assessment (IEMA) (2020), 'Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation'.

¹⁰ Royal Institute of Chartered Surveyors (RICS) (2017), 'Whole life carbon assessment for the built environment'.

¹¹ European Bank for Reconstruction and Development (EBRD) (2019). Technical note: Methodology for the economic assessment of EBRD projects with high greenhouse gas emissions.

Proposed Development's potential impact on specific local receptors as any single development would have an indiscernible impact on global climate change overall.

- 11.35 However, it is still important to undertake the assessment to ensure the Proposed Development does not emit unacceptable levels of emissions not only in an effort to reduce future climate change impacts, but to contribute towards local and national emission targets.

Assessment Methodology and Significance Criteria

- 11.36 The assessment considers the CO_{2e} emissions associated with fossil fuel and electricity use within those buildings forming the Proposed Development, with specific exclusions detailed in the subsequent sections.
- 11.37 This assessment includes for the demolition of the northern section of Premier House within the construction emissions calculations. Demolition and construction phase emissions have been considered using RICS methodology, which allows for a high-level estimation of emissions based on the predicted construction costs for the development and an emissions factor of 1400kgCO_{2e}/£100k.
- 11.38 Whilst it is difficult to demonstrate definitive emission reduction when using high level estimates of emission generation, the methodology adopted in this chapter is that any quantifiable reduction in emissions due to mitigation employed during the construction phase will be deducted from the baseline construction emissions estimate and any percentage improvement will be considered against the significance criteria set out below.
- 11.39 The assessment considers the operational CO_{2e} emissions over an 80-year period. It is not possible to fully understand, at this time how energy and emissions use will change within buildings during this period. As such, it has been assumed that energy use will remain the same, year on year, throughout the assessment period.
- 11.40 Detailed SAP & SBEM calculations are not currently available. These would normally provide the basis for modelling the energy demand for the residential dwellings and commercial spaces as set out in the detailed plans for the proposed site layout. Instead, estimated emissions in this chapter are based on information provided with the Energy Statement for the development produced by Turley, which is understood to itself be informed by an energy strategy prepared by King Associates.
- 11.41 That energy strategy modelling has allowed an estimate of the average Target Emission Rate (TER) and the average Dwelling Emission Rate (DER) to be calculated. These figures have been used to predict the annual regulated emissions for the residential elements of the development as a whole based on the residential floor area. Unregulated emissions have been similarly estimated based on the SAP methodology and using the floor areas of each of the units in the development.
- 11.42 The baseline case for the residential elements assumes that the dwellings would have space-heating, domestic hot water (DHW) and cooking requirements met by conventional gas sources. This assumption is built into the SAP TER calculation.

- 11.43 The energy demand of the non-residential section of the Proposed Development for which we do not yet have detailed designs are estimated using the energy benchmarks in CIBSE Guide F – Energy Efficiency. Given this guidance was last updated in 2012, and building standards and practices have since improved, ‘Good practice’ energy consumption benchmarks are used instead of those given for ‘Typical practice’. These benchmark figures do not provide separate breakdowns for regulated and unregulated usage but provide an overall projection of energy demand for different non-residential uses.

Defining Parameters

- 11.44 The development will support 300 residential units, corresponding to a 74% coverage of the total floor area (excluding the second lower ground level). The remaining 26% is considered as commercial space in this assessment. The build mix for the residential elements in the tower block are given below (see *Table 11.3*).

Table 11.3: Schedule of Residential Units

ID	House Type	Floor Area	# Units
1	1 Bed 2 Person (Type A1)	52	18
2	1 Bed 2 Person (Type A1.1)	51	19
3	1 Bed 2 Person (Type A2)	55	7
4	1 Bed 1 Person (Type A3)	44	12
5	1 Bed 1 Person (Type A4)	40	12
6	1 Bed 2 Person (Type A5)	52	15
7	1 Bed 2 Person (Type A6)	52	1
8	1 Bed 1 Person (Type A7)	45	1
9	1 Bed 1 Person (Type A8)	41	2
10	1 Bed 1 Person (Type A9)	42	2
12	1 Bed 1 Person (Type A9.1)	40	2
13	1 Bed 1 Person (Type A10)	41	1
14	1 Bed 2 Person (Type A11)	50	1

ID	House Type	Floor Area	# Units
15	1 Bed 1 Person (Type A12)	37	1
16	1 Bed 1 Person (Type A13)	45	1
17	1 Bed 1 Person (Type A4)	47	1
18	1 Bed 2 Person (Type A15)	50	1
19	1 Bed 2 Person (Type A16)	53	11
20	1 Bed 2 Person (Type A17)	56	1
21	1 Bed 2 Person (Type A18)	58	1
22	1 Bed 2 Person (Type A19)	58	1
23	1 Bed 1 Person (Type A20)	41	1
24	1 Bed 1 Person (Type A21)	45	2
25	2 Bed 4 Person (Type B1)	80	24
26	2 Bed 4 Person (Type B2)	81	24
27	2 Bed 3 Person (Type B3)	63	1
28	2 Bed 3 Person (Type B3.1)	63	2
29	2 Bed 3 Person (Type B3.2)	64	12
30	2 Bed 3 Person (Type B4)	63	12
31	2 Bed 4 Person (Type B5)	73	12
32	2 Bed 4 Person (Type B5.1)	79	1
33	2 Bed 3 Person (Type B6)	66	14
34	2 Bed 3 Person (Type B7)	64	15
35	2 Bed 3 Person (Type B8)	61	16

ID	House Type	Floor Area	# Units
36	2 Bed 4 Person (Type B9)	73	5
37	2 Bed 4 Person (Type B10)	72	5
38	2 Bed 4 Person (Type B11)	72	5
39	2 Bed 4 Person (Type B11.1)	74	2
40	2 Bed 4 Person (Type B11.2)	75	4
41	2 Bed 3 Person (Type B12)	68	1
42	2 Bed 3 Person (Type B13)	66	1
43	2 Bed 3 Person (Type B13.1)	66	1
44	2 Bed 4 Person (Type B14)	71	2
45	2 Bed 3 Person (Type B15)	63	2
46	2 Bed 3 Person (Type B16)	64	2
47	2 Bed 3 Person (Type B17)	69	4
48	2 Bed 4 Person (Type B17.2)	72	2
49	2 Bed 4 Person (Type B17.3)	72	2
50	2 Bed 4 Person (Type B17.4)	70	2
51	2 Bed 4 Person (Type B17.5)	70	2
52	2 Bed 3 Person (Type B17.6)	72	2
53	2 Bed 3 Person (Type B17.7)	69	2
54	2 Bed 3 Person (Type B17.8)	70	2
55	2 Bed 3 Person (Type B21)	61	1
56	2 Bed 3 Person (Type B22)	66	1

ID	House Type	Floor Area	# Units
57	3 Bed (Type C1)	92	7
58	3 Bed (Type C2)	80	1
59	3 Bed (Type C3)	94	1
60	2 Bed (Type B1.1)	80	1
61	2 Bed (Type B2.1)	81	1
62	2 Bed (Type D1.1)	103	1
63	2 Bed (Type D1)	107	1

Scope of Assessment

- 11.45 GHG emissions are divided into three Scopes¹². Scope 1 (Direct) and Scope 2 (Indirect) emissions, from the perspective of the building occupants, will be assessed. These are quantifiable and within the Applicant's reasonable control. In this instance, these emissions are taken to be that associated with the combustion of fossil fuels (such as natural gas in building heating systems) and the generation of electricity (associated with lighting and ventilation) used during the operational phase of the built development.
- 11.46 Construction emissions associated with the Proposed Development include the emissions associated with on-site machinery, plant equipment and welfare facilities, typically being the emissions associated with diesel fuel combustion. In the absence of project-specific information relating to all on and off-site construction activities, a high-level quantification of construction emissions for the Proposed Development will be undertaken based on the average figure for building construction site emissions supplied in the RICS guidance (2017).

Emissions Not Considered within the Scope of Assessment

- 11.47 Emissions associated with the transport movements of residents, occupants and visitors once the Proposed Development becomes operational are not included in the assessment as these are largely tied to actions outside the Applicant's control.
- 11.48 The assessment considers CO_{2e} emissions, but in practice is limited to consideration of CO₂ and Nitrous Oxide (N₂O) only. It is understood that there are other emissions that contribute to climate change, such as those found in refrigerants e.g., chlorofluorocarbons (CFCs). These emissions are considered to be minimal in volume by comparison to the operational CO_{2e} emissions and have therefore not been considered in the analysis.

¹² As defined by the GHG Protocol, Scope 1 are direct emissions from a company's owned or controlled sources, e.g., from the natural gas boilers used to heat buildings. Scope 2 are indirect emissions from the generation of purchased energy. Scope 3 are all other indirect emissions that occur, including those of a company's suppliers (upstream) and customers (downstream).

- 11.49 The assessment excludes development floor area associated with on-site gardens and residential parking on the lower ground floors. This is due to the energy demand being minimal when compared to the regulated and unregulated demand within the buildings.
- 11.50 Decommissioning emissions include those associated with the removal, transportation and disposal of waste materials either in landfill or to sites for recycling/re-use at the end of the project's operational lifetime. This is likely to be at least 80 years in the future and the modes of transport and decommissioning techniques and disposal/recycling methods could be very different and considerably less carbon intensive by that time.
- 11.51 The use of vehicles is considered to be behavioural and not directly connected to the development itself. The people who eventually live in the development will generate these emissions, but they are not caused by the development. If the residents lived elsewhere, they would likely still generate similar transport emissions. In this instance, the Proposed Development is supporting 300 residential elements with 36 residential car parking spaces', and residents and staff are to be encouraged to use public transport or other sustainable travel options, so a majority of vehicle use will be external to the site itself.
- 11.52 Where possible, materials for construction will be sourced locally and sustainably sourced materials will be selected preferentially. Although the embodied carbon in the materials has not been assessed in detail, this is expected to be a relatively minor component of the development's lifetime emissions. The use of sustainably grown timber will provide a carbon store within the development and whilst this will not offset other embodied carbon it will help to reduce the impact.

Greenhouse Gas Emissions

Baseline Calculation - Residential

- 11.53 The parameters set out in Table 11.4 have been used to calculate the energy demand of the residential and non-residential sections of the Proposed Development. These figures have then been converted to CO₂e for use in this assessment. More details of the energy requirements that support the assessment can be found in the Energy Strategy for the Proposed Development.

Table 11.4: Summary of the parameters and assumptions used to develop the baseline scenario

Element	Calculation Method and Assumptions
Property Types and Floor Areas	The square meterage of residential space per floor ranges from just below 400m² at the lower end (i.e. lower floors where use is shared with non-residential space and upper floors where building footprint diminishes) to 936m² at the upper end (floors 2-13). There are a number of different apartment types proposed to be built within the building. The total space attributable to residential space within the entire building is 19540m². Compared to a GIA of 26,351m². The two retail units have areas of 122m² and 89m². Although use of these final units has yet to be determined, for the purpose of the energy benchmarks in the assessment, the larger one has been assumed to be a small food store and the

Element	Calculation Method and Assumptions
	smaller one a clothes shop.
Regulated Energy Use	In the absence of detailed SAP assessments, the baseline energy use has been estimated from information provided in the energy statement in association with a representative SAP assessment for a typical 'apartment', consistent with Part L1A of the Building Regulations. The Energy Statement provided an average Target Emissions Rate (TER) for the entire property that has been used to estimate energy and emissions based on total residential floor area and a series of assumptions about how the emissions are comprised. The TER sets a minimum allowable standard for a notional building of the same size and shape to the proposed building. The TER is the emissions rate that must be met under the Regulations, therefore forming an appropriate baseline compliant with the EIB methodology.
Unregulated Energy Use	Unregulated energy use in dwellings is largely influenced by occupancy, lifestyle, hobbies and human behaviour and is therefore highly variable between dwellings. A projection on unregulated energy is applied to include cooking activities and appliance use based on the unregulated energy use formulas within SAP 2012.
Total Energy Use	The regulated and unregulated energy use are combined to provide the total energy requirements for the residential sections of the Proposed Development. For the commercial elements, which are based on energy benchmarks, there is no breakdown of regulated and unregulated energy available, so only total energy use and associated emissions are presented.

- 11.54 Once a baseline scenario has been established, the absolute emissions (Ab) of the Proposed Development are calculated. Table 11.5 provides details of the databases and calculations used in establishing the actual energy use. The property types, floor areas and build mix remain the same as used in the baseline calculation, along with assumptions for residential unregulated energy production.

Table 11.5: Summary of the parameters and assumptions used to calculate absolute energy use

Element	Calculation Method and Assumptions
Energy Use	The emissions for the Proposed Development have been modelled using the average DER which was provided in the energy statement and the residential floor area. This figure has also been used to estimate the absolute energy requirements of the residential element of the site. Absolute energy use and emissions have also been estimated for the small amount

Element	Calculation Method and Assumptions
	of retail space on Site. Data sets obtained from the baseline assessment have been scaled down to meet the emission reduction targets outlined in the Future Homes Standard and Future Building Standard, these targets are groundings for future developments and are expected to be met by the applicant.

Emission Calculation

- 11.55 Once the operational electricity and fossil fuel use have been calculated for the Proposed Development, the CO_{2e} emissions can be predicted. The emissions are projected each year for the modelled operational period of 80 years. It is noted that the Proposed Development does not have a predetermined end of life or demolition plan, however, for the purpose of the assessment a defined time-period was selected to quantify emissions.
- 11.56 The projection relies upon CO_{2e} conversion factors for grid electricity and fossil fuels provided by The Department for Business, Energy and Industrial Strategy (BEIS) publications on UK energy demand and greenhouse gas emissions in the form of energy and emissions projections.
- 11.57 Between the 1990 baseline and 2018, the UK cut emissions by 346 MtCO_{2e} or 43%. The 2019 EEP projections indicate that emissions will fall a further 24% to 344 MtCO_{2e} in 2040.¹³ This projection of emission reduction has been used to help inform the modelling of future emissions associated with the development.
- 11.58 It is possible that the gas network may decarbonise to some extent, with injection of hydrogen and/or bio-methane displacing some of the natural gas. However, this is less certain than the decarbonisation of the electricity grid. For the purpose of this assessment the carbon intensity of the gas network has been assumed to remain constant over the next 80 years.
- 11.59 The CO_{2e} conversion factor for grid electricity is likely to decline over time due to the decommissioning of coal fired power stations and the continuing deployment of renewable energy technologies, natural gas generation and nuclear generation. Therefore, the CO_{2e} conversion factor for grid electricity is based on the long-term grid average projections to 2035, followed by an assumed linear decline to net zero emissions from the grid by 2050. Post 2050 it is assumed that grid electric will be zero carbon. It should be reiterated that this projection is based on a number of assumptions and could considerably under or overestimate the rate of decarbonisation, which will have a significant effect on the overall emissions associated with the development over an assumed 80year lifetime.
- 11.60 Emissions are calculated by multiplying the total energy demand in kWh by the associated electricity/natural gas conversion factor.

¹³ The Department for Business, Energy and Industrial Strategy (BEIS) (October 2020) 'Updated energy and emissions projections 2019.'

- 11.61 In terms of GHG emissions, the Proposed Development is assessed for its “relative emissions (Re)” or net emissions which is expressed as the difference between absolute emissions generated by the Proposed Development and the baseline emissions.

$$\text{Relative Emissions (Re)} = \text{Absolute Emissions (Ab)} - \text{Baseline Emissions (Be)}$$

Significance Criteria

- 11.62 For the purpose of this assessment, impacts that are deemed to be significant are those described as minor, moderate or major in adverse scenarios, and in beneficial scenarios that exceed the local policy. This goes beyond the standard EIA practice and represents a strict and conservative approach, which aligns with the magnitude of climate change as an issue, and local policy targets to reduce carbon emissions beyond Building Regulations. The significance criteria are provided in Table 11.6.

Table 11.6: Significance Criteria

Relative Emissions Compared to Baseline	Nature of Impact	Magnitude of Impact	Significance
Over 25% higher	Adverse	Major	Significant
Up to 25% higher	Adverse	Moderate	Significant
Up to 15% higher	Adverse	Minor	Significant
Up to 5% lower or no higher	Neutral	Neutral	Not Significant
Up to 15% lower	Beneficial	Minor	Not Significant
Up to 25% lower	Beneficial	Moderate	Significant
Over 25% lower	Beneficial	Major	Significant

- 11.63 All emissions that have an adverse impact are significant because this outcome would indicate that the Proposed Development will fail to meet the minimum requirements set out in Building Regulations. Emissions from a proposed development that fall more than 5% below the baseline can be classed as beneficial as this would indicate that building efficiency and energy use voluntarily exceeds statutory regulation requirements.
- 11.64 To avoid misinterpretation, it is important to understand the justification, but also the limitation, behind the use of this significance criteria. It leads to a robust method for comparing likely emissions arising from the Proposed Development, relative to the baseline of a similar ‘typical’ development. For planning purposes, where it is important to weigh the benefits of one development against another this is a useful and practical approach. The alternative approach, which arguably holds to a stricter interpretation of the absolute impacts of the Proposed

Development, is to take the baseline to be the 'no development' scenario. If this latter approach were to be adopted, then almost any form of development would result in increased levels of carbon emissions and would be considered to cause adverse (and most likely significantly adverse) impacts. As such, it would be much more difficult to identify whether a particular developer was making a genuine attempt to reduce emissions beyond the requirements of standard regulatory policy.

Assumptions/Limitations

- 11.65 Unregulated energy use could vary substantially when the Proposed Development is operational, but it is not possible to accurately predict this energy use and a reasonable allowance has been made to account for this based on methodology used in SAP assessments and energy benchmarks. The same unregulated energy use has been modelled in both the baseline and absolute scenarios to represent the same behavioural traits of residents.
- 11.66 Hydrogen and fuel cell technologies have significant potential to enable a transition to a clean, low-carbon energy system and reduce energy demands from natural gas. The use of hydrogen is expected to grow rapidly in coming years. However, the uncertainties associated with this technology means that it is difficult to quantify the emission savings at this stage and modelling of fossil fuel use from natural gas does not currently account for these changes.
- 11.67 There are currently limited resources able to give the annual energy demand of given building types and uses with improvements made in their energy efficiency. Therefore, this assessment models an increase in energy efficiency of the Proposed Development based upon our experience of what is sensible and achievable.

Consultation

- 11.68 The method for the assessment is in accordance with current guidance and industry best practice. As part of the EIA process, a scoping request setting out the general methodology by which this assessment would be undertaken was submitted to Manchester City Council. The scoping response agreed to this approach. No further direct consultation with Manchester City Council has taken place in relation to the Climate Change assessment for this planning application.

Baseline Conditions

Local Greenhouse Gas Emissions

- 11.69 The UK Government local authority and regional carbon dioxide emissions national statistics¹⁴ provides a reliable and consistent breakdown of CO₂ emissions across the country, using nationally available data sets going back to

¹⁴ National Statistics, UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2019, UK local authority and regional estimates of carbon dioxide emissions (published June 2021), <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019>.

2005. The datasets include all emissions from industry, agriculture, forestry, commercial activities, domestic residential and transport. Manchester City district covers an area of 115.6 km² and the latest 2019 figures estimate that the region generates 2019.8 ktCO₂ each year. This equates to 3.7 tCO₂ per capita. Emissions currently arising in the local area are likely to be generated from surrounding residential areas and local commercial premises, such as Scottish & Newcastle UK Ltd's Royal Brewery. The existing major road links, as well as minor roads, contribute considerably to existing local emissions producing 92% of all transport emissions and 33% of all emissions in the district.

Site Emissions

- 11.70 Construction emissions in the baseline are estimated based on the Applicant's predictions of total construction costs for the as a whole to be £65million and from this figure the emissions arising from construction processes have been estimated as 910 tCO₂e. A further 10% has been estimated (91 tCO₂e) to be associated with the demolition works required on site prior to construction.
- 11.71 The baseline operational energy demands projected for the application are shown below in Table 11.7 and the associated emissions in Table 11.8.

Table 11.7: Projected Annual Baseline Energy Demands for Development

Build Type	Component	Heat Energy (Gas) (MWh/yr)	Electric Energy (MWh/yr)	Total Energy (MWh/yr)
Residential	Regulated	1,860	193	2,053
	Unregulated	87	227	314
	Total	1,947	420	2,367
Commercial	Total	16	70	85
All Development	Total	1,963	490	2,452

Table 11.8: Projected Baseline Emissions for the Development (Year 1)

Build Type	Component	Gas Emissions (tCO ₂ e/yr)	Electric Emissions (tCO ₂ e/yr)	Total Emissions (tCO ₂ e/yr)
Residential	Regulated	402	42	444
	Unregulated	18	50	68

Build Type	Component	Gas Emissions (tCO ₂ e/yr)	Electric Emissions (tCO ₂ e/yr)	Total Emissions (tCO ₂ e/yr)
	Total	420	92	512
Commercial	Total	3	15	19
All Development	Total	423	107	531

11.72 The total energy and CO_{2e} emissions have been projected for the baseline Proposed Development's 80-year operational lifespan for the Detailed element and are indicated in Table 11.9. These are calculated to account for the projected electricity grid decarbonisation, which means the annual emissions figure will not be a static number. It also better accounts for the full impact of the project in terms of its likely emissions.

Table 11.9: Projected Baseline Emissions over the Proposed Development's 80-year Operational Lifespan

Build Type	Component	Gas Emissions (tCO ₂ e/yr)	Electric Emissions (tCO ₂ e/yr)	Total Emissions (tCO ₂ e/yr)
Residential	Regulated	32,141	587	32,728
	Unregulated	1,503	690	2,193
	Total	33,644	1,277	34,921
Commercial	Total	269	212	480
All Development	Total	33,913	1,489	35,401

Embedded Mitigation

Demolition and Construction

11.73 It is assumed that all parts of the Proposed Development will be built following best practice construction methods to limit the immediate impacts on the surrounding area. This includes the use of durable and sustainable materials with a reduced carbon footprint, that can be locally procured and/or are recyclable. It is recommended that the material life cycle of suitable options be considered in the decision-making process to mitigate emissions associated with the production and consumption of new materials.

Completed Development

11.74 All elements of the Proposed Development will be built to Building Regulations.

11.75 The following paragraphs have been reproduced from the Energy Statement prepared by Turley to accompany the planning application and detail a number of emission-saving measures that have been incorporated into the design of the project through the application of the energy hierarchy.

“Central to the delivery of low carbon and energy efficient buildings is the ‘fabric first’ principle which recognises the most effective way of minimising carbon emissions is to reduce the demand for heat and power through a well-insulated, energy efficient building fabric and services.

“Reducing the primary energy demand of a building through the use of an efficient fabric and services is widely regarded as best practice and is therefore the first and most important step to reducing carbon emissions.

“This ‘fabric first’ approach has a number of distinct benefits including:

- Carbon savings delivered are ‘locked-in’ for the lifetime of the building (60 years or more) rather than the much shorter lifespan (around 25 years) of a renewable energy technology;*
- Virtually no maintenance and/or replacement costs to maintain carbon reductions through improved fabric;*
- No reliance on an occupier’s behaviour to deliver carbon reductions. Achieving carbon savings from renewable energy technologies require education, awareness and often, behavioural changes from occupants.*

“The following measures implemented within the design of the residential building to reduce energy use and carbon emissions:

- Specification of thermal insulation and air permeability standards to exceed the minimum standards contained within Part L 2013;*
- Incorporating high efficiency lighting targeting 100% of all light fittings as LED;*
- Mechanical Heat Recovery Ventilation (MVHR);*
- Use of smart space heating controls including integrated programmer and thermostat; and,*
- Waste Water Heat Recovery (WWHR).*

“The design of the Proposed Development will exceed the requirements of the current Building Regulations through a range of enhanced fabric and energy efficiency measures.”

In applying the “be green” principle from the hierarchy, “ASHPs have been incorporated as part of the all-electric building services strategy to deliver a further saving in carbon emissions.”

11.76 Although no quantification is provided of the energy savings each element will deliver to the development, the above mitigation measures are indicated to provide an average of 9.32% improvement in CO_{2e} emissions for the residential units. This figure is suggested to increase to “at least 20% improvement” once the latest emissions

factors are applied as it is widely recognised that the SAP 2012 emission factors in the current version of SAP are considerably outdated.

- 11.77 It is also acknowledged that by pursuing an all-electric heating strategy within the residential element, the development will benefit from considerable additional emission reductions as the electricity grid continues to decarbonise to 2050, when it is required to be zero carbon.
- 11.78 The residential parking spaces on the lower ground floors will accommodate energy efficient lighting and lighting controls in the parking areas, entrances and exits to improve lighting levels while also reducing energy use. Additionally, the use of natural ventilation, heat recovery and other sustainable technologies such as exhaust sensors that automatically turn fans on and off which can improve efficiency further and reduce fan runtime are expected to be adopted.
- 11.79 The development will support EV charging, the associated wiring and conduits will be built into structures such that 20% of parking spaces can be supported with EV charging stations, that is between 7 and 8 parking spaces out of the proposed 36.

Assessment of Impacts with Embedded Mitigation

- 11.80 It is well documented that human activities have, and continue to, cause changes in the Earth's surface and atmospheric composition. Radiative forcing from GHG emissions has been scientifically demonstrated to be a main driver of climate change, most notably the anthropogenic emissions since the Industrial Era that have resulted in an increase in GHG concentrations.
- 11.81 There is scientific agreement that carbon emissions arising from human activities must be reduced to mitigate the risks associated with the more severe long-term impacts of climate change. To achieve targets of limiting global warming to 1.5°C, renewables are projected to need to supply 70-85% of electricity in 2050 with average annual investment in low carbon energy technology and energy efficiency upscaled by a factor of five by 2050, compared to 2015. The potential risks associated with climate change will increase if these technologies are not implemented and the national grid is not decarbonised as far as possible.
- 11.82 The potential environmental impact of the Proposed Development is the release of greenhouse gas emissions into the environment as a result of construction and operational activities. This will have the effect of accelerating climate change and global warming. This section assesses the impact of the development on climate change when the embedded mitigation strategies outlined above are adopted.

Demolition and Construction

- 11.83 The methodology employed in this study does not account for the use of sustainably sourced materials in the emission model and thus construction baseline emissions are not adjusted for this. The applicant estimates the

total construction costs for the Proposed Development as a whole to be £65million and from this figure the emissions arising from construction processes have been estimated as 910 tCO₂e. A further 91 tCO₂e has been estimated to be associated with the demolition works on site prior to construction giving a total for the demolition and construction phase of 1,001 tCO₂e.

11.84 Emissions arising from construction could be associated with:

- Diesel combustion associated with on-site construction machinery, plant equipment and welfare facilities
- Embodied carbon associated with construction materials
- Fuel consumption associated with transport e.g., delivery of supplies, employee commuting during construction and vehicle movements of occupants

11.85 The emissions associated with the demolition and construction phase of the Proposed Development are deemed **not significant**, with a **negligible** impact compared to the baseline, assuming similar construction methods are employed in both cases.

Completed Development

11.86 The actual energy demands predicted for the operational phase of the development are as shown below in Table 11.10:

Table 11.10: Projected Total Energy Demands for Proposed Development

Build Type	Component	Heat Energy (Gas) (MWh/yr)	Electric Energy (MWh/yr)	Total Energy (MWh/yr)
Residential	Regulated	-	1,826	1,826
	Unregulated	-	333	333
	Total	-	2,159	2,159
Commercial	Total	14	62	76
All Development	Total	14	2,221	2,235

11.87 This equates to the following emissions (Table 11.11) and achieves a predicted 9% improvement compared to the annual baseline emission projections in Table 11.8.

Table 11.11: Projected Total Annual Emissions for Proposed Development

Build Type	Component	Gas Emissions (tCO ₂ e/yr)	Electric Emissions (tCO ₂ e/yr)	Total Emissions (tCO ₂ e/yr)
Residential	Regulated	-	400	400
	Unregulated	-	73	73
	Total	-	473	473
Commercial	Total	3	14	17
All Development	Total	3	487	490

- 11.88 It is assumed that the Proposed Development will be operational for at least 80 years, and, given the all-electric heating strategy for the residential elements and taking into account the projected decarbonisation of the National Grid over this timeframe, the Proposed Development is expected to save 80% of its operational emissions compared to the TER. This equates to 28,881 tCO₂e over the lifetime from the project (see Table 11.12). Achieving this level of reduction relies on full grid decarbonisation.

Table 11.12: Projected Total Emissions over 80-year operational lifespan for the Proposed Development

Build Type	Component	Gas Emissions (tCO ₂ e/yr)	Electric Emissions (tCO ₂ e/yr)	Total Emissions (tCO ₂ e/yr)
Residential	Regulated	-	5,551	5,551
	Unregulated	-	1,011	1,011
	Total	-	6,562	6,562
Commercial	Total	269	188	475
All Development	Total	269	6,750	7,037

- 11.89 Unregulated energy use is, by definition, difficult to manage and control. Efforts will be made to encourage new homeowners to make behavioural shifts to reduce their energy use where possible and to choose energy efficient devices and appliances where opportunities exist. This will reduce the overall emissions arising from the Proposed Development.

- 11.90 The relative emissions associated with the Proposed Development are deemed to be **minor beneficial, not significant**, on an annual basis (using current emission factors) but **major beneficial, significant** over its long-term lifetime, compared to a similar development that was not using the same energy strategy.

Additional Mitigation / Enhancement Measures

Demolition and Construction

- 11.91 No additional mitigation measures associated with the construction phase are proposed.
- 11.92 There are numerous standards that a contractor is expected to commit to during the construction. Prior to construction commencing, a Construction Environmental Management Plan (CEMP) and Waste Management Plan can be secured by condition which brings together these standards with site specific prescriptions. This can reduce the impacts on the environment during the construction and operation processes and ensure the design allows capacity for effective waste management for residents.

Completed Development

- 11.93 No additional mitigation measures are proposed associated with the operational phase.
- 11.94 It is noted that the incoming Future Homes and Buildings Standards will place a much higher obligation on developers to reduce emissions. It is expected that this development will be delivered prior to those requirements taking effect.

Likely Residual Impacts of the Development and their Significance

- 11.95 The Proposed Development will result in the emission of GHGs, which is a long term and permanent impact contributing to global warming and climate change.
- 11.96 The assessed impact is purely in relation to the Applicant meeting Building Regulations. This should not be interpreted as the Proposed Development having no contribution towards climate change because, as explained in paragraph 11.63, all developments will emit emissions that will have an adverse impact on climate change. Even though the development is assessed to provide a beneficial impact, i.e. the Applicant meets or exceeds emissions targets within policy or pursues further action and commitment to sustainable development, the development will still contribute to climate change and global warming.
- 11.97 There will be emissions arising from the initial demolition works and construction of the Proposed Development which are difficult to quantify accurately at this early stage without more detailed information. The high-level estimated figure of 1,001 tCO₂e produced based on the UK average building construction site emissions provides an indication of the possible impact. The Proposed Development will actively seek to reduce impacts from the construction phase by employing good construction methods.

Table 11.13: Residual Impacts Summary

Cause of Impact	Potential impact including significance	Mitigation	Residual Effect including significance
Construction and Demolition			
All Construction and Demolition Activities	Negligible – Not Significant	Best Practice Construction Methods	Minor Beneficial – Not Significant
Completed Development			
Energy Efficiency of Buildings (Lifetime)	Major Beneficial – Significant	None	Major Beneficial – Significant

Part B: Assessment of Climate Resilience

Approach

Assessment Methodology

- 11.98 The IEMA guidance 'Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation' (2020) explains how our climate is changing but there remains uncertainties in the magnitude, frequency and spatial occurrence, either as changes to average conditions or extreme conditions, which generally makes it difficult to assess the impacts of climate change in relation to a specific project. Therefore, scientific assumptions must be made in order to assess the resilience of new developments to any future changes in climate.
- 11.99 Climate Change projections for the UK (UKCP18) are based on global climate simulation models to explore regional responses to climate change. UKCP18 considers the effects arising from a series of emissions scenarios and Representative Concentration Pathways (RCP) which project how future climatic conditions in the UK are likely to change at a regional level, taking account of naturally occurring climate variations. Probabilistic projections provide a range of possible climate change outcomes and their relative likelihoods (ranging across 10th to 90th percentiles).

Climate Change Projections

Climate Scenarios and Timelines Considered

- 11.100 The Proposed Development was assessed against a low, medium, and high emissions scenario to allow for comparisons between best and worst case across the projected 80-year 'lifetime' of the project. The Representative Concentration Pathways (RCP) show how the climate could change up to the year 2100, compared to a 1982-2000 baseline.

- 11.101 The Proposed Development is expected to be built out in the next few years, with full site completion anticipated by the end of 2023 subject to planning permission. Therefore, UKCP18 climate projections for the 2030s, 2050s, 2070s and 2090s time periods were selected to correspond with the proposed timescales for the Proposed Development's construction and operational phases. The conservative approach recommended as best practice by the IEMA guidance (2020) is to use the central estimate (50th percentile) for the high emissions scenario (RCP8.5) to establish the likely worst-case changes to climatic conditions. This assessment considers the regional variations in north-west England during these periods. A reference range is provided in each case, using the 10% probability level as a lower limit and the 90% probability level as an upper limit. These scenarios and probability levels were used to provide credible projected changes including an indicative level of uncertainty.
- 11.102 A summary of a range of projected changes to climate variables will be provided which can be used to build up a holistic view of future climate and assess potential impacts. According to UKCP18, relative probabilities for specific outcomes are typically much higher near the 50% cumulative probability level (median) of the distribution, than for outcomes lying either below the 10% cumulative probability level or above the 90% cumulative probability level.

Sensitivity

Climate Vulnerability and Sensitivity of Receptors

- 11.103 Potential receptors within elements of the project relevant to the location, nature and scale of the development have been identified and receptor groups include:
- Buildings and infrastructure receptors (including equipment and building operations);
 - Human health receptors (e.g., construction workers, occupants and site users);
 - Environmental receptors (e.g., habitats and species); and
 - Climatic systems.
- 11.104 The IEMA guidance (2020) describes the sensitivity of the receptor/receiving environment as *"the degree of response of a receiver to a change and a function of its capacity to accommodate and recover from a change if it is affected."* Therefore, in line with the IEMA guidance, the following factors have been considered to ascribe the sensitivity of receptors in relation to potential climate change effects:
- Value or importance of 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).
- 11.105 The susceptibility and vulnerability of the receptor is determined using the following scales:

Table 11.14: Criteria for determining Susceptibility of Receptors.

Susceptibility	
Low	Receptor has the ability to withstand or not be altered much by the projected changes to the existing/prevaling climatic factors.
Medium	Receptor has some limited ability to withstand or not be altered by the projected changes to the existing/prevaling climatic conditions.
High	Receptor has no ability to withstand or not be substantially altered by the projected changes to the existing/prevaling climatic factors.

Table 11.15: Criteria for determining Vulnerability of Receptors.

Vulnerability	
Low	Climatic factors have little influence on the receptors.
Medium	Receptor is dependent on some climatic factors but able to tolerate a range of conditions.
High	Receptor is directly dependent on existing/prevaling climatic factors and reliant on these specific existing climate conditions continuing in future or only able to tolerate a very limited variation in climate conditions.

Significance Criteria

11.106 In line with the IEMA guidance (2020), a combination of probability and consequence is used to reach a reasoned conclusion on the magnitude of the effect of climate change on the Proposed Development. The IEMA guidance states that magnitude is based on a combination of:

- Probability, which takes into account the chance of the effect occurring over the lifespan of the development if the risk is not mitigated; and
- Consequence, which reflects 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.

11.107 Project lifetime is considered to include construction and operational stages and is taken to be 80 years for this assessment of climate risk. A likelihood category is assigned from in Table 11.16 below based on the probability

of the regional climate effect identified using the future climate baseline. From this, the consequence of impact is determined as indicated in Table 11.17 (also below).

Table 11.16: Criteria for Assessing Likelihood of Impact

Likelihood Category	Description (Probability and Frequency of Occurrence)
Very High	The event occurs multiple times during the lifetime of the project (assumed 80 years), e.g., approximately annually, typically 80 events.
High	The event occurs several times during the lifetime of the project (80 years), e.g., approximately once every five years, typically 16 events.
Medium	The event occurs limited times during the lifetime of the project (80 years), e.g., approximately once every 15 years, typically 5 events.
Low	The event occurs during the lifetime of the project (80 years), e.g., once in 80 years.
Very Low	The event may occur once during the lifetime of the project (80 years).

Table 11.17: Criteria for Assessing Consequence of Impact

Consequence of Impact	Description of Impact
Extreme Adverse	National-level (or greater) disruption lasting more than 1 week.
Major Adverse	National-level disruption lasting more than 1 day but less than 1 week. OR Regional-level disruption lasting more than 1 week.
Moderate Adverse	Regional-level disruption lasting more than 1 day but less than 1 week.
Minor Adverse	Regional-level disruption lasting less than 1 day.
Negligible	Isolated disruption to the immediate locality lasting less than 1 day.

11.108 The IEMA guidance (2020) denotes that it is likely that if the probability and/or consequence of the effect is high then the magnitude of the effect would also be high. The significance of this impact on the Proposed Development will be determined using the Significance Matrix for Climate Resilience in Table 11.18 below and assessed in conjunction with the Significance Criteria for determining the impact of the Proposed Development on climate change.

Table 11.18: Significance Matrix for Assessing Climate Resilience

Significance Matrix for Assessing Climate Resilience		Measure of Likelihood				
		Very Low	Low	Medium	High	Very High
Measure of Consequence (Impact)	Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Minor (Not Significant)	Minor (Not Significant)
	Minor	Negligible (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant)
	Moderate	Minor (Not Significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant)	Moderate (Significant)
	Major	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant)	Substantial (Significant)	Substantial (Significant)
	Extreme	Moderate (Significant)	Moderate (Significant)	Substantial (Significant)	Substantial (Significant)	Substantial (Significant)

Assumptions/Limitations

- 11.109 The IEMA guidance (2020) explains how our climate is changing but there remain uncertainties in the magnitude, frequency and spatial occurrence, either as changes to average conditions or extreme conditions, which generally makes it difficult to assess the impacts of climate change in relation to a specific project. Therefore, assumptions about the likelihood of the various climate projections must be made in order to assess the resilience of new developments to any future changes in climate and the uncertainty involved remains a limitation of the assessment. In part, WA has relied on the technical assessments undertaken by other experts contributing to the EIA and the other environmental documents supporting the planning application. This includes the list of documents provided in Paragraph 11.3.

Baseline Conditions

- 11.110 England is classified under Köppen Geiger as having a 'Cfb' climate, more commonly known as a temperate oceanic climate. These are typically mid latitude climates with warm summers and mild winters. The average temperature in all months will be below 22°C and there is not an identifiable dry/wet season i.e. precipitation rates are similar year-round. The average temperature in Manchester ranges from 4°C in the winter up to 16° in the summer. The city experiences between 10-12 days of rainfall per month, all year round, with most rain falling in December and least rain falling in April.

Global Climate Change Projections

11.111 Table 11.19 highlights the main projected global climate change issues.

Table 11.19: Projected global impacts of climate change

Climate Change Issue	Projected Global Impacts
Solar Radiation	Long term projected changes in surface solar radiation, as a result of global warming, would suggest a decrease in available solar power due to a decrease in downwelling shortwave radiation, likely linked to the increase of water vapour ^(xxi) . This is considered to be anthropogenic strengthening of “natural” decadal variability in irradiance, known as global dimming and brightening, which is influenced by synoptic weather patterns, cloud variations and atmospheric aerosols ^(xxii) .
Heat Waves	The IPCC ^(xxiii) predict that temperature extremes will increase more rapidly than global mean surface temperature, with the number of hot days projected to increase in most land regions. In the 1.5°C warming scenario heat waves in mid latitudes could warm by up to 3°C.
Extreme Rainfall and Flooding	IPCC and Met Office ^(xxiv) both suggest a general uncertainty in the projection of changes in heavy precipitation for the UK due to position in the transition zone between north and south Europe’s contrasting projected changes. It is generally agreed the northern parts of the UK will experience overall increases of up to 10%, whilst southern areas may experience decreases of up to 5%. Overall, the UK is expected to see a general increase in precipitation trends up to 2100.
Rising Sea Levels	The most recent modelling indicates global sea level rise of 0.26-0.77m by 2100, under a 1.5°C warming scenario ^(xxv) . Risk is amplified on small islands and in low lying coastal areas and deltas.
Storms and Winds	Atmospheric circulations have large variability across interannual through to decadal time scales, which makes forming projections with any reasonable confidence very difficult. There is more robust evidence in the Northern Hemisphere that since the 1970s there has been a general poleward shift of storm tracks and jet streams and near-surface terrestrial wind speeds have been declining by approximately 0.1-0.14 m s ⁻¹ per decade across land ^(xxv)
Cold Spells and Snow	It has been observed the spring snow cover has been continuing to decrease in extent in the Northern Hemisphere and that cold temperature extremes are projected to decrease along with the number of frost days ^(xxvi) .

Regional Climate Change Projections

11.112 The UKCP18 dataset ^(xxvii) provides future climate projections for land and marine regions as well as observed climate data for the UK. Analysing time series plume from UKCP18 provides an indication of climate projections for the regional 25km grid that encompasses the site in Manchester. The UKCP18 projections make use of new standardised emissions scenarios called Representative Concentration Pathways (RCP) which are used in the IPCCs latest 5th assessment report and specify the time-dependant greenhouse gas concentrations to 2100. The

RCPs themselves are based on several social and economic assumptions, as well as the degree to which countries choose to reduce their GHGs in the future. The RCPs are used to analyse how different emission scenarios could affect climate projections. These range from RCP2.6 where atmospheric emission concentrations are strongly reduced through to the worse-case scenario, RCP8.5, where emission concentrations continue to rise unmitigated. The projected climate change scenarios showing the various mean and maximum air temperatures and precipitation rates are depicted in **Figure 11.1-Figure 11.6**.

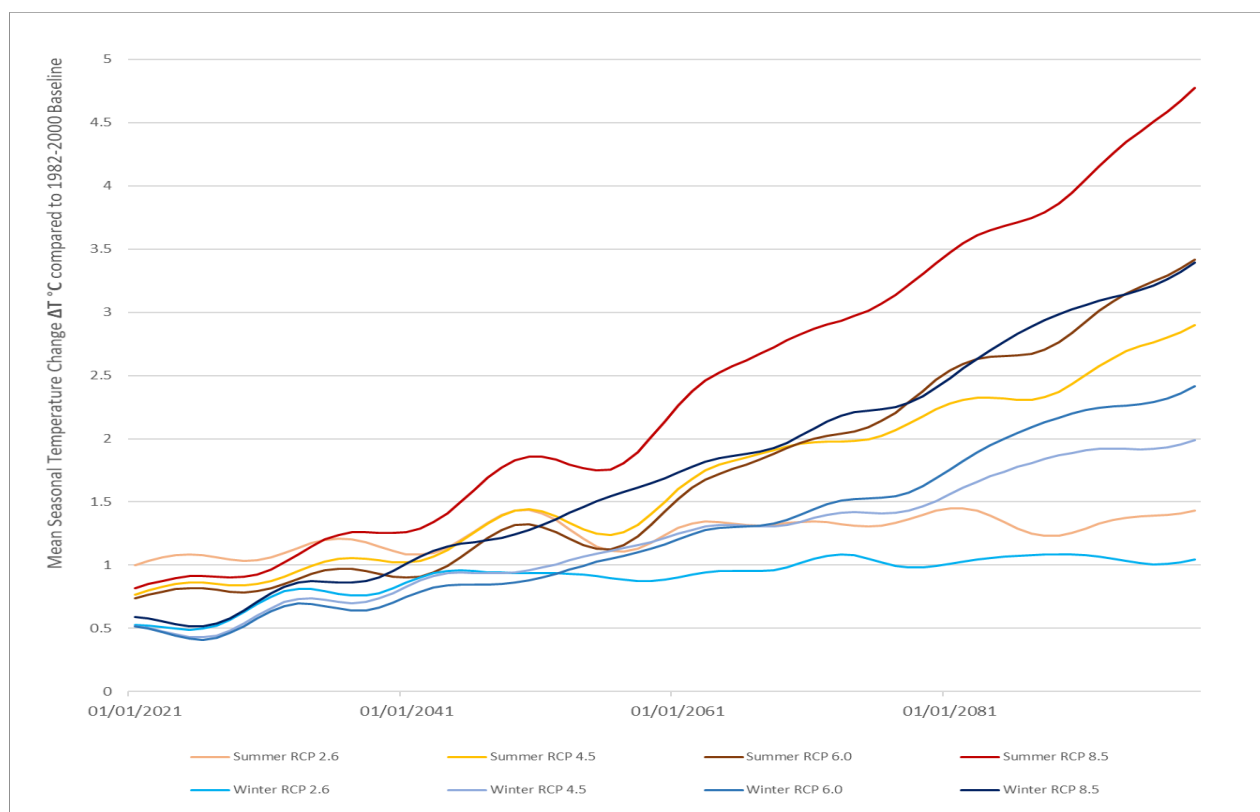


Figure 11.1 Projected changes in seasonal mean air temperature across four RCP scenarios, from 2021-2100 compared to the 1981-2000 baseline, using the probabilistic projections (50th percentile).

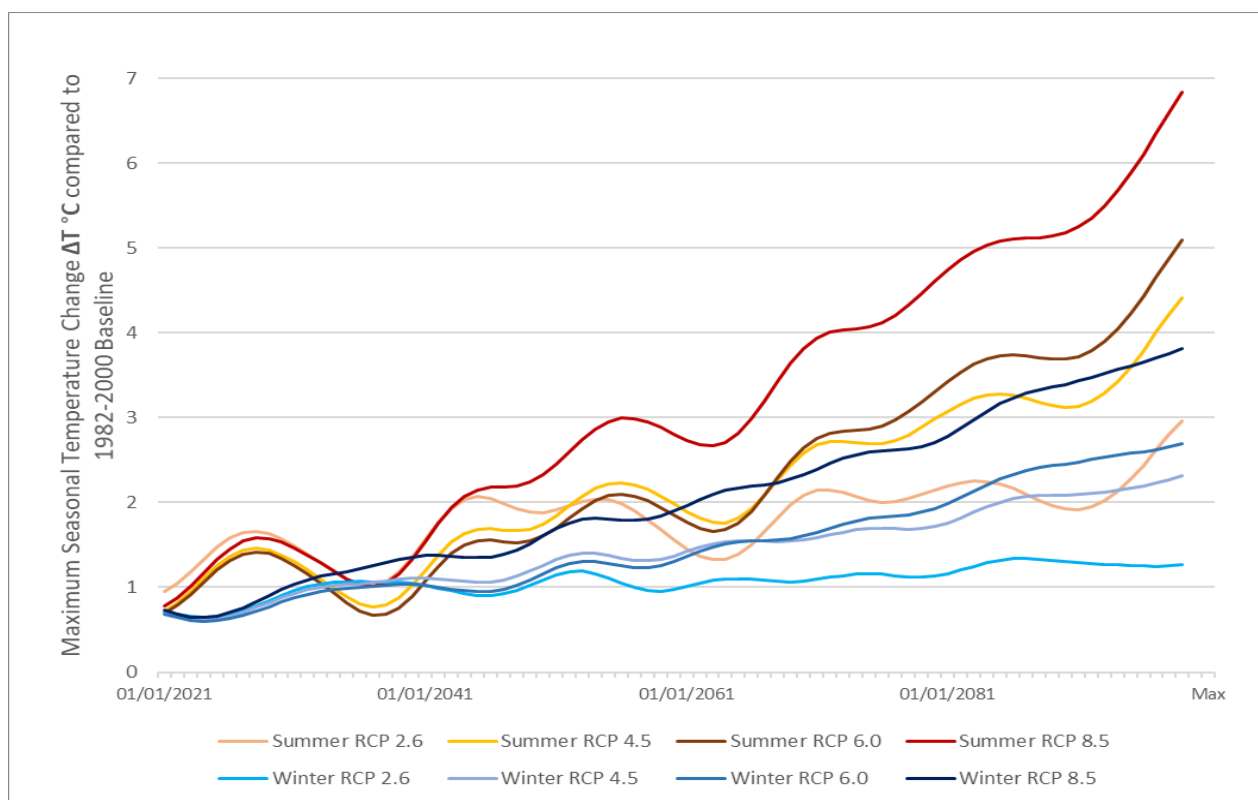


Figure 11.2: Projected changes in seasonal maximum air temperature across four RCP scenarios, from 2021-2100 compared to the 1981-2000 baseline, using the probabilistic projections (50th Percentile).

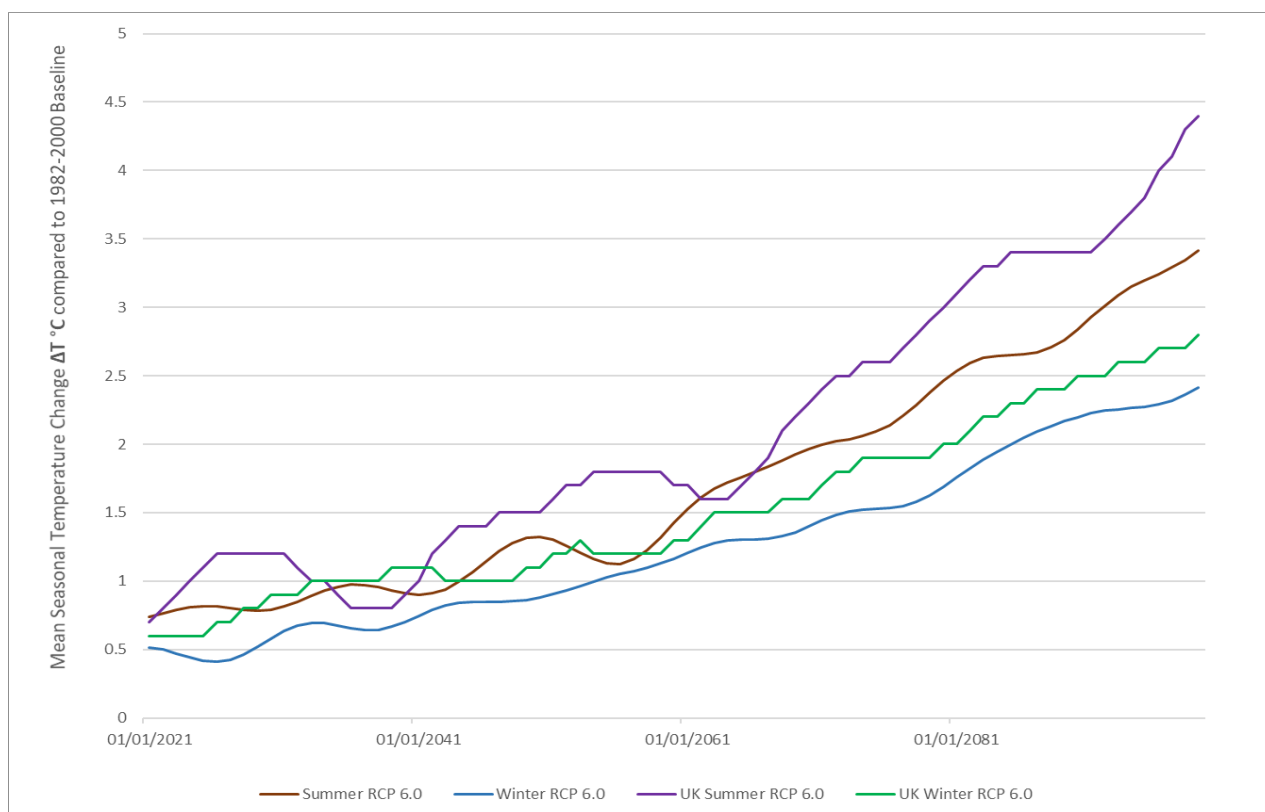


Figure 11.3 Projected changes in summer and winter mean air temperature for the RCP 6.0 scenario, from 2021-2100 compared to the 1981-2000 baseline, using the probabilistic projections (50th percentile). Comparison against UK average under the same modelling conditions.

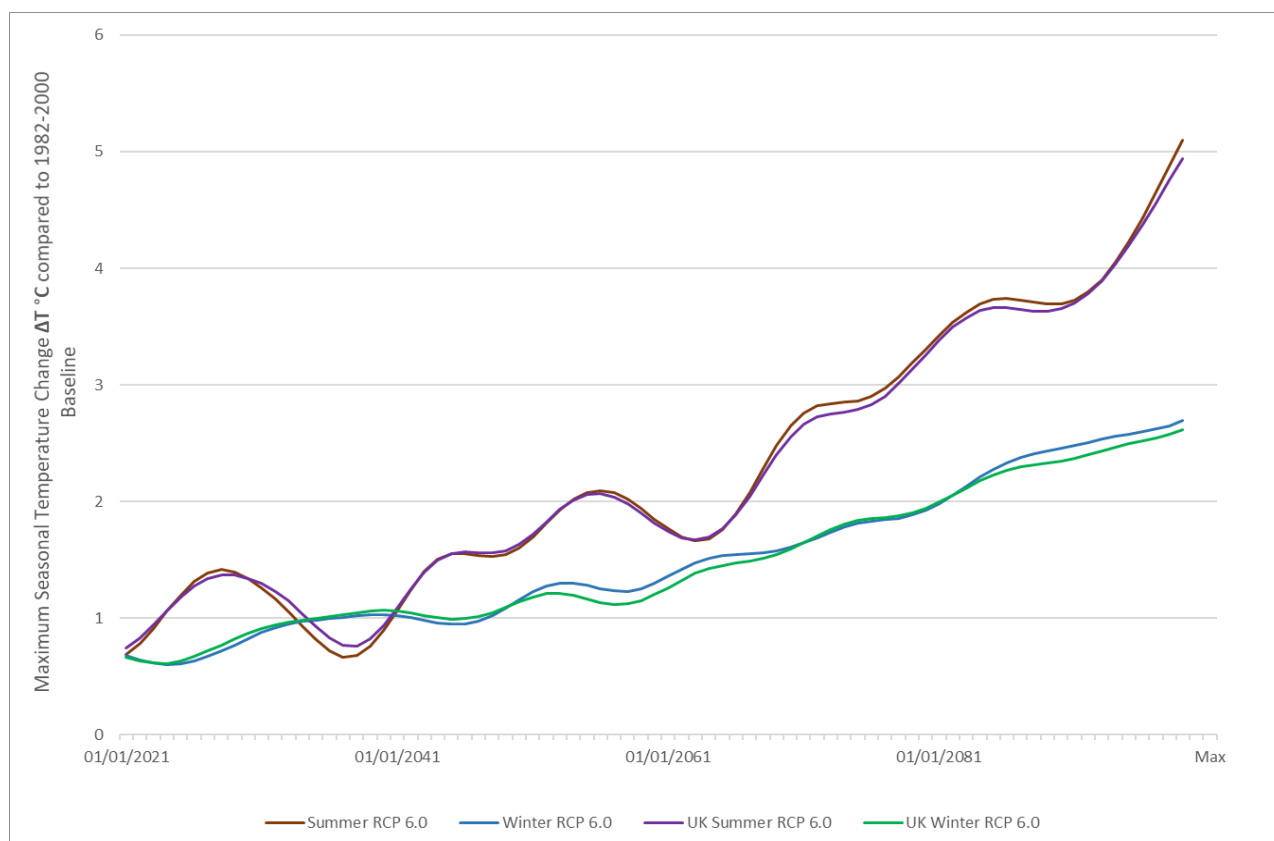


Figure 11.4: Projected changes in summer and winter maximum air temperature for the RCP 6.0 scenario, from 2021-2100 compared to the 1981-2000 baseline, using the probabilistic projections (50th percentile). Comparison against UK average under the same modelling conditions.

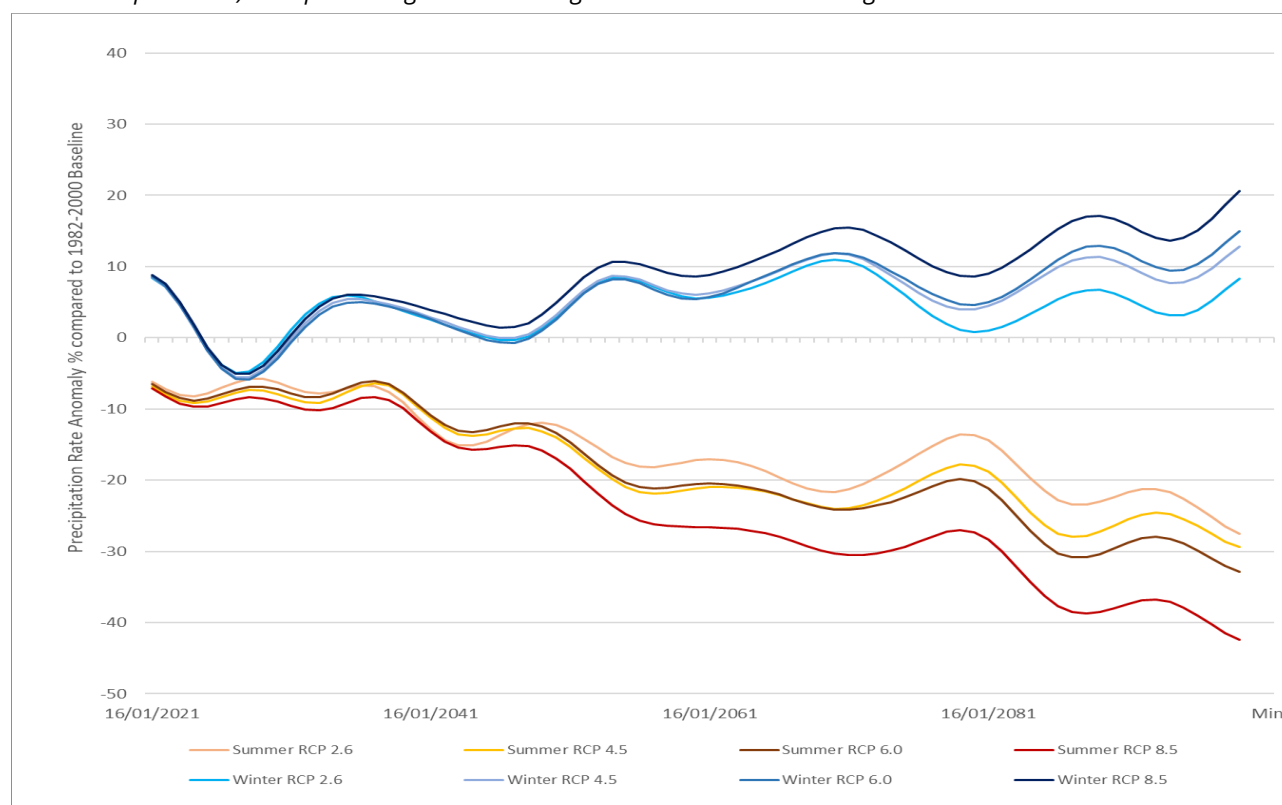


Figure 11.5: Seasonal average precipitation rate anomaly (%) for 2021-2100 compared to the 1981-2000 baseline for all RCP scenarios using probabilistic projections (50th percentile).

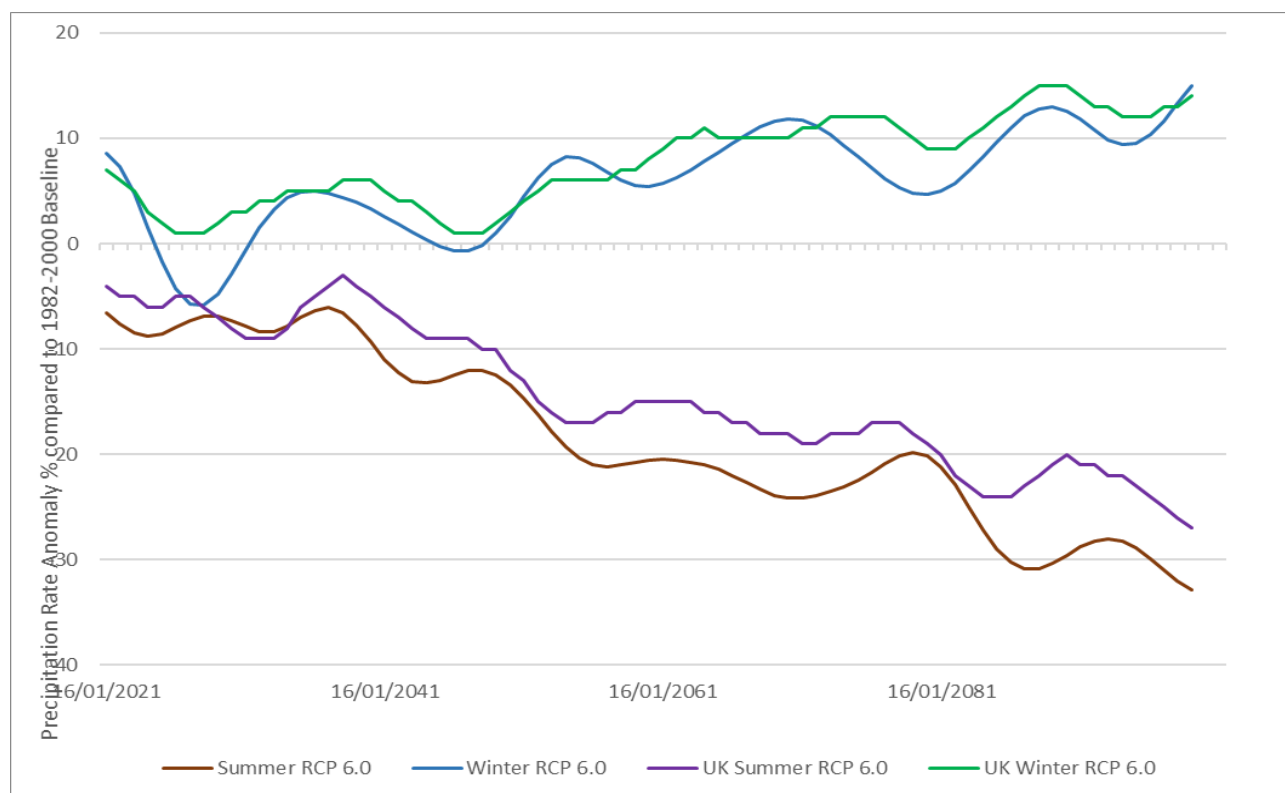


Figure 11.6: Seasonal average precipitation rate anomaly (%) for 2021-2100 compared to the 1981-2000 baseline for the RCP 6.0 scenario using probabilistic projections (50th percentile). Comparison against UK average under the same circumstances.

- 11.113 Climate change projections for the site generally show a warming trend over both summer and winter months across all RCP scenarios indicated by progressive temporal increases in both mean and maximum seasonal temperatures to 2100. Mean seasonal summer temperatures for the middle emissions scenarios (RCP 4.5 and RCP 6.0) show a projected increase of approximately 1.3°C to 1.5°C by 2060, increasing to 2.9 °C to 3.4°C by the end of the century. Maximum summer temperatures follow a similar trend but with increased absolute changes. The pattern of change is broadly consistent with the UK average projections although summer temperatures projections are slightly lower for the site than the UK average.
- 11.114 Long term seasonal changes in precipitation patterns are also projected for the site. Across all RCP scenarios, albeit to varying degrees, summer precipitation levels are projected to decrease, and winter precipitation levels are projected to increase. For the middle emissions scenarios (RCP 4.5 and RCP 6.0), winter precipitation anomalies are projected to increase by approximately 5-6% by 2060 and approximately 13-15% by 2100. Summertime precipitation rate anomalies are projected to decrease by approximately 20-21% by 2060 and 30-33% by 2100. The seasonal changes projected are broadly consistent with the average changes projected for the UK as a whole although both the absolute winter and winter increases are slightly lower than the UK average.

Climate Baseline

11.115 A summary of a range of projected changes to climate variables is provided in Table 11.20 which can be used to build up a holistic view of future climate and assess potential impacts to determine a future climate baseline, using RCP8.5 as a conservative approach.

Table 11.20: Quantitative summary of the future baseline for key climatic variables in Manchester, UK.

Season	Variable	Time Period*	Projected change at				
			Lower Probability		Median	Higher Probability	
			5th percentile	10th percentile	50th percentile	90th percentile	95th percentile
Winter	Mean Temperature (°C)	2030s	-0.96	-0.59	0.71	2.00	2.37
		2050s	-0.48	-0.09	1.30	2.72	3.12
		2070s	-0.19	0.30	2.02	3.78	4.28
		2090s	0.41	0.98	2.95	5.02	5.58
	Mean Precipitation (%)	2030s	-32.7	-26.1	2.3	32.1	41.2
		2050s	-31.3	-23.4	5.8	37.8	49.8
		2070s	-27.6	-19.5	11.9	44.7	54.1
		2090s	-30.2	-20.3	14.5	53.5	65.2
Summer	Mean Temperature (°C)	2030s	-0.86	-0.44	1.02	2.51	2.92
		2050s	-0.44	0.02	1.66	3.39	3.89
		2070s	0.17	0.72	2.77	4.95	5.57
		2090s	0.83	1.51	4.01	6.72	7.50
	Mean Precipitation (%)	2030s	-59.6	-48.4	-9.0	40.8	54.3
		2050s	-65.2	-55.7	-18.9	42.8	52.1
		2070s	-77.5	-67.6	-28.4	48.5	60.9

Season	Variable	Time Period*	Projected change at				
			Lower Probability		Median	Higher Probability	
			5th percentile	10th percentile	50th percentile	90th percentile	95th percentile
		2090s	-85.8	-75.6	-36.4	53.2	66.0

Climate Change Vulnerability

11.116 The Design of Future Climate Report published in 2010 identified three broad risk categories to buildings from future climate change in the UK, which are:

- **Risk to comfort and energy performance:** warmer winters will reduce heating requirements, however the increased use of cooling systems in the summer will present a challenge to energy consumption and carbon emissions;
- **Risk to construction:** resistance to extreme conditions, detailing, and the behaviour of materials; and
- **Risk to water management:** management of water during both flooding and drought events, and changes in soil composition.

11.117 Combined, these categories can be considered climate change threats that could result in increased energy demands, economic losses and loss of life.

11.118 Climate change may result in variations in approach to general building design and construction in order to offer a higher degree of protection against the identified perils. Many of these improvements will be brought about using existing off-the shelf components that are in common use in other places around the world but may not previously have been considered necessary in parts of the UK. Such design improvements will be beneficial for the overall quality of the UK housing stock, although it may result in some additional costs for developers.

11.119 As well as seeking improvements in the construction techniques for buildings there will also be a need to improve various aspects of their operational performance to provide more resilience for residents and occupants.

11.120 At more localised levels the effects themselves can manifest in different ways and therefore the most appropriate strategies should be selected on a site-specific basis. A coastal village may be at most risk from sea-level rises and storm surges, while at inland locations the threat of heat waves or high winds might be more significant. Adaptation involves developing a resilience and a preparedness to deal with the likely consequences

of climate change. It is recommended that the Proposed Development needs to consider and mitigate against the likely climate impacts during the reserved matters design stage to increase resilience.

11.121 The UK Climate Change Risk Assessment (CCRA) 2017 identifies flooding and high temperature as posing the greatest risks to the built environment. In the interest of completeness, and to account for potential irregular, adverse extreme weather, this section will also cover reducing risk to snow and ice, however projections suggest that overall these will become a decreasing risk with climate change.

Table 11.21: Potential Effect of climate change on UK Development

Climate Change Issue	General Effect	Component/sub structure Effected
Soil Drying	Increase will affect water tables and could affect foundations in clay soils.	Increased risk of basement heave or subsidence, water ingress, consequential damage to finishes and stored items. Ground shrinkage can lead to failure of electrical, gas and water pipes, foundations and sub-structures.
Temperature	Maximum and minimum changes will affect heating, cooling and air conditioning costs. Frequency of cycling through freezing point will affect durability. Daily maximum and minimum temperature will affect thermal air movement.	Air conditioning/ heating/ cooling systems due to increased cooling/ decreased heating requirements. Overheating of mechanical and electrical equipment effecting lifespan, reliability and potential health and safety issues. Plastic materials will have a reduced lifespan. Structure/cladding/roofing membranes, sealants, pavements and roads have increased risk of cracking. Reduced capacity of overheated power lines. Building overheating (due to increased fabric efficiency and incorrect implementation). Solar PV modules work slightly less efficiently at high temperatures and some studies have shown that high temperatures can age the panels more quickly. Decreased labour productivity.
Relative Humidity	Increase will affect condensation and associated damage or mould growth.	Timber framed construction. Internal walls, finishes and stored items.
Precipitation	Increase and decrease will affect water tables; cleaning costs will be increased in winter, with associated redecoration requirements; durability and risk of water ingress will be affected by combination of precipitation increase and gales.	Increased damage to roofing and higher risk of failure, increased chances of flooding. Structure/cladding/roofing membranes and sealants have increased risk of cracking due to different moisture movements. Damage to foundations and basements. Delays in construction and increased costs. Increased risk of subsistence.
Gales	Increase will affect need for weather tightness, risk of water ingress, effectiveness of air conditioning, energy use, risk of	Increased damage to roofing and higher risk of failure.

Climate Change Issue	General Effect	Component/sub structure Effected
	roof failures.	
Radiation	Increase may affect need for solar glare control.	Window specification and glare control requirement.
Cloud	Increase/decrease in seasonal lighting needs.	Changes in lighting systems and glare control requirement.

Sensitivity of Receptors

11.122 The sensitivity of receptors has been determined through an assessment of the susceptibility and vulnerability of the Proposed Development to future climate changes. The level of likelihood for the climate change issue was also identified in Table 11.22 according to the future climate baseline outlined in Table 11.22.

Table 11.22: Assessment of Susceptibility and Vulnerability of Proposed Development to Future Climate

Climate Change Issue	Receptors Effected	Susceptibility	Vulnerability	Likelihood
Soil Drying	Residents, Structures, Habitats & Building Species	Low	Low	Medium
Temperature	Construction Workers, Residents, Structures, Species & Building Habitats	Medium	Medium	High
Relative Humidity	Residents, Structures & Building	Low	Medium	High
Precipitation	Construction Workers, Residents, Structures, Species & Building Habitats	Medium	Medium	High
Gales	Residents, Structures, Habitats & Building Species	Low	Medium	Medium
Radiation	Residents, Structures & Building	Low	Medium	Medium
Cloud	Residents	Low	Low	Medium

Magnitude of Effects

11.123 A qualitative assessment has been undertaken based on the data from UKCP18 identified in Table 11.21 to assess the magnitude of the effects of climate change. In line with the IEMA guidance, a combination of probability and consequence is used to reach a reasoned conclusion on the magnitude of the effect of climate change on the Proposed Development, as shown in Table 11.23. The IEMA guidance (2020) indicates that the greater the probability of an effect, the more likely it is to occur, and the higher significance effect it will have on the Proposed Development if these projected changes in climate are not considered at the outset of the project.

Table 11.23: Assessment of Magnitude of Effects on Proposed Development from Future Climate Baseline

Climate Change Issue	Likelihood	Consequence	Magnitude of Effects
Soil Drying	Medium	Minor Adverse	Minor Adverse
Temperature	High	Moderate Adverse	Moderate Adverse
Relative Humidity	High	Moderate Adverse	Moderate Adverse
Precipitation	Medium	Moderate Adverse	Moderate Adverse
Gales	Medium	Moderate Adverse	Moderate Adverse
Radiation	Medium	Moderate Adverse	Moderate Adverse
Cloud	Medium	Minor Adverse	Minor Adverse

11.124 The impact of changes to the future climate baseline for the Proposed Development has been assessed to be within the medium to high likelihood and have moderate adverse consequences over the long term. Taking into account the control mechanisms and mitigation measures in place through Building Regulations, which the Proposed Development would be expected to comply with as a minimum standard, the overall magnitude of effects is considered to be minor adverse for the 80-year lifetime of the project.

Significance Assessment

11.125 The significance of the magnitude of effects on the Proposed Development has been determined using the Significance Matrix for Climate Resilience outlined in Paragraph 11.108.

Table.11.24: Assessment of Significance

Climate Change Issue	Magnitude of Effect	Significance
Soil Drying	Minor Adverse	Not Significant
Temperature	Moderate Adverse	Significant
Relative Humidity	Moderate Adverse	Significant
Precipitation	Moderate Adverse	Significant
Gales	Moderate Adverse	Significant
Radiation	Moderate Adverse	Significant
Cloud	Minor Adverse	Not Significant

11.126 The impact of future climate change on the Proposed Development without mitigation is deemed to be significant. This assessment is based on the reasonable assumption that the Proposed Development will meet the minimum standards required by The Building Regulations.

Mitigation Measures

11.127 The following section summarises mitigation measures relating to the resilience of the Proposed Development to Climate Change. These measures are primarily described in the reports listed in Paragraph 11.3 and should be considered embedded mitigation measures unless explicitly stated otherwise.

Temperature

11.128 The CCRA places a high current and high future risk on health, wellbeing and productivity associated with high temperatures as a result of climate change. This problem will be exacerbated by changes in the UK demographic over the project lifetime. The CCRA states that buildings will need to be carefully designed to reduce heat loss during winter, reduce solar gain during summer and maximise the effectiveness of natural ventilation in buildings. The Carbon Trust ^(xxxii) found that energy costs and associated CO₂ emissions are 30% higher in an air-conditioned building compared to natural ventilation, on top of increased capital and maintenance costs. Any provision of air-conditioning should, when possible, be coupled with on-site solar PV due to the temporal match in demand and generation profiles and to offset the CO₂ emissions associated with the air-conditioning operation.

- 11.129 Some design measures are being incorporated into the wider development to reduce the urban heat island effect including the planting of deciduous trees and increasing the availability of green and blue spaces. The development is adjacent to the River Irwell. The use of water features and vegetation to improve landscaping can provide a cooling effect as well as providing insects, invertebrates, small mammals and humans shading from the elements. In this instance, it is not proposed to provide any active cooling within the development, only natural ventilation and there is no proposal to incorporate solar PV.
- 11.130 It is also essential to limit the heat release rate of materials used in linings, materials and finishes by strict compliance with national fire regulations. The increasing number of heatwaves could result in periods of dry environments, where the fire risk will increase significantly. The use of fire and smoke alarms in all properties is mandatory and the implementation of basic fire preparation and response plans can significantly reduce the risks to human life.
- 11.131 The Proposed Development will be built to current building regulations. Careful design and layout of the Proposed Development will reduce the overall residual risk associated with building overheating which is especially important in a tower-block setting given the ambient heat that exists from the density of dwellings. No specific additional provisions have been identified for the management of solar gain. All glazing will be low emissivity (soft coat low e) glazing.

Precipitation

- 11.132 Following the IPCC Fifth Assessment on Climate Change Report series, key findings for the builder sector were summarised into a briefing called Climate Change: Implications for Buildings (XXXXIII). It found that increased precipitation and weather extremes pose a direct threat to building construction through delays, changes to building seasons and the increased likelihood of rebuilding and repair work. The CCRA places a current and future high-risk magnitude on the UK's vulnerability to climate change induced flood risk. These problems could be exacerbated across the UK with an increasing population and a need to house that population. Climate change projections for the locality (**Figure 11.5** and **Figure 11.6**) show slightly lower levels of precipitation anomalies than are expected for the UK average.
- 11.133 As identified above, the River Irwell is located immediately to the northwest of the site.
- 11.134 A Flood Risk Assessment (FRA) for the Proposed Development has been undertaken by Shepherd Gilmour Consulting Engineers and concludes that whilst the Site is shown within Flood Zone 1 according the Environment Agency (EA) maps, based on the EA data obtained the Site could be considered to be in Flood Zone 2.
- 11.135 Mitigation measures proposed include ensuring that, *"the minimum finished floor level for any new "more/less vulnerable" developments must be set at or above 25.970m AOD [above ordnance datum]. This will provide the recommended 600mm freeboard above the estimated peak river level (1% plus climate allowance) and will protect the most sensitive areas of the PDS [Proposed Development Site]."*

- 11.136 It is also recommended that, *"Flood resilient construction techniques should be used within the proposed and existing buildings up to the 1000-year event,"* and should apply up to a height of 27.340m AOD.
- 11.137 *"We would recommend that future businesses, residents, and site users within the PDS sign up to the EA Flood Warnings Direct Service. This will act as an early warning detection system for extreme weather conditions..."*
- 11.138 The FRA concludes that further design works on the drainage strategy for the development should be undertaken as a condition of consent and *"The PDS surface water network must include the "Central" climate change allowance of 20%. The proposed network must also be checked against the "Upper" climate change allowance of 40% to ensure any surface flooding remains wholly within the development."*

Extreme Weather

- 11.139 It is difficult to attribute human induced climate change to any particular extreme weather event. In the absence of observed trends, there have been no met office studies so far providing a link between UK storminess and climate change. However, UKCP18 projects an increase in near surface wind speed in the second half of the 21st century during winter, although the increase in wind speed is modest compared to monthly and seasonal variability¹⁵.
- 11.140 Storm damage will typically involve the damage or removal of roof slates/tiles or potentially the whole roof structure. For pitched roofs the NHBC Foundation recommends that the optimum roof angle is 30° to the horizontal to minimise the suction forces that will apply to the roof. At lower angles the suction forces will be greater and at higher angles the forces will tend to exert downward force on the roof. Eaves and roof structures that overhang external walls may be particularly susceptible to the effects of wind loading and sufficient consideration will be required to ensure that problems are avoided. In this case, the flat roof of the high-rise tower block will have been designed to accommodate wind loading with a suitable factor of safety to ensure this is not an issue. Wind loading can also apply significant lateral forces to buildings and modelling to ensure that adequate bracing is in place to deal with these forces will be necessary. This is particularly true of a high-rise tower block which will have a significant façade over which the wind can act. Any external cladding present will need to be sufficiently well attached again, with suitable factors of safety built into the design.
- 11.141 In all cases, within the loading calculations a suitable margin of error will be used to ensure the roof materials remain fixed in position during extremely severe wind conditions although it is not possible to quantify precisely future impacts of climate change vulnerability as insufficient data is available.
- 11.142 The vulnerability of residents and users of the Proposed Development to climate change will be dependent upon a variety of factors, including age and physical health. Although projections suggest an overall decrease in cold spells, it is still important to consider risk mitigation in the event of adverse extreme weather. Consideration has

¹⁵ Met office (2020). UK extreme events – Wind storms. <https://www.metoffice.gov.uk/research/climate/understanding-climate/uk-extreme-events-wind-storms>

been given to pedestrian safety and comfort in the wind microclimate assessment prepared by GIA and is included in Chapter 8: Wind Microclimate of this ES.

Water Availability

11.143 Water resources availability presents a challenge that is expected to be exacerbated by a changing climate. United Utilities has the responsibility to supply water to the Site, although water efficiency measures can reduce stresses on the water network overall and improve the networks overall resilience. Part G of the Building Regulations¹⁶ places limits on water use in dwellings with the regulatory maximum being 125 litres per person per day. Many aspects of a dwelling that use water are regulated by specific standards such as Water Supply (Water Fittings) Regulations 1999¹⁷.

11.144 The new development will aim to reduce water consumption through a range of water efficiency measures such as:

- WCs with reduced flush volumes;
- Taps and showers with limited flow rates;
- Where appropriate, water efficient domestic equipment; and,
- Water meters.

11.145 The development will target a water consumption rate of 125 litres per person per day (l/p/d), in line with current Building Regulations, through the use of the measures outlined above.

11.146 Soft landscaping will be reliant on rainwater or manual watering only.

Limiting Impacts on Biodiversity

11.147 Impacts on biodiversity can include but are not limited to mortality, biome shifts, ecosystem change, water scarcity/flooding, pest exacerbation and ecosystem feedback capabilities, including carbon sequestration.

11.148 In the establishment of landscapes and ecological habitats as part of detailed design the Proposed Development will need to consider the climate resilience of enhancements that are used.

11.149 Key aspects suggested for consideration when designing climate resilient landscaping are:

- Species selection: Drought tolerant species e.g., enzymic resilience to warmer temperatures;
- Sensitivity to watering e.g., induced root hypoxia and rot from oversaturation;
- Growth inhibition e.g., pollution tolerance;

¹⁶ HM Government, 2016. The Building Regulations 2010: Sanitation, hot water safety and water efficiency – Approved Document G 2015 edition with 2016 amendments.

¹⁷ HM Government, 1999. The Water Supply (Water Fittings) Regulations 1999. No 1148.

- Wind tolerance e.g., strong, deep root structures;
- Year-round ecosystem services e.g., forage and shelter capability during difficult seasons to continually support ecology and human needs;
- Avoiding fragmentation of green spaces, landscapes and ecological habitats where possible; and,
- Control use and ongoing spread of invasive and alien species that may impede native species ability to adapt or be in competition for resources during times of decreased availability e.g., as a response of extreme weather.

11.150 The Ecology report completed by Penny Anderson Associates recommends the following biodiversity enhancement opportunities:

- *"Use of native or wildlife friendly tree, shrub and herbaceous species in any landscape planting, for example, inclusion of species which provide nectar for invertebrates or berries to provide a food source for birds;*
- *"Inclusion of bird boxes to accommodate typical urban bird species;*
- *"Designs that offer similarly higher level areas to what are currently present on the building would retaining opportunities for breeding black redstart to use these as song posts.*
- *"Including a green/brown roof design would enhance forage opportunities for local populations of black redstart, if the design allows.*
- *"Inclusion of integrated or external bat roost features such as bat slates, tiles and bricks or bat boxes to increase opportunities for roosting bats, coupled with a suitable lighting strategy to avoid unnecessary lighting of roost features; and*
- *"Limiting exterior lighting to maintain links to the wider area for local bat populations."*

11.151 The proposed landscaping scheme for includes planting along the river frontage which will help specific species such as insects, etc.

Air Quality and Transport

11.152 The relationship between air quality and climate change is highly complex but is an important consideration due to the direct risk to human health. For example, when atmospheric pressure increases pollutants are concentrated to the ground, resulting in increased respiratory health issues.

11.153 Climate variations across regions will affect air quality differently. Increased precipitation aids the clearing of pollutants from air, whilst warmer, drier conditions stalls air that is saturated in pollutants e.g., smog.

11.154 The impact of the Proposed Development on local transport infrastructure likely to be affected has been assessed by Focus TP in a Transport Assessment. They conclude *"The application scheme is proposed to be*

promoted as car free development, and it is therefore not anticipated that the scheme would generate any significant amounts of traffic, other than weekly refuse collection / occasional delivery vehicle movements."

- 11.155 They go on, *"The application site represents an excellent location for residential development, being located within the city centre and within a practical walking distance of local bus, Metrolink and rail connections served by regular connections and within an acceptable walk/cycle catchment of a wide range of key everyday services, facilities and employment opportunities. Such locational characteristics should assist in meeting the sustainable planning objectives of promoting opportunities for the use of alternative travel modes to the private car and supporting the principles of modern city centre 'car free' living."*
- 11.156 , The development itself will support residential parking with a capacity of 36 spaces, 7 to 8 of which will be support by electric vehicle charging station. In addition to this, sufficient bike storage facilities is being made available with one space allocated per dwelling, offsite parking is also available through third-party car parks.
- 11.157 The Air Quality Assessment, prepared by Redmore Environmental, identifies embedded mitigation in the form of the development design encouraging sustainable behaviours primarily in active and public transport. The inclusion of electric vehicle charging onsite encourages the uptake of private electric vehicle ownership. This however does not actively discourage other forms of private vehicle ownership, including internal combustion cars, with their associated fossil fuel requirements.

Residual Effects

- 11.158 The Proposed Development should implement mitigation measures to reduce GHG emissions and build in resilience to future changes in climate, which would then result in the residual effects being deemed not significant.
- 11.159 According to the IPCC's 2018 Special Report on Global Warming of 1.5°C, there is high confidence that climate-related risks for natural and human systems depend on the magnitude and rate of warming, geographic location, levels of development and vulnerability, and on the choices and implementation of adaptation and mitigation options. The report states *"Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems (high confidence). These systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options (medium confidence)."* The Applicant can implement measures to reduce the impacts and increase climate resilience according to global and regional climate projections with relevance to the scale of the Proposed Development. However, the uncertainties associated with probabilistic climate projections are outside of the Application's control and cannot be fully mitigated against.

Table 11.25: Residual Effects of Future Climate Change on Proposed Development

Description of Effect	Potential impact including significance	Mitigation	Residual Effect including significance
Construction			
Not assessed since construction will take place over the next two years and the effects of climate changes are expected to become more pronounced over the longer term and current best practice approach to construction is anticipated to be sufficient to address near-term resilience.			
Completed Development			
Soil Drying	Minor Adverse - Not Significant	Good Design – in the urban setting, soils supporting vegetation help aid reduction of the urban heat island effect. Ensuring those soils on site which support trees and green spaces, are maintained in good condition will help mitigate.	Negligible - Not Significant
Temperature	Moderate Adverse - Significant	Good Design – various measures are embedded in the design (eg fabric efficiency, pipe lagging, natural ventilation etc) but additional mitigation in the form of fans, internal plants, use of blinds and curtains etc could be used to help achieve a more comfortable environment at times of heat stress.	Minor Adverse - Not Significant
Relative Humidity	Moderate Adverse - Significant	Good Design – the use of good quality insulation in the building design and natural ventilation. Potential use of active ventilation and dehumidification if specific issues are identified.	Minor Adverse - Not Significant
Precipitation	Moderate Adverse - Significant	Good Design – taking proper account of flood risk and mitigation measures as per the flood risk assessment. Ensuring sensitive electrical circuits are installed sufficiently above any potential flood water levels, and developing readiness plans to respond to flooding in the event lower levels of the building are affected.	Minor Adverse - Not Significant
Gales	Moderate Adverse - Significant	Good Design – factor of safety in-built within design specifications. Regular inspection of structure and cladding to ensure it is maintained in good order.	Minor Adverse - Not Significant
Radiation	Moderate Adverse - Significant	Good Design – building fabrics and low emissivity glazing will help. Internal curtains and blinds can be used to help reduce issues but may rely on resident behavioural change.	Minor Adverse - Not Significant
Cloud	Minor Adverse - Not Significant	Good Design – high quality energy efficient	Negligible - Not Significant

Description of Effect	Potential impact including significance	Mitigation	Residual Effect including significance
	Significant	lighting used throughout building. Additional internal lighting in the form of lamps or other portable lighting to augment building lights if required.	Significant

Conclusions

Assessment of Impacts from Emissions

- 11.160 Construction and demolition emissions were based on high level estimates and have not been modelled in detail. The emissions associated with this phase were not expected to reduce considerably compared to the baseline construction emissions. This is assessed as a **negligible** impact (**not significant**), rising to a **minor beneficial** impact (**not significant**) if best practice construction methods are followed throughout.
- 11.161 Embedded mitigation in the form of improved building fabric, high efficiency lighting, Mechanical Heat Recovery Ventilation (MVHR), smart space heating and Waste Water Heat Recovery (WWHR) is proposed. This will be used alongside an all-electric heating strategy for the residential elements of the development which would comprise a combination of direct electric heating and air source heat-pumps. Gas heating will remain for the retail units only. Collectively this strategy is expected to deliver at least 9% emission savings, based on current SAP 2012 emission factors.
- 11.162 The Proposed Development's absolute emissions over the full project lifetime with mitigation were modelled to be 80% lower than the baseline emissions, assumed to be using gas heating. Most of this saving was achieved through taking into account the decarbonisation of the national grid which considerably reduces the lifetime impact of the development. Overall, this represents a **major beneficial** impact which is **significant**.
- 11.163 This should not be interpreted as the Proposed Development having no impact on climate change through greenhouse gas emissions. It provides a comparison for the Proposed Development against the impact of a development of the same size, with comparable facilities, constructed to current 2013 Part L building regulations.

Assessment of Climate Resilience

- 11.164 It will not be possible to eliminate every risk associated with climate change but through intelligent design, preparation and responsible construction, these risks will be minimised. Discussion and recommendations have detailed reducing these risks in key areas such as overheating, flooding and extreme weather, which has taken into consideration not only the health and safety of the users of the Proposed Development, but the resilience of the Proposed Development itself.

11.165 It is assumed that with the mitigation each individual discipline has suggested, there will not be a significant impact on the development as a result of climate change in the long-term. A description of the embedded mitigations discussed above, and additional mitigation that could be deployed to help meet specific requirements is summarised below:

11.166 Embedded climate resilience mitigation includes:

- The use of water features and vegetation to improve landscaping can provide a cooling effect;
- Use of fire resistant materials in building construction;
- Adequate fire managements including fire and smoke alarms in every property;
- Building design to reduce fire risk;
- Low emissivity glazing;
- Minimum floor levels for “more/less vulnerable” developments set above 25.970m AOD;
- Flood resilient construction techniques up to 27.340m AOD;
- High wind speed safety factor built into design;
- Implementation of mitigation strategy proposed as part of the pedestrian safety and comfort assessment;
- Restrictions to control water delivery rates and wastage;
- Soft landscaping reliant on rainwater or manual watering and using drought/flood/wind/pollution tolerant species;
- Species selected to provide year round ecosystems and avoiding fragmentation of green space;
- Control of invasive species, particularly where in competition with native species;
- Planting on river frontage;
- Lack of parking provision to discourage vehicle use;
- Encouragement of active transport (cycling/walking etc);
- Proximity to public transport facilities.

11.167 Other additional mitigation measures that could be employed to reduce residual effects include:

- Future businesses, residents, and site users recommended to sign up to the EA Flood Warnings Direct Service as early warning detection system;
- Further design works on the drainage strategy for the development should be undertaken as a condition of consent;

- Use of wildlife friendly trees such as those offering shelter or food;
- Use of bird boxes;
- Retention of specific higher level areas to encourage breeding black redstart;
- Consideration of green/brown roof design;
- Inclusion of internal or external bat roost features;
- Restricting external light;
- Regular maintenance and watering of trees/shrubs and vegetation;
- Use of internal fans/indoor plants/blinds and curtains to help control internal temperatures and radiation during periods of heat stress;
- Use of air conditioning or dehumidifiers in the event of specific humidity issues developing;
- Ensuring sensitive electrical circuits are installed sufficiently above any potential flood water levels, and developing readiness plans to respond to flooding in the event lower levels of the building are affected;
- Regular inspection and maintenance of building structure and cladding to make sure it remains in good order;
- Use of lamps or other portable lighting to augment building lights if required.

12. Cumulative Effects

Introduction

- 12.1 This chapter provides an assessment of the potential cumulative effects of the Proposed Development in conjunction with effects arising from other developments in the surrounding area. It also provides an assessment of the potential combination of some or all of the effects identified in the EIA on a particular receptor.
- 12.2 The requirement for cumulative assessment is stated in the following legislation:
- Directive 85/337/EEC requires the assessment of *'the direct effects and any indirect, secondary, cumulative, short, medium and long term permanent or temporary, positive and negative effects of the project'*;
 - Directive 97/11/EC states that criteria for assessment includes *'the cumulation with other projects'*;
 - The EIA Regulations 2017 state that, *'the characteristics of the development must be considered having regard, in particular to the cumulation with other existing and/or approved development'*; and
 - Directive 2014/52/EU states that *'the description of the likely significant effects ... should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project'*.

Methodology

- 12.3 Cumulative effects come in two forms. The first relate to the impacts of the Proposed Development in conjunction with other developments in the area. These developments should be existing, consented or reasonably foreseeable in terms of delivery and should be located within a realistic geographical scope where environmental effects could combine to create a more significant effect on a particular sensitive receptor. These are hereafter referred to as cumulative effects.
- 12.4 The second type of cumulative effect is that of the combination of the various types of impacts from the Proposed Development. These are hereafter referred to as synergistic effects.

Cumulative Effects

- 12.5 In line with Schedule 4 Paragraph 5(e) of the EIA Regulations, an ES must provide a description of the likely significant effects of a project on the environment resulting from:

"...the culmination of effects with other existing and / or approved projects..."

- 12.6 Such effects are known as ‘cumulative effects’.
- 12.7 Given that existing development will be considered in the environmental baseline conditions relevant to the Site and the development, and a consideration of the likelihood of significant environmental effects of the development are judged against the relevant environmental baseline conditions, the potential for cumulative effects focuses as a minimum on those developments with:
- A resolution to grant planning permission.
 - A valid planning permission and yet to start on-site.
 - A valid planning permission and under construction.
- 12.8 These developments are referred hereafter as ‘Committed Developments’.
- 12.9 As set out within Chapter 2, a Committed Development scoping exercise has been undertaken to identify any potential developments within the vicinity of the Site which are likely to result in cumulative or synergistic effects. A planning history search has been undertaken for all planning applications submitted in the surrounding areas to the Site which are either approved or awaiting decision. The search area extended to a 0.5km radius from the Site boundary. It was considered a 0.5km radius was a suitable distance to identify the potential for any cumulative or synergistic effects that may arise, when considering the nature, location and scale of the Proposed Development.
- 12.10 Planning applications for single plots of residential development have been discounted from the assessment. Of the remaining applications, the large majority found during the search were not considered to result in significant cumulative environmental impacts when considered in combination with the Proposed Development.
- 12.11 The Committed Developments proposed to be scoped-in to the EIA have been confirmed with the Local Planning Authority (LPA) through the formal scoping process.
- 12.12 Those developments to be considered in the assessment as agreed with MCC as part of the EIA Scoping process are set out in Table 12.1. **Figure 12.1** shows all of the development listed in Table 12.1 and indicates their locations in relation to the Proposed Development’s red line boundary.
- 12.13 It should be noted that the EIA Scoping Report did not include applications ref. 129251/FO/2021, 126328/FO/2020. This is due to the fact that at the time of writing the EIA Scoping Report, application ref. 129251/FO/2021 had not been approved and ref. 126328/FO/2020 had been refused. Since the submission of the Scoping Report ref. 129251/FO/2021 has been approved and as such is considered within the cumulative assessment in line with the EIA Regulations. An appeal has been lodged with regards to application ref. 126328/FO/2020 and although the EIA Regulations stipulate that only applications which are existing and/or approved need to be considered, due to the proximity of the application to the Proposed Development this scheme has been included within the cumulative assessment. Additionally, application ref. 130935/FO/2021

regarding the refurbishment of Premier House had not been submitted at the time of writing the EIA Scoping Report. Similarly, although not yet approved, due to the proximity of the scheme to the Proposed Development it has been included within the cumulative assessment.

Table 12.1: Committed Developments

Site Ref.	Application No.	Proposal	Approx. Distance and Direction	Status
1	111777/FO/2016/C1	Erection of two residential buildings of a maximum 21 and 26 storeys to accommodate 520 apartments (178 x 1 bed, 286 x 2 bed and 56 x 3 bed apartments) (Use Class C3). Erection of one office building of maximum eight storeys comprising up to 11,647 sq. m (GIA) of office accommodation. Ground floor commercial space (Use Class A1, A2, A3 and B1), lower ground level car parking, access and servicing arrangements, alterations to Corporation Street, new public realm and other associated works.	390m northeast	Approved 29 th July 2016 – under construction
2	124995/FO/2019	Erection of a five storey educational building (18495 sqm) (Use Class D1) with associated access, servicing, landscaping, public realm and other associated works following removal of existing car park	430m north	Approved 19 th December 2019 – under construction
3	118831/FO/2018	Erection of two buildings (a part 17, part 12 storey building and a part 26, part 23 storey building) to form 556 residential units (Use Class C3a) together with the creation of 3490 sqm of commercial floor space (Use Classes A1, A2, A3, B1 and D1) with associated landscaping, access and other associated works	490m north	Approved 28 th February 2019 – construction yet to commence
4	122280/FO/2019	Erection of new mixed-use development to comprise of one 10 storey building fronting Mirabel Street to accommodate 45 no. Use Class C3 residential apartments (9 no. 1-bed studios, 27 no. 2-bed 3 person apartments and 9 no. 2-bed 4 person apartments) and 8 no. residential car parking spaces at ground level and one part 10, part 14 storey building fronting Great Ducie Street to accommodate 84 no. Use Class C3 residential apartments (31 no. 1-bed 2 person apartments, 26 no. 2-bed 3 person apartments, 18 no. 2-bed 4 person apartments and 9 no. 3-bed 5 person apartments) and 345 sq. m of commercial floor space	330m north	Approved 17 th December 2020 – construction yet to commence

Site Ref.	Application No.	Proposal	Approx. Distance and Direction	Status
		at ground level (flexible use Use Class A1 shop, Use Class A2 financial and professional services and Use Class A3 cafe/restaurant) together with creation of roof terrace amenity space, cycle parking, access, servicing and associated works following demolition of existing building		
5	19/74205/FULEIA	Erection of a mixed use development comprising a single building with two blocks (14 and 55 storeys) to include: 545 residential apartments, associated residents' facilities and basement parking; and 3 no. commercial units (use classes A1, A2, A3, B1 & D1) with associated landscaping and public realm works.	320m northwest	Approved 23 rd January 2020 – under construction
6	15/66806/FUL	Demolition of existing factory walls and river walk way to provide mixed use development comprising of 2 blocks ranging from 15 to 34 storeys in height total of 300 residential units with associated off street parking, together two commercial units comprising of 474sqm of floor space (A1, A2, A3 and B1) at ground floor level.	370m northwest	Approved 3 rd December 2015 – under construction
7	18/71330/FUL	Erection of three residential blocks, comprising of a total of 156 apartments, together with car parking and landscaping	480m northwest	Approved 25 th October 2018 – under construction
8	19/74465/HYBEIA	Hybrid planning application for demolition of existing buildings on the site and comprehensive redevelopment to create between 1,407 and 1,521 dwellings, comprising of: (a) Phase 1 (submitted in full with no matters reserved) for development of a 50-storey residential building; commercial floor-space (Use Classes A1, A2, A3, A4, A5, B1, D1 and D2); new public park; highways and public realm improvements and other associated works;	300m northwest	Approved 5 th March 2020

Site Ref.	Application No.	Proposal	Approx. Distance and Direction	Status
		and, (b) Phases 2 and 3 (submitted in outline with all matters reserved) for the development of two residential buildings up to 42 storeys in height; commercial floor-space (Use Classes A1, A2, A3, A4, A5, B1, D1 and D2); new highways; a public square; public realm improvements and other associated works. (EIA development, accompanied by Environmental Statement)		
9	18/72242/FUL	Demolition of existing and former light industrial / commercial units, and the construction of a residential-led mixed-use development. Erection off a building ranging from 7-14 storey high comprising 104 residential apartments (C3 use) with ancillary communal spaces, a commercial unit (A1, A2, A3, B1, D1), together with associated parking and amenity space.	440m northwest	Approved 17 th January 2019 – under construction
10	20/74637/FUL	Demolition of existing building and erection of a new building (ground plus 17 storeys) comprising 115 residential units (Use Class C3) with associated residents' facilities at ground floor and other ancillary functions; associated access, public realm and other associated works.	470m northwest	Approved 5 th March 2020 – under construction
11	17/70626/FUL	Erection of one 18 storey residential building (Block A, Use Class C3); one 16 storey residential building (Block B, Use Class C3); one 18 storey building providing a mix of residential and serviced apartment accommodation and amenity facilities including lounge, swimming pool and gym (Block C, Use Class Sui Generis); 536sqm of commercial floorspace (Use Classes A1, A2, A3, A4); new access from Greengate; car and cycle parking; public realm and landscaping; and other associated works.	140m northwest	Approved 21 st November 2017 – under construction

Site Ref.	Application No.	Proposal	Approx. Distance and Direction	Status
12	20/76134/FUL	Erection of 16-storey building plus plant comprising a hotel (Use Class C1) with ancillary bar and restaurant uses, access, servicing, landscaping and other associated works	140m northwest	Approved 4 th February 2021 – construction not yet started
13	126638/FO/2020	Erection of part 17 storey (plus roof top plant behind parapet), part 6 storey building and the conversion with single-storey rooftop extension of the existing building at 1 & 3 Back Turner Street to comprise office accommodation (Class B1(a)) with front of house and commercial floorspace at ground floor Class A1 (Shop), A2 (Financial and Professional Services), A3 (Café and Restaurant), A4 (Drinking Establishment) B1 (Office) and D2 (gym and cinema) use with associated landscaping and other works following demolition of existing buildings at 30 & 32 Shudehill and 1 & 3 Nicolas Croft	475m east	Approved 26 th June 2020 – under construction
14	121375/FO/2018	Construction of a 22 storey building comprising 361 residential apartments (122 x 1 bed 2 person, 119 x 2 bed 3 person, 94 x 2 bed 4 person, 21 x 3 bed 5 person and 5 x 3 bed 6 person (34% 1 bed, 59% 2 bed and 7% 3 bed) ground floor commercial floorspace (Use Classes A1 (Shop), A3 (Restaurant and Cafe), A4 (Drinking Establishment) and A5 (Hot Food Take-away) associated landscaping, including new public realm and pedestrian route, together with servicing, cycle parking, access and other associated works following demolition of buildings at 20-22 and 24-26 High Street and 5 market stalls to Church Street.	490m east	Approved 2 nd October 2020
15	111805/FO/2016/C1	Demolition of Brazennose House and associated structures and development of a new office building (Use Class B1), with ground floor retail uses (Use Classes A1, A2 and A3), basement car parking, servicing and cycle parking, highways works to Mulberry Street, new public realm and landscaping, and associated works.	420m south	Approved 4 th July 2016 – under construction

Site Ref.	Application No.	Proposal	Approx. Distance and Direction	Status
16	110078/FO/2015/C1	Demolition of existing buildings on-site. Erection of basement plus ground plus 11 storey office building with flexible retail units (Use Class A1, A2, A3, A4) at ground floor level, access and landscaping and associated works.	380m south	Approved 11 th December 2015 – under construction
17	16/67779/FULEIA	Demolition of existing buildings, erection of a 35 storey residential building (Use Class C3), consisting of 318 apartments and mezzanine floor, residential amenity areas and commercial unit (Use Classes A1, A2, A3, A4, B1, D2), (404sqm floor space), public realm and landscaping, access and servicing arrangements and associated works, and construction of new entrance to office building	408m west	Approved 7 th July 2016 – under construction
18	115200/FO/2017	Erection of an 8-storey building to form ground floor commercial (619 sqm) (Use Classes A1, A2, A3, A4 or A5) and upper offices (4055 sqm) (Use Class B1) with associated car parking, plant and other associated work	360m southwest	Approved 2 nd June 2017 – under construction
19	130446/FO/2021	Development comprising external alterations to the existing hotel building including new building entrance, creation of a rooftop bar and outdoor terrace, modifications to the conference suite mezzanine block, creation of a rooftop kitchen garden, modifications to the building facades, public art installations and other works.	On site	Application not yet determined – application validated 26 th May 2021
20	129251/FO/2021	Change of use of upper floors and erection of three storey rooftop extension, including plant level, to Kendal Milne building to provide offices on floors 1-9 (Use Class E), together with change of use of ground, lower ground and basement levels of Kendal Milne building to flexible commercial spaces (Use Class E, F2 and /or Sui Generis (Drinking Establishments) and associated elevational alterations and works; Demolition of adjacent Fraser Building and link bridges and	200m southwest	Approved 4 th June 2021 – construction not yet commenced

Site Ref.	Application No.	Proposal	Approx. Distance and Direction	Status
		erection of 14 storey office building (Use Class E), including plant level, together with associated amenity space and ground and basement floor flexible commercial units (Use Class E, F2 and / or Sui Generis (Drinking Establishments)) and basement areas for cycle storage and plant; Highways landscaping and public realm works, engineering and infrastructure works and other associated works.		
21	126328/FO/2020	Erection of a 17 storey building comprising office use (Use Class B1a) and flexible ground floor commercial units (Use Classes A1 shop, A2 financial and professional services, A3 restaurant/cafe and A4 drinking establishment), new electricity sub-station, basement cycle parking and rooftop plant enclosure, together with access, servicing and associated works following demolition of the existing building.	30m southeast	Application refused – appeal lodged on 27 th July
22	130935/FO/2021	Refurbishment of retained structure comprising stripping building back to its core, external alterations including new facades and extension of floorplate on Deansgate elevation (circa 3m) to create new office space (Use Class E) (floors 1-3) with new ground floor reception area and commercial units x 4 (retail/ food and beverage floorspace (Class E/ Sui Generis), amendments to existing servicing arrangements including new service yard entrance, new rooftop amenity space for use of occupiers of floors 1-3, new roof top plant, new public realm and landscaping and supporting infrastructure and ancillary facilities including gym, refuse store, plant areas cycle store and other ancillary facilities within lower ground floor.	On site	Application not yet determined – application validated 28 th July 2021

- 12.14 The identified Committed Developments were reviewed by the Applicant's technical EIA team to consider if there is potential for cumulative effects in respect of each technical assessment that forms part of the EIA.
- 12.15 The assessment of the Committed Developments was based on information available on the planning portals. This comprised a review of the information contained within the planning application package for each identified site (i.e. the description of development, red line plans and any masterplans / parameter plans / relevant information available for that site).
- 12.16 The cumulative assessment identified the additional effects resulting from the Proposed Development during both the demolition and construction, and operational phase of the proposed and Committed Developments. This provides sufficient information for the identification of potential for cumulative effects for each technical assessment, thus ensuring that MCC can evaluate the impacts of the development in isolation and in conjunction with other developments in the area.
- 12.17 Cumulative effects can be generated at the construction stage if the sites are in close proximity and construction periods are likely to overlap. However, most construction projects employ regulatory controls and good practice to minimise impacts occurring outside the Site boundary. It is assumed that standard best practice measures have been or will be employed on each Committed Development site.
- 12.18 The effects of cumulative operational impacts can be varied and will depend on the scale, nature and processes / activities of the Proposed Development, the location of sensitive receptors, the surrounding developments and the immediate environs. The cumulative assessment assumes that the mitigation measures proposed throughout this ES will be or have been implemented
- 12.19 This chapter sets out each technical discipline and identifies where the residual effects identified within each technical chapter have been altered by a Committed Development.

Cumulative Effects

Townscape and Visual

Approach

- 12.20 The approach follows the Guidelines for Landscape and Visual Impact Assessment (GLVIA) and the methodology set out in Chapter 6: Townscape and Visual of the ES.
- 12.21 Committed development refs. 2, 3, 7, 9, 10, 13, 14, 15, 16, 17 & 18 have been scoped out of the cumulative assessment as they are on the peripheries of the 500m study area and there are no cumulative effects anticipated with the Proposed Development. In line with GLVIA3, the study area includes the Site itself and the full extent of the wider area around it which the Proposed Development may influence in a significant manner (paragraph 5.2). The Committed Developments scoped out do not lie within an area which the Proposed Development would influence in a significant manner.
- 12.22 **Figure 12.2** is a plan showing the location of the Committed Developments which have been scoped in or scoped out of the TVIA cumulative assessment. **Appendix 12.1** included verified photomontages to demonstrate the change in view upon completion of the Proposed Development and the Committed Developments.

Likely Residual Cumulative Effects and their Significance

Demolition and Construction

Townscape Effects

- 12.23 Manchester is currently undergoing a significant amount of regeneration. Due to this there are likely to be adverse cumulative effects on the immediate townscape as a result of construction activity. Should all the identified Committed Developments be constructed simultaneously with the Proposed Development there are likely to be adverse effects on the Cathedral and Cathedral Gardens Townscape Character Area (TCA), The City Centre Retail TCA, the western portion of Parsonage Gardens and St Anne's Square TCA and the northern portion of the Mixed-Use TCA across the River Irwell.
- 12.24 The Cathedral and Gardens, Parsonage Gardens and St Anne's Square TCAs will be more sensitive to these changes than the Mixed-Use TCA. The magnitude of change will be high-medium. There will be **major - moderate adverse** effects on the Cathedral and Gardens, and the western portion of the Parsonage Gardens and St Anne's Square TCA and **moderate adverse** effects on the Mixed-Use TCA. Overall, whilst adverse, these effects are short term, temporary and experienced at a local level. The **major - moderate adverse** effects are considered **significant** and the **moderate adverse** effects are considered **not significant**.

- 12.25 The effects on the City Centre Retail TCA will be adverse, if the Committed Developments 19 and 22 are carried out at the same time as the Proposed Development as there would be considerable disruption in this area. Although the construction activity is at odds with the surrounding land uses, the existing townscape condition in this portion of the TCA is poor. The effects will be **major - moderate adverse**, whilst these effects are **significant**, they will be experienced in the short term, temporary and at a local level.
- 12.26 For the remaining townscape character areas, the cumulative effects will be **minor adverse** to **negligible** which is **not significant**.

Visual Effects

- 12.27 During the construction phase there would be some significant cumulative effects on views from the streets and public open spaces in the immediate setting around the Site. Should the construction of the Committed Developments take place simultaneously there will be adverse effects on all visual receptors with the exception of Victoria Station Arrival and St Anne's Square, where the change in views will be **negligible** which is **not significant**.
- 12.28 From Cathedral Gardens, further tall plant would be visible on the skyline. The change in view is high adverse and views from this public open space have a high – medium sensitivity. The cumulative effects would be **major – moderate adverse** and **significant**.
- 12.29 Similarly, the receptors using the public open spaces and streets to the north of the Site will experience views towards numerous sites under construction. Views from Exchange Square, Greengate Square, and the Cathedral Approach have a high – medium sensitivity. The change in view would be high adverse resulting in **major – moderate** cumulative effects and **significant**.
- 12.30 From the surrounding roads including Deansgate and Victoria Road there would be clear views of cumulative construction. The sensitivity of these receptors is medium, and the magnitude of change would be high – medium adverse, depending on the locations of the visual receptor along the route. The effects are also considered in the context of the existing unattractive views towards the Site. The resulting cumulative effects are **moderate adverse** and **not significant**.
- 12.31 In views from Parsonage the proposed construction work on Committed Developments 19 and 22 will be more prominent in the foreground and will detract from any construction activity within the Site. Construction work on site 20 would not be visible cumulatively with construction on the site due to intervening built form.
- 12.32 There would be clear views of the construction activity from Blackfriars Street of the Committed Developments 11,12,19 and 22. If constructed simultaneously, there would be high - medium adverse magnitude of change for the view experienced. The sensitivity of the visual receptors using these routes is medium, resulting in **moderate adverse** cumulative effects and **not significant**.

- 12.33 Views from Corporation Street and Cheetham Hill Road are more distant. From Corporation Street the construction of Committed Development 1 will be a distracting feature in the foreground. From Cheetham Hill Road further tall plant may be visible on the skyline to that being used on site. The sensitivity of users on these routes is assessed as medium – low. The magnitude of change is low adverse – negligible resulting in a **minor adverse – negligible** cumulative effects and **not significant**.
- 12.34 It is highly unlikely that all the Committed Developments will be constructed at the same time and therefore the effects outlined above would give a worst-case scenario. In some locations the cumulative visual effects are considered to be significant however these effects are experienced during construction which is short term.

The Completed and Operational Development

Townscape Effects

- 12.35 The cumulative effects on the townscape character areas upon completion of all the Committed Developments is assessed as beneficial or neutral. The Proposed Developments provide a mixed-use neighbourhood that enlivens the area with well-connected attractive open spaces and walking routes, a strong sense of place and high-quality public realm. The streets and open spaces would be legible with good natural surveillance. Taller buildings in key locations would enhance placemaking and wayfinding.
- 12.36 There are likely to be beneficial effects on the Cathedral and Cathedral Gardens TCA, The City Centre Retail TCA, Parsonage Gardens and St Anne's Square TCA and the northern portion of the Mixed-Use TCA across the River Irwell.
- 12.37 The Cathedral and Gardens and the western portion of the Parsonage Gardens and St Anne's Square will be more sensitive to these changes than the Mixed-Use TCA. The magnitude of change will be medium. There will be **moderate beneficial** effects on the Cathedral and Gardens and **moderate – minor beneficial** effects on the Mixed-Use TCA which are **not significant**.
- 12.38 The effects on the City Centre Retail TCA will be beneficial and upon completion of the Committed Developments 19 and 22 as well as the Proposed Development as there would be considerable change in this area. The magnitude of effect would be high. The effects will be positive and have been assessed as **major – moderate beneficial**, whilst these effects are **significant** and permanent.
- 12.39 For the remaining townscape character areas, the cumulative effects on the completion of all new development will be **minor beneficial** to **negligible** which is **not significant**.

Visual Effects

- 12.40 The cumulative visual effects upon completion of all the proposed sites is assessed as beneficial or neutral. The Committed Developments include development on existing waste ground or unattractive car parking areas, as well as significant improvements to an existing rundown unattractive building. The changes in views will be an

improvement on the existing views experienced. Further away from the city centre, any change in views towards tall modern built form would not be at odds with the existing wider panoramic context.

- 12.41 From Cathedral Gardens, further tall buildings would be visible on the skyline. The change in view would be neutral, taller buildings across the skyline would not be at odds with current setting.
- 12.42 The receptors using the public open spaces and streets to the north of the Site will experience views towards numerous new buildings and their associated public realm spaces. Views from Exchange Square, Greengate Square, and the Cathedral Approach have a high – medium sensitivity. The change in view would be high – medium beneficial resulting in **major – moderate beneficial** cumulative effects and **significant**.
- 12.43 From the surrounding roads including Deansgate and Victoria Road there would be clear views of Committed Developments. The sensitivity of these receptors is medium, and the magnitude of change would be high – medium beneficial, depending on the locations of the visual receptor along the route. The effects are also considered in the context of the existing unattractive views towards the Site. The resulting cumulative effects are **moderate beneficial** and **not significant**.
- 12.44 In views from Parsonage the proposed new development Committed Developments 19 and 22 will be more prominent in the foreground, the change in this view will be positive. Site 20 would not be visible cumulatively with the proposed development due to intervening built form, any change in sequential views along Parsonage would be positive.
- 12.45 There would be clear views of the Proposed Development and Committed Developments 11,12,19 and 22 from Blackfriars Street. Upon completion there would be high - medium beneficial magnitude of change for the view experienced. The sensitivity of the visual receptors using these routes is medium, resulting in **moderate beneficial** cumulative effects and **not significant**.
- 12.46 Views from Corporation Street and Cheetham Hill Road are more distant. From Corporation Street the Committed Development 1 will be a distracting feature in the foreground. From Cheetham Hill Road further new taller development will be visible on the skyline. Tall buildings are not at odds with the wider panoramic views experienced across the city. The sensitivity of users on these routes is assessed as medium – low. The magnitude of change is neutral – negligible resulting in a **negligible** cumulative effect and **not significant**.
- 12.47 The change in view from Victoria Station Arrival and St Anne's Square will be **negligible**.
- 12.48 Overall, the cumulative visual effects of the Proposed Development and the Committed Developments are beneficial. In some locations these effects are considered to be **significantly beneficial**.

Heritage

- 12.49 Committed development refs. 2, 3, 7, 9, 10, 13, 14, 15, 16, 17 & 18 have been scoped out of the cumulative assessment as they are on the peripheries of the 500m study area and there are no cumulative effects anticipated with the Proposed Development.

Approach

- 12.50 To understand the potential for in-combination effects with respect to heritage assets, a review of the technical reporting submitted in support of each cumulative scheme scoped into the assessment has been undertaken. In some cases, the technical reporting is not within the remit of the EIA Regulations and as such does not conclude specifically on levels of effects or significance in the same way as effects have been considered within an assessment undertaken for EIA development. Therefore, it has been considered appropriate that where reporting has concluded 'less than substantial harm' that there are no significant effects. Another limiting factor to the consideration of cumulative effects is that construction related effects are not uniformly reported.
- 12.51 Site ref: 1 – A Heritage and Townscape Impact Appraisal was submitted in connection with the application. It concluded that the committed development will preserve and in some cases enhance heritage assets and townscape, and will deliver clear and substantial public benefits for Manchester. There are no cumulative effects with the Proposed Development.
- 12.52 Site ref: 4 – A Heritage Statement was submitted in connection with this application. It concluded that the committed development would not have a direct impact on the fabric of any listed buildings or structures. There are no cumulative effects with the Proposed Development.
- 12.53 Site ref: 5 – A Heritage Assessment was submitted in connection with this application. It concluded that the obstruction of a view towards the Grade II listed tower of HMP Manchester from Gravel Lane/ Greengate was considered to be the only negative impact of the committed development. There are no cumulative effects with the Proposed Development.
- 12.54 Site ref: 6 – A Heritage Impact Assessment was submitted in connection with this application. It concluded that the potential impact on the setting of the conservation area and listed building has been found to be neutral in all cases. There are no cumulative effects with the Proposed Development.
- 12.55 Site ref: 8 – A Heritage Statement was submitted in connection with this application. It concluded that there was an overall beneficial impact on the historic built environment. In particular, the committed development will enhance the setting of the Grade II* listed Collier Street Baths and Grade II listed Eagle Inn. There are no cumulative effects with the Proposed Development.

- 12.56 Site ref: 11 – A Heritage Appraisal was submitted in association with this application. It concluded that the committed development will preserve and in some cases enhance heritage assets and townscape, and will deliver clear and substantial public benefits for Salford. There are no cumulative effects with the Proposed Development.
- 12.57 Site ref: 12 – A Heritage Statement was submitted in connection with this application. It concluded that the committed development will result in less than substantial harm with a cumulative visual heritage impact of minor/ negligible adverse. The three assets considered to have negligible/ adverse impact are 62, Chapel Street (Grade II*), 10 and 12 Blackfriars Street (Grade II) and 14 and 16, Blackfriars Street, (Grade II). We have concluded that there would be no adverse or beneficial effects on these assets. There are no cumulative effects with the Proposed Development.
- 12.58 Site ref: 19 – A Heritage Statement was submitted in connection with this application. It concluded that the committed development will sustain the significance of the heritage assets identified in the statement and preserve those aspects of setting that make a positive contribution to the identified assets. There are no cumulative effects with the Proposed Development during the operation phase but cumulative effects could arise during the construction phase.
- 12.59 Site ref: 20 – A Heritage Statement was submitted in connection with this application. It concluded that the committed development will result in instances of both beneficial and adverse direct impact upon the Grade II listed Kendals building, resulting in a major adverse direct impact to the listed building. There are no cumulative effects with the Proposed Development.
- 12.60 Site ref: 21 – A Heritage Statement was submitted in connection with this application. It concluded that the adverse visual impacts of the committed development should be considered in resulting in 'less than substantial harm'. A minor beneficial effect on the Grade II* listed Former Barton Arcade Building and the Grade II Haywards building was identified. A moderate adverse impact was identified on a group of Grade II listed townhouses in the heart of the Conservation Area. It was considered that whilst the committed development would result in some adverse heritage impact to St Ann's Square, it will be appropriately mitigated by the public benefits of the scheme. Site ref 21 is located in close proximity to the Site and therefore concurrent construction activities could have an influence on common assets. It is considered however, that the level of effect for the in-combination effect would still be the same as that reported for the Proposed Development in isolation (moderate adverse or below) as the Proposed Development is considered to contribute greater to the in-combination effect.
- 12.61 Site ref: 22 – A Heritage Statement was submitted in connection with this application. It concluded that the Proposed Development will sustain the significance of the heritage assets and will preserve those aspects of setting that make a positive contribution to the identified assets. Site ref 22 comprises part of the same site as the application site and therefore concurrent construction activities could have an influence on common assets. It is considered however, that the level of effect for the in-combination effect would still be the same as that

reported for the Proposed Development in isolation (moderate adverse or below) as the Proposed Development is considered to contribute greater to the in-combination effect.

- 12.62 Overall, should the construction phases of Site refs 19, 21 and 22 coincide with the construction phase of the Proposed Development there would be cumulative effects on Blackfriars Bridge, Victoria Bridge, Mynshull's House, the Mitre Hotel, the Cathedral Church of St Mary, the Cathedral Conservation Area and Dial House. It is considered however, that the level of effect for the in-combination effect would still be the same as that reported for the Proposed Development in isolation (moderate adverse or below) as the Proposed Development is considered to contribute greater to the in-combination effect.
- 12.63 Overall, it is not considered that there would be cumulative effects on built heritage assets during the operation phase.

Wind Microclimate

Approach

- 12.64 Cumulative conditions for the completed and operational development were established via testing a CFD scenario consisting of the Proposed Development within the cumulative surrounds.
- 12.65 The cumulative surrounds differed from the existing surrounds by including the following Committed Developments detailed in Table 12.1:
- Site Ref. 12 20/76134/FUL
 - Site Ref. 19 130446/FO/2021
 - Site Ref. 20 129251/FO/2021
 - Site Ref. 21 126328/FO/2020
 - Site Ref. 22 130935/FO/2021
- 12.66 The following consented scheme was under construction at the time of the report, so was included in both the existing and cumulative surrounds:
- Site Ref. 11 17/70626/FUL
- 12.67 Committed developments refs. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, and 18 were not included as they are outside of the wind microclimate study area (400m).

Likely Residual Cumulative Effects and their Significance

Construction Cumulative Effects

- 12.68 As the baseline conditions are relatively calm, and the existing on-site building is not of significant height, the demolition of the existing building should not reasonably be expected to have an impact on local conditions. This can be treated as a **negligible** wind effect (**not significant**).
- 12.69 During the construction of the Proposed Development, conditions will gradually change from the baseline conditions to the conditions experienced during the Operational Phase. As there are no significant adverse effects at ground level during the Operational Phase it is reasonable to expect that there will not be any adverse effects during this transition. Therefore, during the Construction Phase this can reasonably be treated as a **negligible** wind effect (**not significant**).

The Completed and Operational Development

Pedestrian Comfort

- 12.70 Error! Reference source not found. shows the winter comfort level at ground level for the Proposed Development with cumulative surrounds. Error! Reference source not found. shows the summer comfort level at ground level for the Proposed Development with cumulative surrounds.
- 12.71 Winter conditions range between sitting, standing and leisure walking throughout the study area. Summer conditions range between sitting and standing throughout the study area.
- 12.72 All thoroughfares and roadways are suitable for leisure walking at worst. This is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 12.73 Conditions at the bus stops are suitable for sitting or standing in any season. This is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 12.74 There are no regions of leisure walking adjacent to any buildings, so all building entrances will be suitable for either sitting or standing., This is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 12.75 The proposed ground level amenity is suitable for a mixture of sitting and standing in either winter or summer conditions. This is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 12.76 Error! Reference source not found. and Error! Reference source not found. show the winter comfort level at terrace level for the Proposed Development with cumulative surrounds. Error! Reference source not found. and Error! Reference source not found. show the summer comfort level at terrace level for the Proposed Development with cumulative surrounds.
- 12.77 Conditions at the Level 14 roof terrace are suitable for a mixture of standing and leisure walking in winter and a mixture of sitting and standing in summer conditions (there is a small region which is suitable for business walking in winter and leisure walking in summer, but this is not within the accessible area of the terrace). It should be noted that no terrace furniture or landscaping were included, which would reasonably be expected to create further regions of calmer conditions, but even without these, this is suitable for the intended use and any wind effects are **negligible (not significant)**.
- 12.78 Conditions at the Level 26 roof terrace are suitable for sitting in either winter or summer conditions (there are small regions which are suitable for business walking or uncomfortable, but this is not within the accessible area of the terrace). This is a category calmer than required, which is a **minor beneficial effect (not significant)**.
- 12.79 Conditions for the west facing balconies are suitable for sitting in either summer or winter conditions. This is a category calmer than required, which is a **minor beneficial effect (not significant)**.

- 12.80 Conditions for the south facing balconies are suitable for a mixture of sitting, standing and leisure walking in winter conditions and for a mixture of sitting and standing in summer conditions. This is suitable for the intended use and any wind effects are **negligible (not significant)**.

Strong Winds

- 12.81 Error! Reference source not found. shows the strong winds at ground level for the Proposed Development with cumulative surrounds.
- 12.82 Error! Reference source not found. and Error! Reference source not found. show the strong winds at terrace level for the Proposed Development with cumulative surrounds.
- 12.83 There are no recorded risks of strong winds at ground level anywhere within the study area. This is suitable for the intended use and is a **negligible** wind effect **(not significant)**.
- 12.84 There are some small regions of strong winds around the extremity of the roof terrace areas, but none of these are within accessible regions and hence there are no recorded risks of strong winds for the usable regions at terrace or balcony levels. This is suitable for the intended use and is a **negligible** wind effect **(not significant)**.

Socio-economics

Approach

- 12.85 Of the Sites presented in Table 12.1, all sites are scoped into the assessment due to the potential for cumulative socio-economic impacts. The assessment presented is qualitative and has drawn on what information is available.

Demolition and Construction Cumulative Impacts

Direct, Indirect and Induced Job Creation

- 12.86 With respect to direct, indirect and induced job creation, the demolition and construction stage is anticipated to generate likely effects of major beneficial significance at the district level (Manchester) and **minor beneficial** effects at the sub-regional level (Greater Manchester).
- 12.87 There will be further direct, indirect and induced employment opportunities associated with each of the Cumulative Sites in conjunction with the Proposed Development, assuming that the demolition and construction stages are concurrent. The likely cumulative effects in relation to direct, indirect and induced job creation are considered to be greater beneficial significance than the Proposed Development. It follows that, at the district level, if demolition and construction stages are concurrent, the overall cumulative effect has potential to be major beneficial, which is significant. At the sub-regional level, if demolition and construction stages are concurrent, the overall cumulative effect has potential to be **moderate beneficial**, which is **significant**.

Expenditure from the Temporary Construction Workforce

- 12.88 With respect to expenditure from the temporary construction workforce during the demolition and construction stage, there is anticipated to be likely effects of major beneficial significance at the district level (Manchester) and negligible effects at the sub-regional level (Greater Manchester). It is expected that there will be further expenditure from the temporary construction workforce associated with each of the Cumulative Sites in conjunction with the Proposed Development, assuming that the demolition and construction stages are concurrent. Therefore, the likely cumulative effects in relation to expenditure from the temporary construction workforce is considered to be of greater beneficial significance than that concluded for the Proposed Development. At the district level, if demolition and construction stages are concurrent, the overall effect has potential to be major beneficial, which is significant. At the sub-regional level, if demolition and construction stages are concurrent, the overall cumulative effect has potential to be **minor beneficial**, which is **not significant**.

Completed Development

Direct, Indirect and Induced Job Creation

- 12.89 Cumulative Sites 1, 3, 4, 6, 7, 13, 15, 16, 18, and 20 are anticipated to generate operational employment opportunities once completed. Other sites listed are not considered to have potential cumulative effects with the Proposed Development in terms of direct, indirect and induced job creation once operational.
- 12.90 As reported in Chapter 9: Socioeconomics, the completed development is anticipated to generate effects of negligible beneficial significance on economic receptors (i.e. individuals of working age) at the district level (Manchester) and negligible effects at sub-regional level (Greater Manchester). There will be further direct, indirect and induced employment opportunities associated with the relevant Cumulative Sites. Therefore, the likely cumulative effects in relation to direct, indirect and induced job creation are considered to be of greater beneficial significance than that concluded for the completed development at both the district and sub-regional levels.

Increase in Household Spend

- 12.91 The Cumulative Sites include the provision of residential units which would increase the residential population within Manchester city and Greater Manchester.
- 12.92 The relevant Cumulative Sites would collectively provide approximately 4,655 residential units. Combining this with the 300 residential units to be delivered by the Proposed Development results in 4,955 residential units. Based on the same methodology outlined earlier in this chapter, the net additional household expenditure generated by the new residential population at the Proposed Development and the identified Cumulative Sites would be around £118,987,388 per annum. Therefore, overall, the likely residual cumulative effects of an increase in household spending are considered to be major beneficial in the long-term at the district level, which is significant and **major beneficial** in the long term at the sub-regional level, also **significant**.

Increase in Housing Stock

- 12.93 In the context of Manchester housing targets, the Proposed Development together with the Cumulative Sites 1, 3-10, 14 and 17 represents 19.82% (total of 4,955 homes inclusive of the 300 units within the proposed development) of the total housing target based on Manchester Residential Growth Strategy (2016) target to provide 25,000 new homes in a ten-year period between 2016 and 2025. Therefore, overall the likely residual cumulative effects of an increase in household stock are considered to be **major beneficial** in the long-term at the district level, which is **significant**.

Mitigation Measures

Demolition and Construction

- 12.94 No additional mitigation measures are considered to be required during the demolition and construction phase of the Proposed Development.

Completed Development

- 12.95 No additional mitigation measures are considered to be as required during the operational phase of the Proposed Development.

Residual Impact

- 12.96 The cumulative impacts relating to job creation and expenditure during the demolition and construction phase, and job creation, household spending, and contribution to the housing stock during the completed development stage are all considered to be **major beneficial** which is **significant**. All other cumulative impacts are not significant.

Health

- 12.97 All developments identified in Table 12.1 have been scoped into the Health cumulative assessment given the potential for cumulative effects on the determinants of health considered in the health assessment.

Approach

Construction and Demolition

- 12.98 In terms of Active Travel, it is unlikely cumulative construction traffic will affect the same receptors at the same time, although it should be noted that some of the other development schemes have not explicitly assessed construction traffic. Cumulative effects on walking routes that are likely to affect the same receptors at the same time have also not been explicitly identified. No significant effects on health in the active travel category have been identified.
- 12.99 In terms of Healthy Environment, given the distance of the majority of the schemes from the Proposed Development, it is unlikely there will be cumulative effects associated with dust or noise that will affect the same receptors at the same time. In relation to the cumulative effects from developments within 350m of the Site (screening distance for air quality construction impacts), the implementation of the proposed mitigation measures (including CEMP) and will help reduce effects on individual sensitive receptors such that cumulative effects are unlikely to occur.
- 12.100 No cumulative effects on flood risk or ecology are anticipated and overall ground conditions will be improved through development, although no significant effects on health are identified.
- 12.101 In terms of vibrant neighbourhoods, there may be a **major beneficial** effect associated with creating demolition and construction jobs which is **significant**.
- 12.102 There may be some cumulative effects associated with community cohesion and stress / uncertainty to groups that have strong views / perceived risks regarding the development. However, providing that the committed developments produce a programme of communication, and implement further plans for engaging and seeking the views of the community the anticipated effect will be **negligible** which is **not significant**.

The Completed and Operational Development

- 12.103 In terms of healthy housing, the cumulative provision of housing stock (amounting to 4,955) will provide a **major beneficial** effect on human health which is **significant**.
- 12.104 In terms of active travel, the Proposed Development will include only seven car parking spaces which will not generate significant numbers of vehicle trips. The Transport Assessments submitted with the cumulative scheme's have shown that the existing highway network has sufficient capacity to accommodate the forecast

traffic flows from the Committed Developments. Therefore, no significant cumulative effects on health are anticipated.

- 12.105 In terms of Healthy Environment, no cumulative effects on air quality, flood risk, or ecology are anticipated and overall ground conditions will be improved through development, although no significant effects on health are identified. In relation to noise and vibration, with the implementation of the proposed mitigation measures, including good acoustic design at the detailed design stage, no significant cumulative effects are anticipated in relation to health.
- 12.106 Whilst cumulatively there will be an increase in taller buildings in the local townscape, the townscape character is not anticipated to be significantly affected.

Climate Change

- 12.107 In terms of Climate Change, which is a global issue, comprehensive consideration of inter-cumulative effects (i.e. effects in combination with other developments) would need to account for every other development and activity that generates carbon emissions or releases other greenhouse gases. As this encompasses, to varying degrees, most of the activity on the globe it is not practical nor helpful, to consider inter-cumulative effects, beyond recognising that it is necessary to reduce carbon emissions across the board and that all development has a duty to reduce its own emissions.
- 12.108 It is unreasonable for the purposes of a planning application to quantify all sources of emissions from other third-party developments for the following reasons:
- The emissions from other developments fall under Scope 3¹, which do not form part of the assessment under the methodology outlined in Chapter 11: Climate Change;
 - Large technical data requirements from other developments are not accessible;
 - It would require a huge interlinking scope of assessment that would exceed that expected of a planning application for any one development;
 - It is not feasible to undertake a high-level chemical assessment to analyse likely synergistic impacts between different emissions from varying developments; and
 - Complicated, unpredictable chemical reactions driven by atmospheric, climatic and behavioural factors are beyond the Applicant's control.
- 12.109 Intra-cumulative effects (i.e. climate change effects in combination with other environmental effects on a common receptor) are also unrealistic to appraise. Climate change effects manifest as effects considered within other environmental disciplines, for example air quality and flood risk, but do not have a quantifiable direct effect on local receptors. The effects act on a global receptor but the individual contribution from a single development of this scale is almost indistinguishable. It is the additive effects from all the other development globally that poses the potential catastrophic threat.

¹ As defined by the GHG Protocol, Scope 1 are direct emissions from a company's owned or controlled sources, e.g., from the natural gas boilers used to heat buildings. Scope 2 are indirect emissions from the generation of purchased energy. Scope 3 are all other indirect emissions that occur, including those of a company's suppliers (upstream) and customers (downstream).

Synergistic Effects

- 12.110 This section assesses the combination of some or all of the effects identified in the EIA on the sensitive receptors identified throughout the process. As with any development, there is the potential for impacts on different components of the environment to interact, both within and outside of the immediate area of the development.

Construction

- 12.111 Nearby sensitive receptors have the potential to be affected by synergistic effects during the demolition and construction phase of the Proposed Development. The townscape character and views of the Site are anticipated to change as a result of the construction of the Proposed Development. Construction phase activities which include construction traffic and construction plant equipment will result in dust and noise and consequently will have an adverse effect on nearby receptors. However, these impacts are anticipated to be short term in nature and will not be significant. The adoption of a CEMP will ensure that impacts on sensitive receptors are reduced as far as possible. It is recommended that the delivery of this document is secured by planning condition.
- 12.112 In addition, there are beneficial impacts relating to socio-economics in terms of the creation of employment opportunities during construction, which has associated positive impacts on the local economy.

Completed Development

- 12.113 The townscape character and views of the Site are anticipated to change as a result of the construction of new built development. However, there is also anticipated to be a beneficial impact with regards to townscape as the proposed development will create a strong sense of place and frame views, creating an overall beneficial effect on the townscape and visual amenity. Noise and also air quality impacts are minimised and will not result in any significant adverse impacts on local receptors. In addition, there are beneficial health, social and economic impacts for future and existing residents resulting from increased housing stock, employment and spend in the local economy.

Conclusion

12.114 Review of MCC and SCC's planning portals has confirmed that there are developments which have the potential to interact with the Proposed Development and generate cumulative effects. Therefore, a cumulative assessment has been undertaken. The results of which have identified that the majority of effects at the construction phase are anticipated to be not significant. There are significant adverse effects anticipated associated with townscape character and visual amenity, however, these effects will be temporary. Significant beneficial effects are anticipated with regards to job creation which affects socio-economic and health. No significant adverse effects are anticipated at the operational phase of the development. Significant beneficial cumulative effects are anticipated with regards to townscape value and visual amenity and increase in housing stock. Consideration has also been given to synergistic effects of the proposals which has identified a number of effects to those receptors in close proximity during the construction period. However, these are predicted to occur on occasional basis only, are temporary, short-term and localised.

13. Summary of Mitigation and Residual Effects

Introduction

- 13.1 The EIA and the design evolution have been an iterative process therefore many measures to mitigate potential adverse environmental effects have been incorporated into the design of the proposed development in order to avoid, reduce or offset negative changes. These measures are 'embedded mitigation' and are presented in Chapter 5: Proposed Development. They have been accounted for in each of the technical assessments, where relevant (see Chapters 7-11).
- 13.2 The residual effects of the proposed development have been assessed as part of the EIA and can be described as the effects which remain after the implementation of the embedded and any additional proposed mitigation measures. The residual effects have been identified for each category in the preceding technical chapters (Chapters 7-11) and are summarised in Table 13.1. It is expected that the appropriate mitigation measures will be secured through appropriately worded planning conditions. Reference should be made to each technical chapter for the definition of the significance of the effect stated.
- 13.3 Following the table is a discussion of the residual effects and a conclusion.

Table 13.1: Summary of Mitigation and Residual Effects

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
Townscape and Visual	Demolition and Construction	Impact on the Cathedral, Cathedral Gardens Townscape Character Area and its setting resulting in Major - Moderate Adverse/ Short Term / Temporary / Local Level effects	No additional mitigation identified beyond embedded mitigation.	Major - Moderate Adverse/ Short Term / Temporary / Local Level which is not significant
		Impact on the City Centre Retail Area Townscape Character Area resulting in Moderate Adverse/ Short Term / Temporary / Local Level effects		Moderate Adverse/ Short Term / Temporary / Local Level which is not significant
		Impact on the Parsonage Gardens and St Anne's Square Townscape Character Area resulting in Minor Adverse/ Short Term / Temporary / Local Level effects		Minor Adverse/ Short Term / Temporary / Local Level which is not significant
		Impact on the Shudehill Townscape Character Area resulting in Minor Adverse/ Short Term / Temporary / Local Level effects		Minor Adverse/ Short Term / Temporary / Local Level which is not significant
		Impact on the mixed-use area to the west of the River Irwell Townscape Character Area resulting in Minor Adverse/ Short Term / Temporary / Local Level effects		Minor Adverse/ Short Term / Temporary / Local Level which is not significant
		Impact on the Trinity Church and its setting Townscape Character Area resulting in Minor Adverse/ Short Term / Temporary / Local Level effects		Minor Adverse/ Short Term / Temporary / Local Level which is not significant
		Impact on the Users of Cathedral Gardens (VP1.1) resulting in Major - Moderate Adverse/ Short Term/		Major - Moderate Adverse/ Short Term/ Temporary which

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Temporary effects		is not significant
		Impact on the Users of Exchange Square (VP2.1 – 2.2) resulting in Major - Moderate Adverse/ Short Term/ Temporary effects		Major - Moderate Adverse/ Short Term/ Temporary which is not significant
		Impact on the Users of Greengate Square (VP3.1) resulting in Major - Moderate Adverse/ Short Term/ Temporary effects		Major - Moderate Adverse/ Short Term/ Temporary which is not significant
		Impact on the Users of Cathedral Approach (VP4.1) resulting in Major - Moderate Adverse/ Short Term/ Temporary effects		Major - Moderate Adverse/ Short Term/ Temporary which is not significant
		Impact on the Users of Victoria Station Arrival (VP5.1) resulting in Minor Adverse/ Short Term/ Temporary effects		Minor Adverse/ Short Term/ Temporary which is not significant
		Impact on the Users of Deansgate/ A56 (VP6.1 – 6.2) resulting in Moderate Adverse/ Short Term/ Temporary effects		Moderate Adverse/ Shot Term/ Temporary which is not significant
		Impact on the Users of Parsonage (VP7.1) resulting in Minor Adverse/ Short Term/ Temporary effects		Minor Adverse/ Short Term/ Temporary which is not significant
		Impact on the Users of Blackfriars Street (VP8.1 – 8.2) resulting in Moderate - Minor Adverse/ Shot Term/		Moderate - Minor Adverse/ Short Term/ Temporary which

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Temporary effects		is not significant
		Impact on the Users of Victoria Street (VP9.1) resulting in Moderate Adverse/ Short Term/ Temporary effects		Moderate Adverse/ Short Term/ Temporary which is not significant
		Users of Corporation Street (VP10.1) resulting in Moderate - Minor Adverse/ Short Term/ Temporary effects		Moderate - Minor Adverse/ Short Term/ Temporary which is not significant
		Impact on the Users of Cheetham Hill Road (VP11.1) resulting in Minor Adverse/ Short Term/ Temporary effects		Minor Adverse/ Short Term/ Temporary which is not significant
		Impact on the Users of St Anne's Square (VP12.1) resulting in Negligible effects		Negligible which is not significant
	Completed Development	Impact on the Cathedral, Cathedral Gardens Townscape Character Area and its setting resulting in Moderate Beneficial/ Long Term / Permeable/ Local Level effects	No additional mitigation identified beyond embedded mitigation.	Moderate Beneficial/ Long Term / Permanent / Local Level which is not significant
		Impact on the City Centre Retail Area Townscape Character Area resulting in Moderate Beneficial/ Long Term / Permeable/ Local Level effects		Moderate Beneficial/ Long Term / Permanent / Local Level which is not significant
		Impact on the Parsonage Gardens and St Anne's Square Townscape Character Area resulting in Neutral		Neutral Long Term / Permanent/ Local Level which is

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Long Term / Permanent/ Local Level effects		not significant
		Impact on the Shudehill Townscape Character Area resulting in Neutral Long Term / Permanent/ Local Level effects		Neutral Long Term / Permanent/ Local Level which is not significant
		Impact on the mixed-use area to the west of the River Irwell Townscape Character Area resulting in Neutral Long Term / Permanent/ Local Level effects		Neutral Long Term / Permanent/ Local Level which is not significant
		Impact on the Trinity Church and its setting Townscape Character Area resulting in Neutral Long Term / Permanent/ Local Level effects		Neutral Long Term / Permanent/ Local Level which is not significant
		Impact on the Users of Cathedral Gardens (VP1.1) resulting in Moderate Beneficial / Long Term/ Permanent effects		Moderate Beneficial / Long Term/ Permanent which is not significant
		Impact on the Users of Exchange Square (VP2.1 – 2.2) resulting in Moderate Beneficial / Long Term/ Permanent effects		Moderate Beneficial / Long Term/ Permanent which is not significant
		Impact on the Users of Greengate Square (VP3.1) resulting in Moderate Beneficial / Long Term/ Permanent effects		Moderate Beneficial / Long Term/ Permanent which is not significant
		Impact on the Users of Cathedral Approach (VP4.1) resulting in Moderate Beneficial / Long Term/		Moderate Beneficial / Long Term/ Permanent which is not

Category	Stage Development of	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Permanent effects		significant
		Impact on the Users of Victoria Station Arrival (VP5.1) resulting in Neutral / Long Term/ Permanent effects		Neutral / Long Term/ Permanent which is not significant
		Impact on the Users of Deansgate/ A56 (VP6.1 – 6.2) resulting in Moderate Beneficial / Long Term/ Permanent effects		Moderate Beneficial / Long Term/ Permanent which is not significant
		Impact on the Users of Parsonage (VP7.1) resulting in Minor Beneficial / Long Term/ Permanent effects		Minor Beneficial / Long Term/ Permanent which is not significant
		Impact on the Users of Blackfriars Street (VP8.1 – 8.2) resulting in Moderate – Minor Beneficial / Long Term/ Permanent effects		Moderate – Minor Beneficial / Long Term/ Permanent which is not significant
		Impact on the Users of Victoria Street (VP9.1) resulting in Moderate - Minor Beneficial / Long Term/ Permanent		Moderate – Minor Beneficial / Long Term/ Permanent which is not significant
		Users of Corporation Street (VP10.1) resulting in Neutral / Long Term/ Permanent effects		Neutral / Long Term/ Permanent which is not significant
		Impact on the Users of Cheetham Hill Road (VP11.1) resulting in Neutral / Long Term/ Permanent effects		Neutral / Long Term/ Permanent which is not significant

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
				significant
		Impact on the Users of St Anne's Square (VP12.1) resulting in Negligible effects		Negligible / Long Term/ Permanent which is not significant
Heritage	Demolition and Construction	Change in the setting of Blackfriars Bridge resulting in minor adverse effects	No additional mitigation identified beyond embedded mitigation.	Minor adverse which is not significant
		Change in the setting of Blackfriars Street Group resulting in negligible effects		Negligible which is not significant
		Change in the setting of 4 Booth Street resulting in negligible effects		Negligible which is not significant
		Change in the setting of 62 Chapel Street resulting in negligible effects		Negligible which is not significant
		Change in the setting of Church of the Sacred Trinity and Salford War Memorial resulting in negligible effects		Negligible which is not significant
		Change in the setting of Haywards Building resulting in negligible effects		Negligible which is not significant
		Change in the setting of Barton Arcade resulting in negligible effects		Negligible which is not significant

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Change in the setting of Royal Exchange resulting in negligible effects		Negligible which is not significant
		Change in the setting of St Ann's Square Group resulting in negligible effects		Negligible which is not significant
		Change in the setting of Cateaton Street Group (Mynshulls House and Mitre Hotel) resulting in minor adverse effects		Minor adverse which is not significant
		Change in the setting of Cathedral Church of St Mary resulting in moderate adverse effects		Moderate adverse which is not significant
		Change in the setting of Former Corn and Produce Exchange resulting in negligible effects		Negligible which is not significant
		Change in the setting of Chethams School Complex resulting in negligible effects		Negligible which is not significant
		Change in the setting of Victoria Bridge resulting in moderate adverse effects		Moderate adverse which is not significant
		Change in the setting of Railway Viaduct and Bridges at junction with Greengate resulting in minor adverse effects		Minor adverse which is not significant
		Change in the setting of Cathedral Conservation Area		Minor adverse which is not

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		resulting in minor adverse effects		significant
		Change in the setting of Parsonage Gardens Conservation Area resulting in negligible effects		Negligible which is not significant
		Change in the setting of St Ann's Square Conservation Area resulting in negligible effects		Negligible which is not significant
		Change in the setting of Flat Iron Conservation Area resulting in negligible effects		Negligible which is not significant
		Change in the setting of Hanging Bridge resulting in negligible effects		Negligible which is not significant
		Change in the setting of Dial House resulting in minor adverse effects		Minor adverse which is not significant
		Change in the setting of Warehouse on Booth Street resulting in negligible effects		Negligible which is not significant
	Completed Development	Change in the setting of Blackfriars Bridge resulting in negligible effects	No additional mitigation identified beyond embedded mitigation.	Negligible which is not significant
		Change in the setting of Blackfriars Street Group resulting in negligible effects		Negligible which is not significant
		Change in the setting of 4 Booth Street resulting in		Negligible which is not

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		negligible effects		significant
		Change in the setting of 62 Chapel Street resulting in negligible effects		Negligible significant which is not
		Change in the setting of Church of the Sacred Trinity and Salford War Memorial resulting in negligible effects		Negligible significant which is not
		Change in the setting of Haywards Building resulting in negligible effects		Negligible significant which is not
		Change in the setting of Barton Arcade resulting in negligible effects		Negligible significant which is not
		Change in the setting of Royal Exchange resulting in negligible effects		Negligible significant which is not
		Change in the setting of St Ann's Square Group resulting in negligible effects		Negligible significant which is not
		Change in the setting of Cateaton Street Group (Mynshulls House and Mitre Hotel) resulting in negligible effects		Negligible significant which is not
		Change in the setting of Cathedral Church of St Mary resulting in moderate adverse effects		Moderate adverse not significant which is

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Change in the setting of Former Corn and Produce Exchange resulting in negligible effects		Negligible which is not significant
		Change in the setting of Chethams School Complex resulting in negligible effects		Negligible which is not significant
		Change in the setting of Victoria Bridge resulting in negligible effects		Negligible which is not significant
		Change in the setting of Railway Viaduct and Bridges at junction with Greengate resulting in negligible effects		Negligible which is not significant
		Change in the setting of Cathedral Conservation Area resulting in minor adverse effects		Minor adverse which is not significant
		Change in the setting of Parsonage Gardens Conservation Area resulting in negligible effects		Negligible which is not significant
		Change in the setting of St Ann's Square Conservation Area resulting in negligible effects		Negligible which is not significant
		Change in the setting of Flat Iron Conservation Area resulting in negligible effects		Negligible which is not significant
		Change in the setting of Hanging Bridge resulting in negligible effects		Negligible which is not significant

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Change in the setting of Dial House resulting in negligible effects		Negligible which is not significant
		Change in the setting of Warehouse on Booth Street resulting in negligible effects		Negligible which is not significant
Wind Microclimate	Demolition and Construction	Effects on local thoroughfares resulting in negligible effects	None required	Negligible which is not significant
		Effects on building entrances resulting in negligible effects		Negligible which is not significant
		Effects on bus stops resulting in negligible effects		Negligible which is not significant
	Completed development	Effects on local thoroughfares resulting in negligible effects	None required	Negligible which is not significant
		Effects on building entrances resulting in negligible effects		Negligible which is not significant
		Effects on bus stops resulting in negligible effects		Negligible which is not significant
		Effects on amenity spaces resulting in negligible to minor beneficial effects		Negligible to minor beneficial which is not significant

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
Socioeconomic	Demolition and Construction	Direct, indirect and induced job creation resulting in major beneficial effects at the district level and minor beneficial effects at the sub-regional level	None required	Major beneficial at the district level (significant).
		Expenditure from the temporary construction workforce resulting in major beneficial effects at the district level and negligible effects at the sub-regional level		Minor beneficial at the sub-regional level (not significant).
	Completed Development	Direct job creation from the retail elements of the proposal resulting in negligible effects at the district and sub-regional levels.	None required	Negligible which is not significant
		Increase in household spend resulting in major beneficial effects at the district level and moderate beneficial effects at the sub-regional level.		Major beneficial at the district level which is significant
		Increase in housing stock resulting in major beneficial effects at the district level		Moderate beneficial at the sub-regional level which is significant
		Change in demand on social and community infrastructure resulting in the following effects:		Major beneficial at the district level which is significant
				Education
				Primary school capacity:

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Education Primary school capacity: Negligible at the local level Secondary school capacity: Negligible at the local level Healthcare Negligible at the local level Community Facilities Negligible at the local level Open and Recreational Space Major beneficial at the local level		Negligible at the local level which is not significant Secondary school capacity: Negligible at the local level which is not significant Healthcare Negligible at the local level which is not significant Community Facilities Negligible at the local level which is not significant Open and Recreational Space Major beneficial at the local level which is significant
Health	Demolition and Construction	Potential effects on Safety of pedestrians and cyclists resulting in minor adverse effects	Measures implemented within the CEMP	Negligible which is not significant
		Increased volumes of construction traffic resulting in effects on Connectivity resulting in minor adverse effects	Measures implemented within the CEMP	Negligible which is not significant
		Construction activities resulting in effects on Air	Measures implemented within the	Negligible which is not

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		Quality resulting in moderate adverse effects	CEMP	significant
		Construction activities resulting in effects on Noise resulting in minor adverse effects	Measures implemented within the CEMP	Negligible which is not significant
		Jobs created during the construction phase effecting Local Employment resulting in major beneficial effects	None required	Major beneficial which is significant
		Stress and uncertainty during the planning and construction phases causing effects on community cohesion resulting in moderate adverse effects	Programme of communication, and implementation of further plans for engaging and seeking the views of the community	Negligible which is not significant
	Completed Development	Availability of good Housing Design / Accessible Housing / Healthy Living resulting in negligible to moderate adverse effects	Soils used to support vegetation which will be maintained. Use of fans, internal plants, use of blinds and curtains. Use of good quality insulation in the building design and natural ventilation. Potential use of active ventilation and dehumidification if required. Sensitive electrical circuits to be installed sufficiently above any potential flood water levels	Negligible which is not significant

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
			Regular inspection of structure and cladding. High quality energy efficient lighting used throughout building.	
		Effects of the Proposed Development on Housing Mix and affordability resulting in major beneficial effects	None required	Major beneficial which is significant
		Potential effects on pedestrians who are Walking and Cycling resulting in negligible effects		Negligible which is not significant
		Potential effects on Safety resulting in negligible effects		Negligible which is not significant
		Potential effects on Connectivity resulting in negligible effects		Negligible which is not significant
		Potential effects on Minimising Car Use resulting in minor beneficial effects	Implement Travel Plan	Minor beneficial which is not significant
		Potential effects on Play space, open space and physical recreation resulting in negligible effects	None required	Negligible which is not significant
		Potential effects on access to Health Services resulting in negligible effects		Negligible which is not significant
		Potential effects on access to Education resulting in		Negligible which is not

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		negligible effects		significant
		Potential effects on Access to Social Infrastructure, public buildings and spaces and local food shops resulting in minor beneficial effects		Minor beneficial which is not significant
		Potential effects on Local Employment resulting in negligible effects		Negligible which is not significant
		Potential effects on Community Cohesion resulting in minor beneficial effects		Minor beneficial which is not significant
Climate Change	Demolition and Construction	All Construction and Demolition Activities resulting in increased emissions which contribute to climate change resulting in negligible effects.	Best Practice Construction Methods	Minor beneficial which is not significant
	Completed Development	Impacts on the climate as a result of energy efficiency of buildings resulting in major beneficial effects	None required	Major beneficial which is significant
		Impacts on the Proposed Development as a result of Soil Drying resulting in minor adverse effects	Good Design – in the urban setting, soils supporting vegetation help aid reduction of the urban heat island effect. Ensuring those soils on site which support trees and green spaces, are maintained in good condition will help mitigate.	Minor adverse which is not significant
		Impacts on the Proposed Development as a result of	Good Design – various measures	Minor adverse which is not

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		changes to Temperature resulting in moderate adverse effects	are embedded in the design (e.g. fabric efficiency, pipe lagging, natural ventilation etc) but additional mitigation in the form of fans, internal plants, use of blinds and curtains etc could be used to help achieve a more comfortable environment at times of heat stress.	significant
		Impacts on the Proposed Development as a result of changes to Relative Humidity resulting in moderate adverse effects	Good Design – the use of good quality insulation in the building design and natural ventilation. Potential use of active ventilation and dehumidification if specific issues are identified.	Minor adverse which is not significant
		Impacts on the Proposed Development as a result of changes to Precipitation resulting in moderate adverse effects	Good Design – taking proper account of flood risk and mitigation measures as per the flood risk assessment. Ensuring sensitive electrical circuits are installed sufficiently above any potential flood water levels, and developing readiness plans to respond to flooding in the event lower levels of the building are affected.	Minor adverse which is not significant
		Impacts on the Proposed Development as a result of	Good Design – factor of safety in-built within design specifications.	Minor adverse which is not

Category	Stage of Development	Description of Potential Effects Including Significance	Mitigation Measures	Residual Effect Including Significance
		changes to Gales resulting in moderate adverse effects	Regular inspection of structure and cladding to ensure it is maintained in good order.	significant
		Impacts on the Proposed Development as a result of changes to Radiation resulting in moderate adverse effects	Good Design – building fabrics and low emissivity glazing will help. Internal curtains and blinds can be used to help reduce issues but may rely on resident behavioural change.	Minor adverse which is not significant
		Impacts on the Proposed Development as a result of changes to Cloud Cover resulting in minor adverse effects	Good Design – high quality energy efficient lighting used throughout building. Additional internal lighting in the form of lamps or other portable lighting to augment building lights if required.	Minor adverse which is not significant

Summary and Conclusions

- 13.4 A comprehensive assessment of the potential effects of the construction and operational phases of the proposed development has been undertaken as part of this EIA to establish the environmental changes associated with the development.
- 13.5 The proposed development has been designed in accordance with the findings and recommendations of the EIA. Any adverse effects identified through the assessment have been minimised as far as possible through the design process or the application of appropriate mitigation measures. Those effects associated with the construction activities will be controlled by a CEMP.
- 13.6 Effects during demolition and construction period are considered to be short term **negligible** for the majority of impacts which are **not significant**. Some **minor adverse** effects are anticipated with regards to the potential effects on heritage assets, but these are also deemed **not significant**. **Moderate adverse** effects are also anticipated with regards to townscape character, visual amenity and heritage assets though these are **not significant**. Some **major-moderate adverse** effects are anticipated with regards to townscape and visual amenity which are **significant**. These are anticipated to be short term and last the duration of the construction phase.
- 13.7 A **minor beneficial** effect is anticipated at the construction phase in relation to climate change which is **not significant**. **Major beneficial** effects are also anticipated during the construction phase with regards to the creation of construction jobs. This is a **significant** effect expected to last the duration of the construction phase.
- 13.8 Potential environmental impacts of the completed development are predominantly **negligible** which are **not significant**. There are some **minor adverse impacts** identified at completed development stage relating to potential impact on the Cathedral Conservation Area and the resilience of the development to climate change, though these are deemed to be **not significant**. **Minor beneficial** effects (**not significant**) are anticipated with regards to wind and health. There are anticipated to be **moderate – major beneficial** effects on townscape and visual receptors which is **significant**. **Significant beneficial** health and socio-economic impacts are anticipated as a result of the permanent increase in housing stock.
- 13.9 The proposed development constitutes a sustainable, high quality development which accords with national and local planning policy. It will result in improvements to the townscape and visual amenity on Site and surrounding area and significant socio-economic and health benefits. Ultimately, the completed development will bring about a sympathetically designed development that contributes to the economic, social and environmental aspirations of the Council.

Abbreviations

AADT	Annual Average Daily Traffic
AAP	Area Action Plan
AAWT	Annual Average Weekday Traffic
AIA	Aboricultural Impact Assessment
ACM	Asbestos Containing Materials
ADM	Atmospheric Dispersion Model
ADMS	Atmospheric Dispersion Modelling System
ADS	Acoustic Design Statement
AOD	Above Ordnance Datum
APIS	Air Pollution Information Service
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
ARUN	Automatic Urban and Rural Network
ASHE	Annual Survey of Hours and Earnings
AUN	Automatic Urban Network
BAP	Biodiversity Action Plan
BBS	Breeding Birds Survey
BCT	Bat Conservation Trust
BEIS	Business, Energy and Industrial Strategy
BGL	Below Ground Level
BGS	British Geological Survey
BHS	Biological Heritage Site
BoCC	Birds of Conservation Concern
BPM	Best Practicable Means
BRE	Building Research Establishment
BRES	Business Register Employment Survey
BREEAM	Building Research Establishment Environmental Assessment Methods
BS	British Standard
BTO	British Trust for Ornithology
CAFE	Clean Air For Europe
CEMP	Construction Environmental Management Plan
CERC	Cambridge Environmental Research Consultants
CFC	Chlorofluorocarbons
CFD	Computational Fluid Dynamic
CH₄	Methane
CHP	Combined Heat and Power
CIBSE	Chartered Institute of Building Services Engineers
CIEEM	Chartered Institute of Ecology and Environmental Management
CITB	Construction Industry Training Board
CLEA	Contaminated Land Exposure Assessment
CO	Carbon Monoxide
CO₂	Carbon Dioxide
CoCP	Control of Construction Practice
COPA	Control of Pollution Act
COSHH	Control of Substances Hazardous to Health
CRoW	Countryside Rights of Way
CRTN	Calculation of Road Traffic Noise
CS	Core Strategy

DAS	Design and Access Statement
dB	Decibels
DBA	Desk Based Assessment
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food & Rural Affairs
DER	Dwelling Emissions Rate
DETR	Department of the Environment, Transport and Regions
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
DMP	Dust Management Plan
DoE	Department of Environment
DPD	Development Plan Document
DQRA	Detailed Quantitative Risk Assessment
EA	Environment Agency
EC	European Commission
ECoW	Ecological Clerk of Works
EcIA	Ecological Impact Assessment
eDNA	Environmental DNA
EfW	Energy from Waste
EFT	Emissions Factor Toolkit
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
ELMP	Ecological and Landscape and Management Plan
EPA	Environmental Protection Act
EPU	Environmental Protection Unit
EPS	European Protected Species
EPUK	Environmental Protection UK
EQS	Environmental Quality Standards
EQSD	Directive on Environmental Quality Standards
ES	Environmental Statement
EU	European Union
FCS	Favourable Conservation Status
FEC	Far East Consortium International Limited
FFL	Finished Floor Level
FRA	Flood Risk Assessment
FTE	Full Time Equivalent
FTP	Framework Travel Plan
GCN	Great Crested Newt
GDPO	General Development Procedure Order
GEA	Gross External Area
GHG	Greenhouse Gas
GIR	Ground Investigation Report
GIS	Geographical Information System
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GMHER	Greater Manchester Historic Environment Record
GQRA	Generic Quantitative Risk Assessment
GTP	Green Travel Plan
H₂S	Hydrogen Sulphide
Ha	Hectare
HA	Highways Agency
HC	Hydrocarbons
HDV	Heavy Duty Vehicle

HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HIA	Heritage Impact Assessment
HMP	Habitat Management Plan
HMSO	Her Majesty's Stationery Office
HRA	Habitats Regulations Assessment
HSI	Habitat Suitability Index
Hz	Hertz
IAQM	Institute of Applied Quality Management
ICOMOS	International Council on Monuments and Sites
IDB	Internal Drainage Board
IEEM	Institute of Ecology and Environmental Management
IEMA	Institute of Environmental Management and Assessment
IGCB	Interdepartmental Group on Costs and Benefits
ILP	Institution of Lighting Professionals
ISO	International Organization for Standardization
JNCC	Joint Nature Conservation Committee
Km	Kilometre
Km/h	Kilometres per hour
IFA	Institute of Field Archaeologists
LAQM	Local Air Quality Management
LCA	Landscape Character Areas
LCT	Landscape Character Types
LDF	Local Development Framework
LDP	Local Development Plan
LDV	Light Duty Vehicles
LEL	Lower Explosive Limit
LEP	Local Enterprise Partnership
LEAP	Local Equipped Area of Play
LHN	Local Highways Network
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserve
LOAEL	Lowest Observed Adverse Effect Level
LPA	Local Planning Authority
LTP	Local Transport Plan
LWS	Local Wildlife Site
LWT	Local Wildlife Trust
LZC	Low or Zero Carbon
MAGIC	Multi-Agency Geographic Information for the Countryside
MCC	Manchester City Council
MEAS	Merseyside Environmental Advisory Service
mm/s	Millimetres per second
MMP	Material Management Plan
MNR	Marine Nature Reserve
NAQS	National Air Quality Strategy
NAEI	National Atmospheric Emission Inventory
NCA	National Character Areas
NE	Natural England
NERC	Natural Environment and Rural Communities Act
NGR	National Grid Reference
NGSRF	Northern Gateway Strategic Regeneration Framework
NIR	Noise Insulation Regulations

NMR	National Monuments Record
NNR	National Nature Reserve
NO	Nitrogen Monoxide
NO₂	Nitrogen Dioxide
NOx	Nitrogen Oxides
NOAEL	No Observed Adverse Effect Level
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPSE	Noise Policy Statement for England
NRMM	Non-Road Mobile Machinery
NSCA	National Society for Clean Air
NSR	Noise Sensitive Receptor
NTS	Non Technical Summary
NVC	National Vegetation Classification
NVQ	National Vocational Qualification
O₂	Oxygen
O₃	Ozone
ODPM	Office of the Deputy Prime Minister
ONS	Office for National Statistics
OS	Ordnance Survey
PAH	Polyaromatic Hydrocarbons
PCU	Passenger Car Units
PGI	Preliminary Geoenvironmental Investigation
PM_{2.5}	Particulate Matter with an aerodynamic diameter of less than 2.5µm
PM₁₀	Particulate matter with a mean aerodynamic diameter of 10µm
ppb	Parts per billion
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidelines
PPG	Planning Policy Guidance
ppm	Parts per million
PPS	Planning Policy Statement
PPV	Peak Particle Velocities
PRF	Potential Roost Feature
PROW	Public Rights of Way
RAF	Royal Air Force
RAM	Reasonable Avoidance Measures
RAMMS	Reasonable Avoidance Measures Method Statement
RBCA	Risk-Based Corrective Action
RBMP	River Basin Management Plans
RES	Regional Economic Strategy
RDA	Regional Development Agency
RPA	Root Protection Area
RSPB	Royal Society for the Protection of Birds
RSS	Regional Spatial Strategy
RTS	Regional Transport Strategy
RUDP	Replacement Unitary Development Plan
SAC	Special Area of Conservation
SAM	Schedule Ancient Monument
SAP	Standard Assessment Procedure
SBI	Site of Biological Importance
SCC	Salford City Council
SCI	Statement of Community Involvement

SEA	Strategic Environmental Assessment
SEL	Sound Exposure Level
SFRA	Strategic Flood Risk Assessment
SLM	Sound Level Meter
SMR	Sites and Monuments Record
SNCI	Sites of Nature Conservation Importance
SOA	Super Output Area
SOAEL	Significant Observed Adverse Effect Level
SO₂	Sulphur dioxide
SPA	Special Protection Area
SPD	Supplementary Planning Document
SPG	Supplementary Planning Guidance
SPS	Supporting Planning Statement
SRF	Strategic Regeneration Framework
SSSI	Site of Special Scientific Interest
SUDs	Sustainable Urban Drainage System
SVOC	Semi-Volatile Organic Compounds
SWMP	Site Waste Management Plan
TA	Transport Assessment
TCA	Townscape Character Area
TER	Target Emissions Rate
TG	Technical Guidance
TPO	Tree Preservation Order
TPH	Total Petroleum Hydrocarbons
TRO	Traffic Regulation Order
TP	Travel Plan
TS	Transport Statement
TVIA	Townscape and Visual Impact Assessment
TZVI	Theoretical Zone of Visual Influence
UK-AIR	United Kingdom Air Information Resource
UKAQS	United Kingdom Air Quality Strategy
USA	Updating and Screening Assessment
UXO	Unexploded Ordnance
VE	Visual Envelope
VOC	Volatile Organic Compounds
WEEE	Waste Electrical and Electronic Equipment
WFD	Water Framework Directive
WHO	World Health Organisation
WRA	Water Resources Act 1991
µg/m³	Micrograms per cubic metre
UDP	Unitary Development Plan
UU	United Utilities
VP	Vantage Point
ZTV	Zone of Theoretical Visibility
ZVI	Zone of Visual Influence

Glossary

Above Ordnance Datum (AOD)	The distance above the mean tides at Newlyn, Cornwall.
Air pollutants	Amounts of foreign and/or natural substances occurring in the atmosphere that may result in adverse effects on humans, animals, vegetation and/or materials
Air quality	A measure of the degree to which air is polluted.
Air quality sensitive receptors	People, property or designated sites for nature conservation that may be at risk from exposure to air pollutants that could potentially arise as a result of the Proposed Development/project
Ambient	Background levels.
Annual average daily traffic flow	A daily traffic flow (24hrs), expressed as a mean daily flow across all 365 days of the year (AADT) in units of vehicles per hour.
Annual mean concentration	The average (mean) of the hourly pollutant concentrations measured or predicted for a one year period
ARCADY 5.0	A computer program developed by the Transport Research Laboratory to analyse the capacity of roundabouts.
Baseline	Existing environmental conditions present on, or near a site, against which future changes may be measured or predicted.
Biodiversity	The variety of life forms that inhabit the earth.
Borehole	A hole drilled or dug into the earth's surface through which groundwater can be withdrawn.
BREEAM	The Building Research Establishment's Environmental Assessment Method for rating the environmental performance of an office building.
Construction Environmental Management Plan (CEMP)	A documented management system with environmental procedures to monitor residual impacts of the construction and operational phases of the development.
Contamination	Contamination is the addition, or the result of addition, or presence of a material or materials to, or in, another substance to such a degree as to render it unfit for its intended purpose.
Cumulative Impacts	Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions.
Daughter Directive	A daughter directive is a sub-set of legislation specifying in more detail the requirements of a European Commission (EC) Directive.

Directive	European Commission (EC) Directives impose legal obligations on European Member States. They are binding as to the results to be achieved, but allow individual states the right to decide the form and methods used to achieve the results. An example of this is the EC Air Quality Framework Directive 96/62 that is brought into legal effect in the UK by the Air Quality (England) Regulations (2000).
Displacement	An estimate of economic factors that may have reasonably been attained by other competitors in the absence of the development.
Dust	Fine particles of solid materials ranging in size from 1 to 75 um diameter (see British Standard 3405) capable of being resuspended in air and settling only slowly under the influence of gravity where it may cause nuisance.
Dust deposition rate	The rate at which particulate matter is deposited on to surfaces typically expressed in units of mg/m ² /day.
Ecology	The study of living organisms in relation to their surroundings.
Ecosystem	Term used to describe a community of interdependent organisms and the physical environment they inhabit.
Effluent	A fluid discharged or emitted to the external environment.
Emission	A material that is expelled or released to the environment. Usually applied to gaseous or odorous discharges to the atmosphere.
Emission factors	The average emission rate of a given pollutant for a given source, relative to units of activity. Used to model future pollution concentrations under different scenarios
Environmental Impact Assessment (EIA)	A technique for ensuring that the likely effects of new development on the environment are fully understood and taken into account before the development is allowed to go ahead. It provides a focus for public scrutiny of the project and enables the importance of the predicted effects, and the scope for modifying or mitigating them, to be properly evaluated by the decision-making authority.
Environmental impact	The total effect of any operation on the surrounding environment.
Environmental Statement (ES)	The outcome of the Environmental Assessment presented in a formal document or documents in accordance with EC Directive 85/337. Includes such information that is reasonably required to assess the environmental effects of a development.
EU limit values	Limits set by the European Union on air quality to be achieved by member states. In the UK this EU Directive is prescribed under the Air Quality Limit Values (England) Regulations (2003) and subsequent amendments. For nitrogen dioxide the annual mean limit value and the annual mean objective value are set at the same concentration.
Fauna	The animal life characteristics of a particular biome.
Flood	The inundation of normally dry land by water.
Flood plain	An area of limited relief bordering a river inundated when a river overflows its banks during a flood.
Flora	The combination of plant life in a particular geographical area.

Fluvial Flooding	Flooding occurs in the floodplains of rivers and watercourses when the capacity of watercourse is exceeded as a result of rainfall or snow and ice melts within catchment areas further upstream.
Fumes	The Clean Air Act 1993 (s.64) defines fumes as any airborne solid matter smaller than dust. In this assessment fume is considered to be airborne solid matter with a diameter of less than 1 µm.
Fugitive dust emissions	Dust emissions escaping from a construction site.
Groundwater	Water that accumulates in the pore spaces and cracks in the rocks beneath the earth's surface.
Groundwater Source Protection Zone	A defined area within which groundwater is extracted for potable water supply. The area is defined by the Environment Agency on the basis of the length of time taken for groundwater to migrate from the potable source.
Gross Domestic Product (GDP)	A measure of the total economic activity occurring in the UK.
Habitat	The specific environment in which an organism lives.
Heavy Duty Vehicle	A vehicle type classification, including rigid and articulated heavy goods vehicles, plus buses and coaches, that is used by air quality dispersion models
Hydrology	The scientific study of water in the earth/atmosphere system.
Hydrogeology	The study of geological factors relating to the Earth's water.
Impact significance	Opinions from a relevant planning authority at an initial stage as to what are the nature and potential scale of the environmental impacts arising from the proposed development and assessing what further studies are required to establish their significance.
In-situ	In the natural, original or appropriate position.
Intrusive investigation	An investigation involving penetration into the ground and removal of soil.
Landscape Character Type	A landscape unit with a distinct, consistent and recognisable character.
Light pollution	Different forms of unwanted or wasted light as identified by the Institute of Lighting Engineers, including sky glow, glare and light trespass.
Light Duty Vehicle	A vehicle type classification, including motorcycles, cars and light goods vehicles, that is used by air quality dispersion models
Listed Building	A building included in a list produced by the Secretary of State for Culture, Media and Sport. It comprises buildings and other structures that are of special architectural or historic interest.
Local Nature Reserve	An area of local interest to which there is a commitment for conservation declared under the National Parks and Access to Countryside Act 1949.
Local road	Minor roads, below the category of a local distributor, which provides direct access to residential and commercial properties.

Mitigating factor	A matter to be taken into account as a benefit to offset any perceived or demonstrable harmful impact.
Mitigation (measure)	The measures put forward to prevent, reduce and where possible, offset any adverse effects on the environment.
Mixed-use development	Urban development comprising a mix of uses which can include residential, retail, commercial, open space and community facilities.
National air quality objectives	A series of objectives set by the Government's Expert Panel on Air Quality to be achieved either without exception or with a permitted number of exceedances within a specific timescale. For nitrogen dioxide the annual mean limit value and the annual mean objective value are set at the same concentration
National Character Area (NCA)	A natural subdivision of England based on a combination of landscape, biodiversity, geodiversity and economic activity.
National Cycle Network (NCN)	A national network of cycle routes, the first 5000 miles of which were opened in summer 2000, under development by the civil engineering charity Sustrans.
Net	After all deductions have been made.
Noise Exposure Category	Recommended noise levels introduced in PPG24 for residential development near transport-related noised sources.
Non-Technical Summary (NTS)	A summary of the Environmental Statement in non-technical language providing a concise, yet comprehensive summary of the likely effects of the project on the environment.
OSCADY 4.0	A computer program developed by the Transport Research Laboratory to analyse the capacity of signal controlled junctions.
Permeability	The extent to which an environment allows a variety of access routes through it. A permeable environment is one where there is ease of movement and where people have a choice in the routes they may use.
PICADY	A computer program developed by the Transport Research Laboratory to analyse the capacity of priority (give-way) junctions.
Pile	A timber, steel or concrete post that is driven, jacked or cast (bored) into the ground to carry vertical or horizontal loads.
Pluvial Flooding	Surface water flooding caused by rainwater run-off from urban and rural land with low absorbency.
(Sensitive) Receptor	A component of the natural, created or built environment such as human being, water, air, a building, or a plant that is affected by an impact.
Residual impacts	Those impacts of the development that cannot be mitigated following implementation of mitigation proposals.
Risk assessment	An assessment of the likelihood and severity of an occurrence.
Road links	Individual sections of the road network, usually divided by junctions, used in the modelling of scenarios

Schedule 2 development	Development project types under EIA regulations where EIA is not mandatory in all cases but may be required, depending on the size, nature and scale of the development and the potential for significant environmental effects to arise.
Scoping	An initial stage in determining the nature and potential scale of environmental impacts arising as a result of a development, and an assessment of what further studies are required to establish their significance.
Scoping opinion	A written statement of the opinion of the relevant planning authority as to the information to be provided in the Environmental Statement.
Scoping report	Report submitted prior to an EIA setting out the methods and scope proposed to assess the environmental impacts of a development.
Screening opinion	A written statement of the opinion of the relevant planning authority as to whether an EIA is required of a development.
Scrub	Vegetation dominated by shrubs and woody species.
Setting	The context in which a building or area can be appreciated.
Site of Special Scientific Interest (SSSI)	The best sites for wildlife and geological features in England as designated under the Wildlife and Countryside Act 1981.
Special Protection Area (SPA)	An area classified under Article 4 of the EC Directive on the Conservation of Wild Birds as being of international importance to wild birds.
Statutory Consultees	Groups or bodies that, by law, must be consulted as part of the planning application process for certain types of development.
Statutory Flood Defences	The position defined by the EA, at which protection is required to prevent flooding of a given annual frequency.
Sustainable Development	Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.
Sustainable Urban Drainage Systems (SUDS)	Sustainable drainage systems use techniques to control surface water run-off as close to its origin as possible, before it enters a watercourse. This involves moving away from traditional piped drainage systems to engineering solutions that mimic natural drainage processes such as porous pavements.
Sward	An expansive growth of grassland/turf.
Synergism	A condition in which two substances work together in such a way that their combined effect is greater than the sum of the two separate effects.
Threshold	A level of effect above which an assessment will be taken of whether any changes to procedures need to be made.
Threshold value	The minimum value that will produce a response or specified effect.
Topography	The natural or artificial features, level and surface form of the ground surface.
Track-out	The transport of mud and other dusty materials from a works area onto the public highway. Usually on the wheels and body work of vehicles.
Trial pits	Intrusive investigation positions excavated by a mechanical excavator.

24 hour mean concentration	The average (mean) of the hourly pollutant concentrations measured or predicted for 24 consecutive hours in one day
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