

Albert Bridge House, Manchester
Environmental Statement
Volume 1: Primary Report and Supporting
Graphics

June 2025

Turley

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1. Introduction

Overview

- 1.1 This Environmental Statement (ES) is part of a suite of documents that support a detailed planning application (the 'Application') submitted by Oval Real Estate Ltd (the 'Applicant'). The Application is for a mixed-use development (the 'Proposed Scheme') on land at and around Albert Bridge House in Manchester City Centre (the 'Site')^a. A description of the Proposed Scheme is provided in **Chapter 4: Development Specification** and an overview of the location and setting of the Site is provided in **Chapter 3: Site Context**.
- 1.2 Turley have been commissioned by the Applicant to lead the Environmental Impact Assessment (EIA) for the Application and prepare this ES, with support from a competent project team (as set out in **Table 1.1**). This ES reports the outputs of the EIA process undertaken in accordance with The Town and Country Planning (EIA) Regulations 2017 (as amended) ¹ (the 'EIA Regulations').
- 1.3 The remainder of this Chapter is structured as follows:
- Definition and aims of EIA;
 - Requirement for EIA;
 - Summary of EIA process;
 - Planning context and history;
 - Project team and their roles;
 - Structure of the ES and location of required information;
 - Application plans and documents; and
 - Availability of the ES and Application plans and documents.

Definition and Aims of EIA

- 1.4 EIA has the meaning given by Regulation 4 (1) of the EIA Regulations as '*a process consisting of:*

(a) the preparation of an environmental statement;

^a The 'Site' includes all temporary and permanent works required as part of the Proposed Scheme and therefore includes additional areas in comparison to the planning application boundary, including a section of the River Irwell, open space around Trinity Bridge and part of the A34 Bridge Street. The Site is shown on **Figure 1.1**.

(b) any consultation, publication and notification required by, or by virtue of, these Regulations of any enactment in respect of EIA development; and

(c) the steps required under Regulation 26' [which sets out consideration of whether planning permission or subsequent consent should be granted].

- 1.5 Under Regulation 4 (2) of the EIA Regulations an EIA must '*identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors -*

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC(1) and Directive 2009/147/EC(2);

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape; and

(e) the interaction between the factors referred to in sub-paragraphs (a) to (d)'.

- 1.6 The aim of EIA, as outlined by the Planning Practice Guidance (PPG)², is '*...to protect the environment by ensuring that a local planning authority when deciding whether to grant planning permission for a project, which is likely to have significant effects on the environment, does so in the full knowledge of the likely significant effects, and takes this into account in the decision making process. The regulations set out a procedure for identifying those projects which should be subject to an Environmental Impact Assessment, and for assessing, consulting and coming to a decision on those projects which are likely to have significant environmental effects'.*

Requirement for EIA

- 1.7 The EIA Regulations require that prior to planning permission or subsequent consent being granted an EIA must be undertaken for certain types of development. The EIA Regulations set out the types / scale of development that must always be subject to an EIA ('Schedule 1 Development') and other types / scale of development which may require an EIA if they are likely to give rise to significant environmental effects ('Schedule 2 Development').
- 1.8 The Proposed Scheme does not fall within the description of any project listed within Schedule 1 of the EIA Regulations. Therefore, it is not 'Schedule 1 Development'.
- 1.9 The Proposed Scheme falls under Schedule 2, Paragraph 10 (b) '*Infrastructure projects - Urban development projects'.* The Site is not located within a 'Sensitive Area'^b, within the meaning of the EIA Regulations. The thresholds as set out within Schedule 2 have therefore been considered. As the Proposed Scheme exceeds one of the respective

^b i.e. Sites of Special Scientific Interest, European sites (national site network sites), National Parks, the Broads and Areas of Outstanding Natural Beauty (now National Landscapes), World Heritage Sites and Scheduled Monuments.

thresholds / criteria^c, the Proposed Scheme is 'Schedule 2 Development'.

Summary of EIA Process

EIA Screening

- 1.10 Given the characteristics of the Proposed Scheme, receiving environment (including the Site and surrounding area) and potential for likely significant effects, the Applicant elected to undertake an EIA.

EIA Scoping

- 1.11 In accordance with Regulation 15 (1) of the EIA Regulations, a Request for a Scoping Opinion, supported by an EIA Scoping Report (**Appendix 2.1**), was submitted to MCC on 9th April 2025. A Scoping Opinion (**Appendix 2.2**) was received from MCC on 3rd June 2025.

ES

- 1.12 The findings of the EIA are presented in this ES, which has been prepared in accordance with Regulation 18 and Schedule 4 of the EIA Regulations as well as the PPG. The overarching procedure and methodology adopted in the EIA is provided in **Chapter 2: Approach to EIA**. The specific methodologies adopted for each technical assessment are detailed in **Technical Chapters 6 – 11**.

Planning Context and History

- 1.13 The EIA Regulations do not require an ES to assess compliance with planning policy or guidance with respect to the Proposed Scheme. The **Planning and Tall Building Statement** which accompanies the Application examines the merits of the Proposed Scheme against relevant national and local planning policy and gives consideration to key policy documents, including the St. Mary's Parsonage Strategic Regeneration Framework³. Where planning policy has informed assessments for specific technical topics, this has been referenced within **Chapters 6 – 11**.
- 1.14 It is noted that the Albert Bridge House site has been subject to a previous full planning application submitted by the Applicant for a mixed-use development^d (the '2022 Application'). The 2022 Application was described as:

'Demolition of the existing building complex and the construction of a mixed use development comprising two separate components in the form of an office building of up to 19 storeys with ground floor commercial, leisure, food and drink uses (All Use Class E) and/ or drinking establishment Sui Generis, and, a residential building up to 45 storeys (Use Class C3) with additional roof top plant, basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, highway alterations and other associated works'.

- 1.15 The 2022 Application has received resolution to grant planning permission.

^c As the Proposed Scheme includes more than 150 dwellings.

^{dd} MCC planning reference: 135834/FO/2022.

- 1.16 The 2022 Application was subject to EIA. In accordance with Regulation 15 (1) of the EIA Regulations, a Request for a Scoping Opinion supported by an EIA Scoping Report was submitted to MCC on 27th September 2022. A Scoping Opinion was received from MCC on 7th November 2022 (the '2022 Scoping Opinion'). The 2022 Application was accompanied by an ES (the '2022 ES'), prepared in accordance with the 2022 Scoping Opinion and the EIA Regulations.
- 1.17 For clarity, the EIA process reported in this ES relates to the new Application only.

Project Team and Their Roles

- 1.18 Regulation 18 (5) (a) of the EIA Regulations requires an EIA to be undertaken by competent experts.
- 1.19 Turley is responsible for the co-ordination and leadership of the EIA process as well as the compilation and procedural review of the constituent parts of the ES (**Table 1.1**). The Institute of Environmental and Sustainability Professionals (formerly known as the Institute of Environmental Management and Assessment (IEMA)) has awarded Turley the EIA Quality Mark in recognition of our technical quality and commitment to improvement in practice.
- 1.20 All technical assessments presented in **Technical Chapters 6 – 11** have been undertaken by a suitably qualified technical team (**Table 1.1**), inclusive of a thorough technical review to assure technical credibility, followed by a subsequent procedural review by the EIA co-ordination team at Turley. A statement outlining the relevant expertise / qualifications of the team that have contributed to this ES is provided in the Statement of Technical Competence (**Appendix 1.1**).

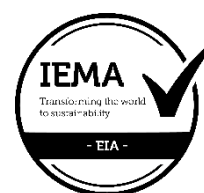


Table 1.1: Project team and their roles

Team member	Role
Oval Real Estate Ltd.	Applicant
Savills	Project managers
Studio Egret West	Architects
Deloitte Real Estate	Planning advisors
Turley	Lead EIA consultant and technical consultants for climate change
Hoare Lea	Technical consultants for noise and vibration
Urban Green	Technical consultants for townscape and visual
DPR	Technical consultants for daylight, sunlight and overshadowing
AKT II	Technical consultants for wind microclimate
Ekosgen (GC Insight)	Technical consultants for socio-economics and human health

Structure of the ES and Location of Required Information

1.21 The ES is provided in four volumes:

- **Volume 1: Primary Report and Supporting Graphics;**
- **Volume 2: Technical Appendices to the Primary Report;**
- **Volume 3: Environmental Management Plan;** and
- **Volume 4: Non-Technical Summary.**

1.22 **Volume 1: Primary Report and Supporting Graphics** provides the main text of the ES which is divided into Chapters that are supported by a series of figures and technical appendices, as appropriate (see **Volume 2: Technical Appendices to the Primary Report**).

1.23 The structure of **Volume 1: Primary Report and Supporting Graphics** is outlined in **Table 1.2**.

Table 1.2: Structure of Volume 1: Primary Report and Supporting Graphics

Chapter no.	Chapter title	Description of content
1	Introduction	Introduction to the ES, including the definition of EIA, EIA process, structure of the ES and location of the required information and summary of other Application plans and documents.
2	Approach to EIA	Description of the overall methods adopted through the EIA process and presented in this ES, including adherence to best practice guidance, EIA Scoping process as well as the approach to assessment.
3	Site Context	Overview of the location of the Site and the sensitive receptors assessed in this ES.
4	Development Specification	Comprehensive description of all elements of the Proposed Scheme including its physical characteristics across the construction and operational stages. It is this description that has informed the technical assessments reported in this ES.
5	Consideration of Alternatives	Outline of the main alternatives considered by the Applicant.
6	Noise and Vibration	Presentation of the assessment of likely significant effects arising from the Proposed Scheme and mitigation considered suitable to avoid, offset or reduce anticipated adverse effects or improve beneficial effects.
7	Townscape and Visual	
8	Daylight, Sunlight and Overshadowing	

Chapter no.	Chapter title	Description of content
9	Wind Microclimate	
10	Socio-economics and Human Health	
11	Climate Change	
12	Assessment of Cumulative Effects	Provides a single and comprehensive assessment of cumulative effects, including effect interactions and in-combination effects.
13	Summary	Summarises the outputs of the technical assessments presented within this ES.

- 1.24 As noted above **Volume 2: Technical Appendices to the Primary Report** comprises a range of technical documents / reports that have informed the technical assessments presented in **Volume 1: Primary Report and Supporting Graphics**. The contents of **Volume 2: Technical Appendices to the Primary Report** are provided within the Volume contents page.
- 1.25 **Volume 3: Environmental Management Plan** acts as the checklist for all mitigation identified in the EIA process.
- 1.26 **Volume 4: Non-Technical Summary** provides a summary of the ES in a non-technical language to aid communication and understanding of the Proposed Scheme and the EIA process undertaken.
- 1.27 **Appendix 1.2** provides a breakdown of the information required to be included within an ES as defined by Regulation 18 and Schedule 4 of the EIA Regulations and where this information is located within this ES.

Application Plans and Documents

- 1.28 As stated above, the ES is one of the documents submitted in support of the Application. All information for the EIA is provided as part of the ES.
- 1.29 Where information from other Application plans and documents has informed the description of the Proposed Scheme upon which the ES is based, this is stated within **Chapter 4: Development Specification**.
- 1.30 Where Application plans and documents have been used to inform the ES, in terms of baseline, assessment or mitigation, reference to these is provided / signposted throughout the ES.

Plans

- 1.31 The existing building layout and elevation plans have been included alongside **Chapter 3: Site Context**. These are as follows:
- **Figure 3.1: Existing Ground Floor Plan (0476-SEW-ZZ-ZZ-DR-A-PL0100);**

- **Figure 3.2:** Existing Roof Plan (04760-SEW-ZZ-ZZ-DR-A-PL0102);
- **Figure 3.3:** Existing Sections – Block 3 & 6 (0476-SEW-ZZ-ZZ-DR-A-PL0200);
- **Figure 3.4:** Existing Sections – Block 18 (0476-SEW-ZZ-ZZ-DR-A-PL0201);
- **Figure 3.5:** Existing Block 3 Elevations (0476-SEW-ZZ-ZZ-DR-A-PL0300);
- **Figure 3.6:** Existing Block 6 Elevations (0476-SEW-ZZ-ZZ-DR-A-PL0301); and
- **Figure 3.7:** Existing Block 18 Elevations (0476-SEW-ZZ-ZZ-DR-A-PL0302).

1.32 The technical assessments reported in the ES have been based on **Figure 1.1** and a series of the detailed plans submitted for approval (these are presented alongside **Chapter 4: Development Specification**), which are as follows:

- **Figure 4.1:** Existing Site Demolition Plan (0476-SEW-ZZ-ZZ-DR-A-PL0001);
- **Figure 4.2:** Basement – Sitewide (0476-SEW-ZZ-B1-DR-A-PL0999);
- **Figure 4.3:** Level 00 – Sitewide (0476-SEW-ZZ-00-DR-A-PL1000);
- **Figure 4.4:** Level 01 – Sitewide (0476-SEW-ZZ-01-DR-A-PL1001);
- **Figure 4.5:** Level 02 - Sitewide (0476-SEW-ZZ-02-DR-A-PL1002);
- **Figure 4.6:** Level Roof – Sitewide (0476-SEW-ZZ-50-DR-A-PL1050);
- **Figure 4.7:** Block A – Level 02 (0476-SEW-AA-02-DR-A-PL1102);
- **Figure 4.8:** Block B – Level 02 (0476-SEW-BB-02-DR-A-PL1122);
- **Figure 4.9:** Block C – Level 02 (0476-SEW-CC-02-DR-A-PL1162);
- **Figure 4.10:** Block A – GA Elevations – North and East (0476-SEW-AA-ZZ-DR-A-PL1301);
- **Figure 4.11:** Block A – GA Elevations – South and West (0476-SEW-AA-ZZ-DR-A-PL-1302);
- **Figure 4.12:** Block B – GA Elevations – North and East (0476-SEW-BB-ZZ-DR-A-PL1321);
- **Figure 4.13:** Block B – GA Elevations – South and West (0476-SEW-BB-ZZ-DR-A-PL1322);
- **Figure 4.14:** Block C – GA Elevations – South East & South West (0476-SEW-BB-ZZ-DR-A-PL1353);
- **Figure 4.15:** Block C – GA Elevations – North-West and North East (0476-SEW-BB-ZZ-DR-A-PL1354);

- **Figure 4.16:** Site Section 1 – Aligned to Bridge Street – through Block A&C (0476-SEW-ZZ-ZZ-DR-A-PL1200); and
- **Figure 4.17:** Site Section 2 – Aligned to River – through Block A&B (0476-SEW-ZZ-ZZ-DR-A-PL1201).

1.33 A suite of other plans have been prepared for the Application. These are not included within the ES and will be provided in a Document Schedule.

Documents

1.34 The Application documents comprise:

- **Design and Access Statement;**
- **Accommodation Schedule;**
- **Planning and Tall Building Statement;**
- **Statement of Community Involvement;**
- **Archaeological Desk-Based Assessment;**
- **Biodiversity Net Gain Assessment and Biodiversity Enhancement Management Plan;**
- **Tree Report;**
- **Air Quality Assessment;**
- **Broadband Assessment;**
- **Crime Impact Statement;**
- **Preliminary Ecological Appraisal;**
- **Energy Strategy;**
- **Environmental Standards Statement;**
- **BREEAM New Construction 2018 Pre-Assessment Report;**
- **Fire Engineering Brief;**
- **Flood Risk Assessment;**
- **Drainage Strategy Report;**
- **Green and Blue Infrastructure Statement;**
- **Phase I Desk Study Report;**
- **Phase II Site Investigation Report;**

- **Heritage Statement;**
- **Local Labour Agreement;**
- **Residential and Operational Management Strategy;**
- **Environmental Noise Survey;**
- **TV Reception Survey;**
- **Technical Aerodrome Safety Assessment;**
- **Interim Travel Plan;**
- **Transport Statement;**
- **Ventilation Strategy;**
- **Viability Assessment;** and
- **Waste Management Strategy.**

Availability of the ES and Application Plans and Documents

- 1.35 The Application has been submitted to MCC. The ES alongside all Application plans and documents are available on the MCC website for viewing and downloading at the following link:

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

- 1.36 Copies of the ES can be requested from Turley for a fee of £15 (digital file), via the following contact details:

Turley

Level 5 Transmission
6 Atherton Street
Manchester
M3 3GS
Tel: 0161 233 7676

- 1.37 During the determination of the Application, members of the public may comment on the application via MCC, either in writing or through the MCC planning portal website. Comments can be sent via the following contact details:

MCC

Town Hall Extension
Albert Square
Manchester
M2 5DB
Tel: 0161 234 4490
Email: building.control@manchester.gov.uk

References

¹ The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, Statutory Instrument 2017 No.571 (as amended by Statutory Instrument 2018 No. 695).

² Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities, Planning Practice Guidance [Online], available at: <https://www.gov.uk/government/collections/planning-practice-guidance>.

³ KPF (2020) St. Mary's Parsonage Strategic Regeneration Framework.

2. Approach to EIA

Introduction

- 2.1 This Chapter sets out the overarching approach and methodology for the EIA process. As such, this Chapter sets out the following:
- Adoption of best practice;
 - Scope of the EIA, including a summary of the EIA process and the technical topics 'scoped out' and 'scoped in' of the EIA;
 - Stakeholder engagement, a summary of engagement and how the key environmental issues identified have been addressed within the EIA; and
 - Approach to the assessment of likely significant effects, specifically covering defining the boundary and study areas, consideration of secondary effects, baseline data collection activities, consideration of the future baseline, identification of sensitive receptors, Development Specification and supporting plans, information to inform assessment, assessment and modelling scenarios, defining mitigation and how this is controlled, determining the level of effect and significance and limitations and assumptions.
- 2.2 The methodology for the assessment of cumulative effects alongside a single co-ordinated assessment is presented in **Chapter 12: Assessment of Cumulative Effects**.

Adoption of Best Practice

- 2.3 As confirmed within **Chapter 1: Introduction**, this ES meets the requirements set out in Regulation 18 and Schedule 4 of the EIA Regulations. In addition, the EIA (and therefore the ES) has been undertaken with due consideration of the following guidance documents:
- PPG¹; and
 - IEMA (now ISEP), EIA Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction².

Scope of the EIA

EIA Scoping

- 2.4 A Request for a Scoping Opinion, together with an EIA Scoping Report (**Appendix 2.1**), was submitted to MCC on 9th April 2025. The EIA Scoping Report was prepared in accordance with Regulation 15 of the EIA Regulations and sets out the effects that are considered to be unlikely / not significant alongside those that are considered to be likely / significant alongside the proposed methodology for assessment. A summary of the technical topic breadth of the EIA, as reported in this ES, is provided below.

2.5 A Scoping Opinion was provided on 3rd June 2025. This is provided in **Appendix 2.2**. The key areas / points are summarised below:

- Discussion of alternatives – see **Chapter 5: Consideration of Alternatives**;
- Presentation and content of the Environmental Statement – see **Appendix 1.1** which outlines the required information and its location. Presentation of the findings of the ES in a non-technical format is provided in **Volume 4: Non-Technical Summary**;
- Mitigation – see **Technical Chapters 6 – 11**. All mitigation identified across the EIA process has been collated and presented in **Volume 3: Environmental Management Plan**;
- Cumulative effects – see **Chapter 12: Assessment of Cumulative Effects**; and
- Cross-referencing and summarising of the findings – cross-references are provided throughout the ES, where appropriate. The overarching methodology is set out in this Chapter, with the topic-specific methodologies outlined in **Technical Chapters 6 – 11**.

2.6 It is assumed from the Scoping Opinion that the scope of technical topics considered is appropriate (see below).

Technical Topic Breadth

2.7 In line with the EIA Scoping Report (**Appendix 2.1**), the technical topics ‘scoped out’ and ‘scoped in’ are summarised below:

Technical topics ‘scoped out’

- Air quality;
- Archaeology;
- Biodiversity;
- Built heritage;
- Ground conditions and contamination;
- Obtrusive lighting;
- Risk of major accidents and / or disasters;
- Transport and accessibility;
- Waste and resources; and
- Water environment.

Technical topics ‘scoped in’

- Noise and vibration;

- Townscape and visual^a;
- Daylight, sunlight and overshadowing;
- Wind microclimate;
- Socio-economics and human health; and
- Climate change.

Evolution of Scope / Reporting Significant Effects

- 2.8 While the EIA Scoping Report sought to establish the overall framework for the EIA / ES, the Proposed Scheme and the strategies that underpin it have been refined / developed further and additional technical studies / surveys / analysis / evaluations completed.
- 2.9 The description presented in **Chapter 4: Development Specification** supersedes that in the EIA Scoping Report (**Appendix 2.1**) and reflects the latest design, albeit no material / substantive changes have been made to the description.
- 2.10 Where the scope of the assessment proposed within the EIA Scoping Report has been altered or amended, this has been identified in the 'Scope of Assessment' section of **Technical Chapters 6 – 11**. This includes additional evidence and / or rationale for the alterations / related amendments to the scope of likely significant effects and / or receptors, where necessary.
- 2.11 For clarity, an iterative scoping process has been applied to all technical topics whereby the scope of effects / receptors deviates from that set out in the EIA Scoping Report with further clarification provided in **Technical Chapters 6 – 11**.
- 2.12 The use of an iterative approach was set out in the EIA Scoping Report and is considered to be in accordance with paragraph 038 of the PPG which states:
- '...where it becomes evident during the assessment process...that a particular environmental factor is absent or unlikely to be significantly affected by a proposed development, there should be no need for further assessment of that factor even if it was identified in the scoping process...'*
- 2.13 Where relevant, **Volume 2: Technical Appendices to the Primary Report** and other documents and plans submitted alongside the Application provide further detail on technical topics / effects that are considered to be unlikely / not significant. However, where considered pertinent, effects that are unlikely / not significant have been reported in **Volume 1: Primary Report and Supporting Graphics** to ensure a transparent response to issues raised through consultation (see 'Stakeholder Engagement' below).

^a It is noted that construction stage effects are 'scoped out' but these have been considered and are presented in **Appendix 7.1**.

Stakeholder Engagement

- 2.14 In addition to the EIA Scoping process outlined above, the project team have undertaken technical consultation with relevant consultees to inform the scope and assessment methodology / approach. The specifics of technical consultation are reported in **Technical Chapters 6 – 11**, where undertaken.
- 2.15 A pre-application programme of stakeholder engagement has been undertaken with officers at MCC and local ward councillors. This engagement has enabled the project team to build an understanding of the local context and raised awareness of the Proposed Scheme.
- 2.16 Public consultation has also been undertaken. A range of communication methods have been used, including a consultation postcard delivered to nearby residential areas, a press release (on 3rd March 2025), the creation of a dedicated consultation project website (www.albertbridgehouse-mcr.com) and a consultation drop-in event was held on 11th March 2025.
- 2.17 Further information on stakeholder engagement is provided within the **Statement of Community Involvement**.
- 2.18 Key points raised in relation to environmental issues that have been considered within the ES are summarised as follows:
- Changes in views / massing on-site and delivery of public realm and landscaping – see **Chapter 7: Townscape and Visual**; and
 - Changes in daylight and sunlight amenity – see **Chapter 8: Daylight, Sunlight and Overshadowing**; and
 - Changes in views from surrounding properties – see **Chapter 7: Townscape and Visual**.

Approach to Assessment

Overview

- 2.19 This section outlines the overarching approach to the assessment of likely significant environmental effects adopted within the EIA process, as reported within this ES.
- 2.20 The exact methodology for the assessment of likely significant effects of the Proposed Scheme during the construction and operational stages is varied across each of the technical topics considered within the EIA, largely due to technical specific guidance and best practice. Therefore, each of the **Technical Chapters 6 – 11** sets out the relevant technical assessment methodologies. However, there are several aspects to the approach which require consistency across the ES. Where necessary, this is discussed below with the aim to identify any nuances and how these have been accommodated within the approach.

Defining the Boundary and Study Areas

- 2.21 The maximum EIA Study Area boundary for the purposes of the EIA (and this ES) is defined in **Figure 1.1** and is referred to as the 'Site'. This includes all temporary and permanent works required as part of the Proposed Scheme (inclusive of temporary construction platforms, potential oversailing from plant at height, landscaping works and pedestrian crossings) and therefore includes additional areas in comparison to the Application boundary^b.
- 2.22 The boundary on which baseline data has been collected (i.e. the technical study area) varies between the technical topics / effects due to technical specific / best practice guidance. However, all technical study areas include the Site as defined in **Figure 1.1**. The technical study area boundaries that have been used are reported in **Technical Chapters 6 – 11**.

Consideration of Secondary Effects

- 2.23 Improvements and mitigation requirements will be delivered both inside and outside of the Site boundary. Where delivered within the Site, these form part of the Proposed Scheme and are included in **Chapter 4: Development Specification**.
- 2.24 There will be works associated with the Proposed Scheme outside of the Site, comprising:
- Improvements / upgrades for utilities (including potable water, electricity and foul water).
- 2.25 It is considered appropriate that such mitigation does not need to be within the Site as they would be undertaken by a third party (e.g. United Utilities, District Network Operator, as appropriate) and any impact will be assessed and controlled as part of a separate approval process for such works, which will be subject to its own protocols to understand any environmental impacts.
- 2.26 Nonetheless, there will be (secondary) effects associated with the implementation / delivery of such mitigation off-Site and an appraisal of such effects is provided below.
- 2.27 The works / routes of any new connections or reinforcements are not fully known at this stage. The specifics of such works, including routing, would be established by these third parties, subject to further investigations. However, it is likely that the works will be limited in nature, temporary and short-term. In addition, a limited number of receptors (such as pedestrians, cyclists and vehicles drivers / occupants using the local road network) would likely be affected. Therefore, significant effects are unlikely to arise from these works.

Baseline Data Collection Activities

- 2.28 Schedule 4, Paragraph 3 of the EIA Regulations, states that an ES should include:

^b Including a section of the River Irwell, an open space around Trinity Bridge and a part of the A34 Bridge Street.

‘a description of the relevant aspects of the current state of the environment (baseline scenario)’.

- 2.29 Likely significant effects have been described in the ES largely in relation to the deviation from the baseline environment within the Site and relevant technical study areas^c. Therefore, to inform the technical assessments it has been necessary to establish the baseline conditions of the Site and relevant technical study area(s).
- 2.30 Baseline data has been collected through the following (where relevant / required):
- Desk-based studies;
 - Site visits and surveys;
 - Review of existing site-specific information or public literature;
 - Modelling;
 - Review of relevant national and local planning policies; and
 - Consultation with the relevant consultees through the EIA process.
- 2.31 A range of technical surveys and desk studies were undertaken for the 2022 Application, dating from 2022. Aspects of this data are considered to be outdated due to the time that elapsed and further changes in the baseline.
- 2.32 Given the above, the baseline data used across the technical assessments is a combination of supplementary / additional / new baseline data information that has been collected and previous information collected for the 2022 Application where findings remain valid. All sources of baseline sources are clearly set out in **Technical Chapters 6 – 11**, alongside any limitations or assumptions.
- 2.33 During the collection of baseline data, the baseline conditions within the Site have changed with the vacation of Albert Bridge House in late 2022 and parts of the Site being fenced-off from public usage / access. Construction activities have also been underway in the surrounding area. However, given the urban context of the Site, such works are not considered to have substantively altered the prevailing baseline conditions across and in the vicinity of the Site.
- 2.34 For clarity, the dates of baseline data collection activities for **Technical Chapter 6 – 11** are summarised in **Table 2.1**.

Table 2.1: Summary of baseline data collection activities within Technical Chapters 6 – 11

Chapter	Baseline data collection activity	Date
	Noise measurement survey	March 2022

^c For some effects, the effects have been determined as a change against relevant thresholds / criteria. Where this is the case, this is outlined in **Technical Chapters 6 – 11**.

Chapter	Baseline data collection activity	Date
Chapter 6: Noise and Vibration	Vibration perception survey	March 2022
	Entertainment noise measurement survey	August 2022
	Night noise sampling	December 2024
	Review of MCC's PNTG	February 2025
Chapter 7: Townscape and Visual	Desk-based study	August 2022 and January – April 2025
	Site survey	April 2025
	Field survey	April 2025
	Photomontages	April 2025
Chapter 8: Daylight, Sunlight and Overshadowing	Site visit	February 2025
	AccuCities 3D model	February 2022
	Desk study	February 2025
Chapter 9: Wind Microclimate	Wind microclimate testing	February – April 2025
Chapter 10: Socio-economics and Human Health	High-level desk based socio-economic study	February 2025
Chapter 11: Climate Change	Sustainability, BREEAM New Construction V6.1, Office, Pre-assessment Report (Hoare Lea)	April 2025
	Sustainability, BREEAM New Construction V6.1, Retail, Pre-assessment Report (Hoare Lea)	April 2025
	Sustainability, Stage 2 Report, Energy Strategy (Hoare Lea)	April 2025
	Sustainability, Stage 2 Report, Whole Life Carbon Assessment (Hoare Lea)	May 2025

Consideration of the Future Baseline

2.35 Schedule 4, Paragraph 3 of the EIA Regulations states that an ES should include:

'...an outline of the likely evolution thereof (without implementation of the development) as far as natural changes from the baseline scenario can be assessed

with reasonable effort on the basis of availability of environmental information and scientific knowledge’.

- 2.36 The future baseline scenario is addressed in each of the **Technical Chapters 6 – 11**. The qualitative discussion / appraisal under the future baseline section is associated with how the Site and, where applicable, wider technical study area(s) may change assuming the Site is not redeveloped (with the current proposals).
- 2.37 The assessments presented in the ES are largely based on the deviation from the existing baseline scenario and future baseline conditions are presented for information only. However, predicted future conditions have been used in some technical assessments (e.g. the use of carbon budgets in evaluating greenhouse gas emissions as presented in **Chapter 11: Climate Change**).
- 2.38 In addition, in the assessment of daylight, sunlight and overshadowing consideration has been given to a ‘future baseline’, which assumes the existing baseline conditions and Cumulative Projects have been implemented with the assessment of the impacts of the Proposed Scheme considered against this scenario. Further details are in **Chapter 12: Assessment of Cumulative Effects**.
- 2.39 The relevant baseline conditions used in the technical assessments is set out in **Technical Chapters 6 – 11**.

Identification of Sensitive Receptors

- 2.40 Schedule 4, Paragraph 4 of the EIA Regulations states that an ES should include:
- ‘a description of the factors specified in Regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora); land (for example land-take), soil, (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaption), material assets, cultural heritage, including architectural and archaeological aspects, and landscape’.*
- 2.41 The aspects of the environment likely to be significantly affected by the Proposed Scheme have been identified and are set out within the ‘Scope of the Assessment’ section of each of the **Technical Chapters 6 – 11**. These aspects are also summarised in **Chapter 3: Site Context**.
- 2.42 Where necessary, consideration has been given to future sensitive receptors of the Proposed Scheme and the Cumulative Projects nearby (e.g. Alberton House)^d. Further details are provided in **Technical Chapters 6 – 11**.

Development Specification and Supporting Plans

- 2.43 As set out in **Chapter 1: Introduction**, the Application is detailed in nature.

^d Further details on nearby Cumulative Projects are provided in **Chapter 12: Assessment of Cumulative Effects**.

- 2.44 The ES is required to provide sufficient information (both in terms of the Proposed Scheme and the likely significant effects), such that MCC can reasonably be satisfied that they have sufficient information to decide that they have full knowledge of the likely significant environmental effects of the Proposed Scheme.
- 2.45 The technical assessments undertaken as part of the EIA and reported in this ES are based on **Chapter 4: Development Specification** and a suite of supporting plans.
- 2.46 **Chapter 4: Development Specification** provides a written description of the construction and operational stages of the Proposed Scheme alongside timescales. The key supporting plans (including general arrangements / layouts as well as section and elevation plans) that have informed the technical assessments are listed in **Chapter 1: Introduction** and **Chapter 4: Development Specification**.
- 2.47 Together, the Development Specification and supporting plans are considered to provide the level of information required, in a single location, to inform a robust assessment of likely significant environmental effects as part of the EIA process undertaken and reported in this ES.

Information to Inform Assessment

- 2.48 The key aspects that have informed the technical assessments are outlined below:

Layout, height and massing

- 2.49 The layout and scale of the Proposed Scheme have informed the following technical assessments:
- **Chapter 6: Noise and Vibration** – the location of sensitive uses;
 - **Chapter 7: Townscape and Visual** – changes in townscape character and views;
 - **Chapter 8: Daylight, Sunlight and Overshadowing** – changes in daylight / sunlight amenity; and
 - **Chapter 9: Wind Microclimate** – changes to anticipated wind conditions.
- 2.50 The assessments within **Chapter 7: Townscape and Visual**, **Chapter 8: Sunlight, Daylight and Overshadowing** and **Chapter 9: Wind Microclimate** have also been informed by the corresponding 3D Model.

Quantum and land use

- 2.51 The quantum and land uses within the Proposed Scheme have informed the following technical assessments:
- **Chapter 10: Socio-economics and Human Health** – in relation to employment generation, provision of housing and demands on community and social infrastructure; and
 - **Chapter 11: Climate Change** – regarding greenhouse gas emissions.

Assessment and Modelling Scenarios

Overview

- 2.52 In accordance with the EIA Regulations, the likely significant effects associated with both the construction (which includes site preparation, demolition, earthworks and construction works) and operational stages of the Proposed Scheme have been identified, assessed and reported in this ES. A reasonable worst-case assessment has been undertaken for each effect across **Technical Chapters 6 – 11**.
- 2.53 The following main scenarios have been utilised within the EIA where relevant to each technical topic and associated likely significant effects:
- **Baseline vs peak construction** – this varies across the technical topics and has not been attributed to a specific year, rather it has been determined at what point the worst-case effect could occur. Further details are provided in **Technical Chapters 6 – 11**; and
 - **Baseline vs full operation** – 2030 / 2031, when the Proposed Scheme is anticipated to be occupied and operational.
- 2.54 Additional assessment scenarios that have been considered within the ES are as follows.

Consideration of phasing

- 2.55 At this stage, the phasing of the Proposed Scheme is not known and, as such, the Proposed Scheme could be delivered in one phase or delivered in a phased approach. This is considered to give rise to two potential considerations:
- Whether the 'worst-case' impacts may occur in a potential 'interim' scenario (i.e. when the Proposed Scheme is part-built) – of the technical topics 'scoped in' this is only considered to be relevant to wind microclimate. A qualitative appraisal of this potential scenario has been undertaken and is reported in **Chapter 9: Wind Microclimate**; and
 - Whether impacts may occur from construction activities on sensitive receptors introduced by the Proposed Scheme (e.g. future residents) – of the technical topics 'scoped in' this is only considered to be relevant to noise and vibration. Effects on future on-site receptors from construction activities have been assessed and are reported in **Chapter 6: Noise and Vibration**.

Daylight, sunlight and overshadowing

- 2.56 The results of the assessment of the Proposed Scheme and the outputs of the assessments undertaken for the 2022 Application have been compared to allow contextualisation of the impacts and for information. This is provided in **Appendix 8.6**. The conclusions on the level of effect and significance have been based on the impacts of the Proposed Scheme on / in relation to the existing baseline conditions. Further details are provided in **Chapter 8: Daylight, Sunlight and Overshadowing**.

Climate change

- 2.57 The assessment of greenhouse gas (GHG) emissions has considered emissions associated with both the construction and operational stages of the Proposed Scheme separately. In addition, the 'in-combination' GHG emissions associated with construction and operation together have been assessed and presented in **Chapter 11: Climate Change**.

Defining Mitigation and how this is Controlled

- 2.58 Schedule 4, Paragraph 7 of the EIA Regulations states that an ES should include:

'a description of the measures to avoid, prevent, reduce, or if possible offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover construction and operational phases'.

- 2.59 Regulation 26 states that when determining an application consideration should be given to *'whether it is appropriate to impose monitoring measures'* including the aspects to be monitored and the duration of the monitoring.
- 2.60 In accordance with IEMA Guidelines (outlined under 'Adoption of Best Practice' above), three types of mitigation have been identified and used within the EIA process, comprising:
- **Primary** – modifications to the location or design of the Proposed Scheme made during the pre-application stage that are an inherent part of the project;
 - **Secondary** – actions that will require further activity in order to achieve the anticipated outcome; and
 - **Tertiary** – actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.
- 2.61 The design process has been informed by extensive studies / surveys / modelling so that potential effects are well understood and primary mitigation has been identified and developed. The Proposed Scheme has evolved to take account of the environmental constraints and opportunities. Such evolution, as defined above, constitutes primary mitigation.
- 2.62 Standard / commonly occurring environmental management / control measures are considered to constitute tertiary mitigation (e.g. adoption of standard environmental management measures that can be controlled via a Construction Environmental Management Plan (CEMP)).
- 2.63 The primary and tertiary mitigation that has informed the technical assessments are presented in **Volume 3: Environmental Management Plan**.

- 2.64 **Technical Chapters 6 – 11** have considered and defined relevant primary and tertiary mitigation for both the construction and operational stages prior to undertaking their assessment of likely significant effects. Following the conclusion of effects based on the Proposed Scheme (inclusive of primary and tertiary mitigation) any further mitigation or enhancement measures or monitoring arrangements have been identified under ‘Secondary Mitigation or Enhancement’ sections for each likely significant effect in **Technical Chapters 6 – 11**.
- 2.65 The application of secondary and tertiary mitigation is only considered appropriate if there is a high-level of confidence in the mechanism for implementation (by the Applicant or third party).
- 2.66 Where appropriate, consideration has been given to effects arising from secondary mitigation or enhancement measures alongside the likelihood and confidence of implementation that has been evaluated when determining the residual effect.
- 2.67 Mitigation identified at the EIA Scoping stage was documented in the Preliminary Environmental Management Plan (PEMP) and presented as part of the EIA Scoping Report (**Appendix 2.1**).
- 2.68 The primary, tertiary and secondary mitigation measures identified through the EIA process (including mitigation set out in the EIA Scoping Report / PEMP and in **Technical Chapters 6 – 11**) are set out in **Volume 3: Environmental Management Plan**. This document can be extracted by MCC to support the preparation of any planning conditions and / or obligations attached to any planning permission, where necessary.

Determining Level of Effect and Significance

- 2.69 A stepped approach has been adopted to define effects arising from the Proposed Scheme. The steps comprise the following:
- Step 1: Define the sensitivity (or value, importance, etc.) of a receptor / receiving environment to change;
 - Step 2: Define the magnitude of change (or impact);
 - Step 3: Assignment of the level of effect; and
 - Step 4: Determination of significance.
- 2.70 These steps are discussed further below.

Step 1: Define the sensitivity, value or importance of a receptor / receiving environment to change

- 2.71 The environmental sensitivity (or value, importance etc., as appropriate to the technical topic) of a receptor or receiving environment to change, including aspects such as adaptability, tolerance or recoverability. Sensitivity (or value, importance etc.) has been assessed on a scale of high, medium, low and negligible. Where deviation from this scale is required to meet specific technical guidance this is outlined, where relevant, in **Technical Chapters 6 – 11**.

Step 2: Define the magnitude of change (or impact)

- 2.72 The magnitude of change (or impact, as appropriate to the technical topic) from the baseline conditions, including aspects such as probability / likelihood of occurrence, geographical extent, complexity, duration, frequency and reversibility (i.e. temporary and permanent). In addition, for some aspects the magnitude of change (or impact) corresponds to a relative change or increase to a prescribed threshold / criterion. The magnitude of change (or impact) has been assessed on a scale of large, medium, small and negligible. Where deviation from this scale is required to meet specific technical guidance this is outlined, where relevant, in **Technical Chapters 6 – 11**.
- 2.73 For steps 1 and 2, other factors such as feedback from stakeholders, relevant legislation, international / national / regional / local standards and guidance and the inter-relationship between effects (both cumulatively and in terms of potential effect interactions) have also been considered, where appropriate.

Step 3: Assignment of the level of effect

- 2.74 The assignment of the level of effect has been based on professional judgement and the matrix below (**Table 2.2**) is intended to be a tool to assist with the process. Whilst the matrix provides ranges, this is to guide the competent expert and a definitive level of effect has been provided, where possible. The level of effect can be adverse or beneficial.

Table 2.2: Matrix to support determining the level of effect

		Sensitivity (or value, importance etc.)			
		High	Medium	Low	Negligible
Magnitude of change (or impact)	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

- 2.75 **Technical Chapters 6 – 11** provide clear definitions for each level of effect, based on technical guidance or professional judgment.
- 2.76 For some specific technical topics / likely significant effects, technical guidance and / or the nature of the effect requires that differing criteria or scales for determining the level of effect are used. Where this is the case, this is set out in **Technical Chapters 6 – 11**. However, for consistency within the ES, the final 'level of effect' has been reported using the terminology and conclusions set out in the above matrix. This enables the conclusions of the different technical assessments across the ES to be understood for the decision-making process, along with allowing robust analysis and appraisal as part of the assessment of cumulative effects (see **Chapter 12: Assessment of Cumulative Effects**).

Step 4: Determination of significance

- 2.77 Significance has only been concluded for residual effects (i.e. following the application of secondary mitigation or enhancement measures).
- 2.78 For each effect, a binary judgement has been made as to whether the residual effect is '**Significant**' or '**Not Significant**'. This determination has been based on professional judgement and / or relevant guidance and standards, where applicable.

Reporting the nature of effects and use of summaries

- 2.79 Effects have also been described in line with the requirements of the EIA Regulations (i.e. as direct or indirect, short / medium / long-term and temporary or permanent).
- 2.80 **Technical Chapters 6 – 11** include a summary of effects table, which outlines the effects assessed and associated sensitive receptors, residual effects and whether the residual effect is '**Significant**' or '**Not Significant**'.

Limitations and Assumptions

- 2.81 Schedule 4, Paragraph 6 of the EIA Regulations state that an ES should include:
- '...details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved'.*
- 2.82 Where the assessments undertaken in connection with **Technical Chapters 6 – 11** have encountered difficulties in compiling the required information or are based on assumptions these difficulties and assumptions and the main uncertainties involved have been clearly identified within the relevant Chapter.

References

¹ Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities [Online] PPG Available at:

<https://www.gov.uk/government/collections/planning-practice-guidance>.

² IEMA (2024) EIA Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction.

3. Site Context

Introduction

- 3.1 This Chapter provides a high-level overview of the existing Site characteristics and the surrounding area and identifies the sensitive receptors considered in the EIA. A high-level description of the Site has been provided in this Chapter to avoid the need for repetition within **Technical Chapters 6 – 11**.
- 3.2 As noted in **Chapter 1: Introduction** and **Chapter 2: Approach to EIA**, to capture all temporary and permanent works required for the Proposed Scheme, the 'Site' for the purposes of the EIA is larger than the Application boundary.
- 3.3 The relevant detailed baseline characteristics of the Site and the surrounding area in relation to the technical topics 'scoped into' the EIA are considered within the relevant Chapter (i.e. **Technical Chapters 6 – 11**). A summary of the sensitive receptors included in **Technical Chapters 6 – 11** is provided in **Table 3.1**.
- 3.4 The baseline characteristics for the technical topics 'scoped out' of the EIA and that are not reported in the ES are provided in the EIA Scoping Report (**Appendix 2.1**).
- 3.5 Characteristics of the Site and its surrounds are also provided within the **Design and Access Statement** and the **Planning and Tall Building Statement**, submitted alongside the Application.

Location and Setting

- 3.6 The Site is approximately 1.4 hectares (ha) and lies in the administrative area of MCC.
- 3.7 The Site encompasses Albert Bridge House, which comprises four buildings of one, three, six and 18 storeys in height as well as associated plant and substation. There is also a basement level underneath the three blocks. The total existing Gross Internal Area (GIA) floorspace is 19,432sqm. A further single storey building also fronts the River Irwell.
- 3.8 Albert Bridge House was occupied by HM Revenues and Customs until late 2022 and is currently vacant.
- 3.9 The floor plans, sections and elevations of the existing buildings on-Site are shown in:
- **Figure 3.1: Existing Ground Floor Plan;**
 - **Figure 3.2: Existing Roof Plan;**
 - **Figure 3.3: Existing Sections – Block 3 & 6;**
 - **Figure 3.4: Existing Sections – Block 18;**
 - **Figure 3.5: Existing Block 3 Elevations;**

- **Figure 3.6: Existing Block 6 Elevations;** and
 - **Figure 3.7: Existing Block 18 Elevations.**
- 3.10 There are two car parks within the Site, with a total of 137 car parking spaces. Only one of these car parks is operational with a number of spaces fenced off (and therefore unable to be used). There is also a small area of public open space in the northern part of the Site adjacent to the River Irwell, Albert Bridge Gardens. There are also three trees subject to Tree Preservation Orders (TPOs) within the Site.
- 3.11 In addition, the Site incorporates sections of the A34 Bridge Street, the Trinity Bridge public open space^a and the River Irwell.
- 3.12 The Site is bound by:
- The River Irwell immediately to the north;
 - St. Mary's Parsonage, Alberton House and Trinity Bridge to the east;
 - The A34 Bridge Street and commercial premises to the south; and
 - The A34 Bridge Street and commercial premises / Manchester Civic Justice Centre to the west.
- 3.13 Existing surrounding land uses are predominantly commercial and residential, with civic uses, areas of vacant land, green space / public open space with transport infrastructure interspersed.

Summary of Sensitive Receptors

- 3.14 **Table 3.1** summarises the sensitive receptors considered in **Technical Chapters 6 – 11** and **Chapter 12: Assessment of Cumulative Effects** and their relationship to the aspects of the environment outlined in Regulation 4, Paragraph 2 and Schedule 4 of the EIA Regulations (termed 'receptor categories').

Table 3.1: Identified sensitive receptors

Chapter	Sensitive receptors	Receptor category
Chapter 6: Noise and Vibration	• Nearest existing off-site residents, the nearest existing commercial receptors; • Future residential properties on-site; and • Existing late night entertainment premises (including music venues).	Population and human health
Chapter 7: Townscape and Visual	• Existing open space within the Site; • Existing townscape character within and in close proximity to the Site;	Landscape and population and human health

^a i.e. the area between Albert Bridge House and Alberton House.

Chapter	Sensitive receptors	Receptor category
	- Existing building height within the Site; - Residents of dwellings; - Users of local areas of open space; and - Users of the strategic recreation route.	
Chapter 8: Daylight, Sunlight and Overshadowing	Residential receptors within neighbouring properties.	Population and human health
Chapter 9: Wind Microclimate	Users of thoroughfares, entrances, waiting areas (bus stops) and recreational spaces within and around the Site.	Population and human health
Chapter 10: Socio- economics and Human Health	- Individuals seeking employment and the local economy; - Individuals seeking housing; - Healthcare facilities and their patients; and - Open space and recreational facilities and their users.	Population and human health
Chapter 11: Climate Change	Global climate system.	Climate

4. Development Specification

Introduction

- 4.1 This Chapter provides a description of the Proposed Scheme, covering both the construction^a and operational stages as well as the anticipated timescales. The purpose of this Chapter is to ensure that the EIA is based on sufficient information to inform a robust assessment of likely significant effects.
- 4.2 The description presented in this Chapter together with the supporting plans (**Figures 1.1 and 4.1 – 4.17**, as listed in **Chapter 1: Introduction**) form the basis of the technical assessments presented in **Technical Chapters 6 – 11**.

Site Boundary

- 4.3 All temporary and permanent works associated with the Proposed Scheme will take place within the Site boundary, as defined in **Figure 1.1**. This plan outlines the boundary upon which all technical assessments are based, as presented in **Technical Chapters 6 – 11**. As noted in **Chapter 1: Introduction**, the boundary in **Figure 1.1** is larger than the Application boundary to incorporate areas for temporary works (i.e. temporary construction platforms oversailing the River Irwell) and permanent works (e.g. oversailing plant at height and access works).

Construction

Overview of Activities

- 4.4 The activities during the construction stage are anticipated to comprise the following:
- Site securement, using fencing / hoarding;
 - Enabling works, including set up of temporary site accommodation / construction compounds;
 - Site clearance, including vegetation / tree removal and the implementation of protective measures around features to be retained (such as the trees subject to TPOs);
 - Site preparation and appropriate surveys, including intrusive ground investigations and any remedial works (as required);
 - Utility isolation / capping and diversions;
 - Demolition of Albert Bridge House and associated structures on-site and breaking out of foundations / hardstanding and below-ground services / structures (where applicable);

^a As outlined in **Chapter 2: Approach to EIA**, the 'construction stage' includes site preparation, demolition of Albert Bridge House, earthworks and construction works.

- Excavation and earthworks, to reconfigure existing basement / create new basements as well as reprofiling / remodelling existing ground levels;
- Foundation preparation and installation;
- Formation of drainage features;
- Installation of new utilities;
- Construction of infrastructure (accesses) and building envelopes, including construction of superstructure and installation of cladding / facades;
- Internal fit-out and external finishing; and
- Completion of landscaping and public realm, including lighting.

4.5 Where appropriate, these activities are discussed in further detail below. Where assumptions have been made these have been clearly stated.

Site Securement

- 4.6 The Site will be secured from the outset. Site securement will be achieved through a combination of secure fencing or hoarding, depending on the exact requirements and proximity to specific works.
- 4.7 Where required, appropriate additional fencing / exclusion zones will be identified and implemented by the appointed contractor(s).
- 4.8 Access by the public will be restricted within the construction working areas. Temporary secure access gates will be provided to manage the movement of vehicles, plant, equipment and personnel required for construction. Appropriate construction security measures will also be implemented (e.g. use of lighting and on-site security personnel).

Temporary Site Accommodation / Construction Compound

- 4.9 Site accommodation / compounds will be required for the appointed contractor(s). These will include welfare facilities and other temporary infrastructure areas (e.g. material laydown areas, storage areas, etc.).
- 4.10 These will be set up at designated locations, as determined by the appointed contractor(s).

Temporary Construction Platforms

- 4.11 During the construction works, there may be a requirement for temporary platforms to be established that oversail the River Irwell. These would be used for construction stage plant to reach upper levels of the existing / proposed buildings. No supports will be located within the River Irwell.

Construction Traffic Routes, Access and Volumes

- 4.12 Initially it is anticipated that the accesses off the A34 Bridge Street will be re-used for access / egress. However, further temporary accesses off the A34 Bridge Street / St. Mary's Parsonage will be established throughout the works, where required.

- 4.13 It has been assumed that construction traffic will travel to / from the Site via the A34 Bridge Street, Chapel Road and the A6 or the Inner Ring Road (A6042).
- 4.14 The number of vehicles, including private car trips from the workforce and Heavy Good Vehicle (HGV) movements, will depend on the size and number of the vehicles operated by the appointed contractor(s). Specialised vehicles such as low-loaders will be used to deliver plant and other machinery. For the purposes of the ES, the maximum number of movements is assumed to be less than 100 vehicle movements and 25 HGV movements per day across the construction stage.
- 4.15 Where construction workers require specific plant to undertake works this is assumed to be delivered at the Site, with vehicles leaving the Site shortly after.
- 4.16 Site personnel will be encouraged to utilise public transport to travel to / from the Site. During demolition works, it is assumed that there will be a limited requirement for parking and this will be able to be accommodated within the Site. Following demolition (and subsequent site clearance) it is assumed that further temporary car parking will be able to be accommodated / provided within the Site, subject to the works being undertaken at that time.
- 4.17 No off-site parking along the roads around the Site will be permitted unless otherwise agreed. Personnel will be requested to use formal car parks if no parking is available within the Site.

Construction Traffic Management

- 4.18 Traffic management controls will be implemented during the construction stage by the appointed contractor(s), including:
- The Site entrance(s) will be controlled by a gateman / security guard(s), with a sign-in system implemented. Directions will be provided by the gateman / guard for vehicles to follow to the relevant area;
 - Barrier fencing will be erected along internal routes with relevant signage to reinforce the directions provided and establish a 5mph speed restriction;
 - HGV drivers will be encouraged in the urban environment to be cognisant of their surroundings and vulnerable road users at all times;
 - Provision of appropriate signage of the routes to / from the Site as well as entrance(s) / exit(s) of construction working areas;
 - Restriction of construction vehicles in certain locations and routes at certain times of the day;
 - Temporary traffic management for short periods when the delivery of abnormal / oversized loads may cause obstruction to the public highway;
 - Use of wheel washing facilities for departing vehicles;
 - Set up of temporary entrance(s) / exit(s) to ensure that vehicles have appropriate visibility;

- Implementation of segregated routes to separate construction workers and the public (including future residents, employees and visitors) / traffic; and
- Use of appropriate methods for the control of any hazardous loads (e.g. removal of contaminated material), where appropriate.

4.19 The above will be captured as part of a construction logistics / traffic management plan, which will form part of a Construction Environmental Management Plan (CEMP). Consideration will be given to co-ordination with other schemes in terms of traffic logistics as part of this.

Highways and Pedestrian Diversions

4.20 The Proposed Scheme does not require the permanent stopping up of any roads. However, there may be instances where roads require temporary closure (i.e. due to the delivery of large plant). However, these will be managed in conjunction with MCC and TfGM to limit road closures (as outlined above).

4.21 There are no Public Rights of Way within the Site.

4.22 To facilitate the construction of the proposed accesses on the A34 Bridge Street and St. Mary's Parsonage, the existing footways will need to be temporarily closed. This will be achieved through the use of a segregated pedestrian route, secured from traffic through the use of appropriate barriers. Where required, signposting for alternative provision (i.e. on the opposite side of the A34 Bridge Street) will be provided.

4.23 During the remainder of the construction stage, fencing / hoarding will not entirely cover the pedestrian footways. However, if this is necessary then as above alternative safe walking routes will be provided with clear advertising provided.

Demolition

4.24 All buildings / structures of Albert Bridge House are proposed for demolition as shown in **Figure 4.1**.

4.25 The demolition will initially comprise an internal 'soft-strip' exercise, with all waste arisings removed from the buildings and segregated into allocated skips for appropriate processing / recycling / disposal.

4.26 Mechanical demolition of the low-level buildings / structures will be carried out using conventional demolition excavators and attachments, where it is safe to do so. 'Top down' floor by floor methods will be adopted to demolish the taller existing buildings on-site. No blasting is anticipated to be used.

4.27 No part of the buildings / structures on-site will be left in a dangerous state or insecure conditions at any time during the works.

4.28 Where present, below ground structures and obstructions associated with the buildings / structures, such as drains, relic foundations, service ducts and pipelines will be removed.

- 4.29 The wider existing ground cover (i.e. hardstanding) will also be stripped and removed from the Site.

Site clearance

- 4.30 All areas of the Site will be subject to clearance works, with the exception of the existing trees subject to TPOs (including their Root Protection Zones (RPZs)), areas along the riverbank, the A34 Bridge Street and St. Mary's Parsonage. All other vegetation / features within the Site will be removed.
- 4.31 The giant hogweed likely on-site will be controlled through the implementation of an Invasive Species Method Statement. This method statement will be informed by DEFRA guidance¹.

Ground Investigations and Remedial Works

- 4.32 Given historic development and former land uses, contamination associated with organic and inorganic compounds, heavy metals and hydrocarbons may be present and the presence of asbestos has been confirmed. There is also considered to be an elevated risk of Unexploded Ordnance (UXO) being present.
- 4.33 Pre-demolition survey(s) for Asbestos Containing Materials (ACMs) will be undertaken. Asbestos will be identified, removed, handled and disposed of in line with appropriate guidance and regulations, including The Hazardous Waste (England and Wales) Regulations 2005² and Control of Asbestos Regulations 2012³. Asbestos removal will be undertaken at the outset of the enabling works under an Asbestos Management Plan, developed as part of the CEMP.
- 4.34 In preparation for intrusive works, a detailed UXO risk assessment will be undertaken. Appropriate measures will be implemented during the works, such as supervision by a UXO specialist.
- 4.35 Intrusive ground investigations will be undertaken in line with relevant guidance, including British Standard 5930:2015 Code of Practice for Site Investigations⁴ and British Standard 10175:2011+A1:2013 Investigation of Potentially Contaminated Sites - Code of Practice⁵. The intrusive ground investigations will determine the presence or absence, type and distribution of any forms of ground contamination and confirm the ground conditions.
- 4.36 Where relevant, in line with Land Contamination Risk Assessment⁶ guidance, quantitative risk assessments will be required as part of the intrusive ground investigations which will involve comparing contaminant concentrations against relevant assessment criteria (e.g. Generic Assessment Criteria) and assessing Source-Pathway-Receptor linkages.
- 4.37 Where quantitative risk assessments identify an elevated risk of contamination, a remediation scheme will be produced. This will outline the activities / measures required to achieve the relevant standards for the proposed end uses. This will be submitted for agreement with MCC. The remedial works will depend on the contamination identified, though may include a combination of excavation, segregation and processing. Measures, such as the installation of a capping layer may also be used, where appropriate. Clean cover layers will be validated for chemical quality prior to re-

use / use on-site. Any necessary remediation work will be undertaken during the enabling works prior to the commencement of the main construction works.

- 4.38 Records of completion will be included within a verification report and this will ensure that the relevant thresholds / criteria have been achieved through the remediation scheme. This will be submitted to MCC. This will ensure that the Site is not classified as 'contaminated land' under Part 2a of the Environmental Protection Act⁷.
- 4.39 If further unexpected contamination is encountered during construction works following remediation, appropriate measures will be implemented as part of the CEMP to deal with such circumstances.
- 4.40 The ground investigations will also consider ground gas exposure and include gas monitoring / assessments, as appropriate. Where required, risk mitigation measures will be introduced in line with the British Standard 8485:2015+A1:2019⁸ and CIRIA's Assessing risks posed by hazardous ground gases to buildings⁹. Where relevant, gas protection measures are anticipated to include passive gas membranes to prevent gas ingress and / or active or passive venting. These measures / requirements would be detailed in a remediation scheme and records of completion included in a verification report. These will be provided to MCC.
- 4.41 The results of the ground investigations will also be used to identify the requirement for any construction specific method statements (e.g. dewatering).

Excavation and Earthworks

- 4.42 Excavation works will be undertaken to expand / reconfigure the existing basement and create the new basements. Earthworks will also be undertaken to establish the required levels for the surface water drainage system, landscaping and development platform levels.
- 4.43 It is assumed that all land within the Site will be subject to excavation / earthworks, with the exception of the retained trees and their RPZs, some utility corridors and the sections of the A34 Bridge Street and St. Mary's Parsonage within the Site. The section of the riverbank closest to the A34 Bridge Street will also be remodelled. The Proposed Scheme will ensure there is no change to flood capacity.
- 4.44 The geotechnical properties of the underlying ground alongside the presence of unstable ground and land stability hazards will be identified through intrusive ground investigations. This information will be used to design appropriate remedial measures, including temporary works (e.g. shoring of excavations, the design of haul roads, piling mats and crane platforms, etc.) and / or ground improvement (e.g. vibro-compaction), where required.
- 4.45 All earthworks will be undertaken in accordance with relevant industry guidance including CIRIA C572: Treated ground engineering properties and performance¹⁰, FB75: Building on Fill - Geotechnical Aspects¹¹ and British Standard 6031:2009: Code of Practice for Earthworks¹². In addition, all proposed buildings and their foundations will be designed in accordance with Building Regulations Approved Document A - Structures¹³.

Basement Works

- 4.46 As noted above, the existing basement under Albert Bridge House will be cleared out and expanded / reconfigured as part of the construction works. Additional basements will be created as part of the Proposed Scheme.
- 4.47 These basements will be designed and constructed in accordance with relevant guidance and standards, including Groundwater control – design and practice¹⁶.

Levels

- 4.48 Given the earthwork activities outlined above, there will be areas where levels will reduce (areas of cut) and areas where level will increase (areas of fill).
- 4.49 The existing levels range between 30.2m to 30.8m AOD across most of the Site, with the exception of lower levels adjacent to the River Irwell (at approximately 21m AOD). The floor level of the existing basement is at 28.35m AOD – 25.74m AOD.
- 4.50 Based on **Figures 4.10 – 4.17**, the finished floor levels are set out in **Table 4.1**. The basement levels are also outlined in **Table 4.1**. The surrounding levels within the public realm and amenity areas will correspond to these levels.

Table 4.1: Finished floor and basement levels

Component	Finished floor level (Level 00) (mAOD)	Approximate basement level (mAOD)
Block A	31.0	25.0
Block B	31.0	25.0
Block C	33.0	26.0

- 4.51 The bottom of the below-ground attenuation tanks for the surface water drainage strategy are to be installed at a maximum depth of 2m below ground level.
- 4.52 As such, there is anticipated to be a deviation from existing ground levels of up to approximately +/-3 across the Site.
- 4.53 Given the above, overall it is anticipated that during construction there will be a net removal of excavated material off-site.

Materials Management

- 4.54 All material brought onto the Site / re-used will be tested in accordance with relevant guidance / standards. As noted above, clean cover layers will also be validated for chemical quality prior to re-use / use on-site. Where required, the appointed contractor(s) will provide grading certificates for all backfill material and confirm the source of all backfill materials proposed prior to commencing backfilling operations.
- 4.55 It is assumed that the movement of materials will adhere to the guidance set out in the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites¹⁴.

- 4.56 The appointed contractor(s) will take responsibility for inspecting and classifying all waste materials generated by the works and obtaining any necessary permits, licenses and notices.
- 4.57 As noted above, asbestos has been identified on-site and will be identified, removed, handled and disposed of in line with appropriate guidance and regulations under an Asbestos Management Plan as part of the CEMP.
- 4.58 If other contaminated materials are identified, these will be adequately characterised both chemically and physically in line with relevant guidance, such as Waste Classification: Guidance on the classification and assessment of waste¹⁵. Such material will either be exported off-site in conjunction with relevant legislation (e.g. The Waste (England and Wales) Regulations 2011¹⁶, Environmental Protection Act 1990¹⁷ and the Environmental Protection (Duty of Care) Regulations 1999¹⁸) and guidance¹⁹ under full duty of care or treated on-site and re-used.

Construction Drainage Strategy

- 4.59 Surface water run-off during construction will be managed on-site. This will principally be through the re-use of existing drains (whilst still in place) as well as a temporary drainage strategy during the works.
- 4.60 All temporary drainage will be installed and maintained in accordance with relevant standards and guidance, including British Standard 8582:2013 – Code of practice for surface water management for development sites²⁰ and CIRIA's Control of water pollution from construction sites. Guidance for consultants and contractors²¹.
- 4.61 The construction drainage strategy will include measures to remove silt, sediment and debris. Where components of the permanent drainage strategy are used during construction, all silt and debris build-up will be removed and the permanent components fully reinstated on completion of construction.
- 4.62 Protective measures will be installed on the boundary with the River Irwell and across the Site to ensure there are no direct or indirect impacts to surface or ground water quality. This will include specific working methods / practices and monitoring requirements to minimise the risk of detrimental effects on water quality (e.g. sediment traps, inclusion of treatment facilities, etc). These measures will be incorporated into the CEMP.
- 4.63 Temporary foul water drainage (for site accommodation and welfare facilities) will use methods such as collection tanks with periodic collection by tankers. Such measures will be set out by the appointed contractor(s) as part of the CEMP.

Construction Utility Management

- 4.64 There is a range of utilities within the Site, including electricity cables, potable and foul water mains and telecommunications. Existing on-site utilities and services will be identified and where required disconnected, capped and / or diverted.
- 4.65 The existing substation on-site will be decommissioned and new substation(s) established. This may include interim substation(s).

- 4.66 The existing combined sewers within the A34 Bridge Street will be diverted to facilitate the Proposed Scheme. There are two combined water overflows that cross the Site, which discharge from the combined water sewer into the River Irwell in extreme rainfall or emergency surcharge events. These will be retained within the Proposed Scheme.
- 4.67 Appropriate management measures / controls will be adopted for all works in proximity to utilities during construction in accordance with relevant guidance, including HSE's Avoiding danger from underground services²².
- 4.68 Liaison will be undertaken with the relevant utility operators prior to the commencement of works. This will include the agreement on the placement of heavy construction plant, equipment and materials or the passage of heavy vehicles with protective measures implemented, where appropriate.

Foundations

- 4.69 The foundation solution is not yet known but is assumed to include piled and non-piled foundations.
- 4.70 Piling activities will be undertaken in line with guidance, such as the Environment Agency's Piling and penetrative ground improvement methods on land affected by contamination: guidance on pollution prevention²³. This will be led by the appointed contractor(s). Where required a piling risk assessment will be completed to understand the risk of piling activities associated with impacted soils and receptors.

Cranes

- 4.71 The use of mobile and tower cranes on-site is anticipated during construction.

Waste Generation and Management

- 4.72 Likely types of demolition waste arisings are as follows:
- Mixture of concrete, brick and tiles (including ACM);
 - Timber;
 - Mixed soft strip;
 - Fluorescent tubes / mercury containing waste;
 - Metals; and
 - Gypsum.
- 4.73 The total volume of demolition waste arisings from is estimated to be 5,830m³.
- 4.74 There will be a quantity of material generated through cut (i.e. lowering levels), which will be exported off-site.
- 4.75 Waste generated by the Proposed Scheme during construction of the Blocks is assumed to include bricks, glass, gypsum, aggregate, concrete, wood and plastic. An estimate of construction waste arisings for the Blocks based on BREEAM UK New

Construction Non-domestic Buildings (All UK)²⁴ and Home Quality Mark ONE Technical Manual²⁵ is presented in **Table 4.2**. It should be noted that these figures are considered to provide a reasonable 'worst-case' as this does not account for any prefabricated element.

Table 4.2: Construction waste calculations

Use	Use	BRE benchmark use	Proposed GIA sqm	Tonnes / 100sqm GIA	Tonnes
Block A	C3	Residential	32,970**	10	3,297
	Sui Generis	Commercial*	2,005	13	261
Block B	C3	Residential	43,729**	10	4,373
	E (a, b, c)	Commercial*	75	13	10
	Sui Generis		2,114	13	275
Block C	E (g)	Commercial*	30,969 ^b	13	4,026
	E (a, b, c)		485	13	63
	Sui Generis		1,592	13	207
Total					12,512

All figures are rounded.

* used for Sui Generis use as the worst-case of uses proposed.

** includes associated amenity floorspace.

- 4.76 A waste management plan will be prepared as part of the CEMP to maximise the re-use of materials and material handling process. Measures will include that waste arisings are segregated into allocated skips for appropriate processing / recycling / disposal and to maximise material recycling and that hard-core materials will be processed and crushed on-site within designated zones for re-use or removal, as required.
- 4.77 The waste management plan will be informed by relevant legislation, such as the waste provisions of the Environmental Protection Act 1990, Environmental Protection (Duty of Care) Regulations 1991 and The Waste (England and Wales) Regulations 2011.
- 4.78 Hazardous materials generated in the construction stage will be managed in accordance with legal requirements (e.g. Control of Pollution (Special Wastes) Regulations 1980²⁶ and The Dangerous Substances (Conveyance by Road in Road Tankers and Tank Containers) Regulations 1981²⁷), ensuring appropriate storage, collection and disposal in line with sustainable management practices where possible.

Construction Employment

- 4.79 The construction stage is estimated to generate circa 475 full-time equivalent (FTE) jobs on and off-site.

^b Including office amenity space.

Site Working Hours and Days

- 4.80 In line with MCC hours, working hours will be 07.30 to 18:00 Mondays to Fridays and 08:00 to 14:00 on Saturdays. On Sundays and Bank / Public Holidays noisy working will generally not be planned. On some occasions there are certain operations that may be required to proceed during these periods, for example tower crane erection and dismantling. These will be infrequent and will be agreed with key stakeholders (including MCC). The frequency of these will vary and respond to demand. Access to the Site will be permitted 30 minutes prior to working day commencing with noise being kept to a minimum for the first half hour of each day.

Construction Environmental Management Practices

- 4.81 A CEMP will be prepared by the appointed contractor(s) for the Proposed Scheme as a whole (or each Block) and submitted to MCC for approval prior to the commencement of works. The CEMP will set out the environmental measures to manage and control environmental effects during construction.
- 4.82 The construction works will be carried out by appointed contractor(s) who will comply with all current health and safety legislation (including the Health and Safety at Work etc. Act 1974²⁸, the Control of Pollution Act 1974²⁹ and Construction (Design and Management) Regulations 2015³⁰).
- 4.83 Further details on environmental management practices to be adopted are provided in **Volume 3: Environmental Management Plan**.

Phasing and Programme

- 4.84 The enabling and demolition works may commence as early as 2026, with the main construction works commencing in 2027 and the completion of the Proposed Scheme in 2030 / 31, with a maximum construction programme of four years.
- 4.85 The Blocks will be delivered / built out in phases during the period set out above.

The Completed Scheme

General Site Arrangement

- 4.86 The Proposed Scheme includes three principal components:
- Block A, located in the western part of the Site; and
 - Block B, situated in the northern part of the Site; and
 - Block C, located in the southern part of the Site.
- 4.87 The locations of Block A, Block B and Block C within the Site are shown in **Figures 4.3 – 4.6**. The Blocks each have separate basement levels.
- 4.88 The Blocks will be surrounded by public realm and amenity areas, with hard and soft landscaping (see 'Landscape and Public Realm' below).

- 4.89 An access / egress is proposed off the A34 Bridge Street in the north-western corner of the Site near Block A to provide access to the surface-level car park. An 'entry-only' access is proposed off the A34 Bridge Street between Block A and Block C in the west of the Site, with an 'exit' only egress onto St. Mary's Parsonage to the east of Block C (see 'Access, Circulation and Parking' below).

Land Uses and Quantum

- 4.90 The land uses and quantum alongside the levels at which these uses will be located with the Blocks are presented in **Table 4.3**. This should be read in conjunction with the **Schedule of Accommodation**, submitted alongside the Application.

Table 4.3: Land use classes, quantum and levels

Component	Land use class	Maximum quantum (sqm)	Levels
Block A	C3 (residential)	34,689 Gross External Area (GEA) / 381 units	01 – 37
	C3 (residential – amenity)	986 Gross Internal Area (GIA)	00, 01 and 36
	Sui Generis (plant, waste stores and cycle storage)	2,270 GEA	B1, 00 and 00 Mezzanine
Block B	C3 (residential)	45,671 GEA / 419 units	00 – 49
	C3 (residential – amenity)	935 GIA	00, 01 and 48
	E (a, b, c) (retail, restaurant / café)	84 GEA	00
	Sui Generis (plant, waste stores and cycle storage)	2,342 GEA	B1, 00 and 00 Mezzanine
Block C	E (g) (office)	32,219 International Property Measurement Standards (PSM1)	00 – 18
	E (g) (office – amenity, including lobby)	1,067 GIA	00 and 01
	E (a, b, c) (retail, restaurant / café)	606 GEA	00 and 01
	Sui Generis (plant, waste stores and cycle storage)	2,239 GEA	B1 and 00

- 4.91 There are a mixture of 1-bed, 2-bed and 3-bed homes within Block A and Block B.
- 4.92 The general arrangements of the basement and Levels 00, 01, 02 and roof level across the Proposed Scheme are shown in **Figures 4.2 – 4.6**. The typical general arrangements of each Block are shown in **Figures 4.7 – 4.9**.

Building Heights

4.93 The building heights are defined in **Figures 4.10 – 4.17** and are outlined in **Table 4.4**.

Table 4.4: Building heights

Component	Approximate storeys /	m Above Ordnance Datum (AOD))	Proposed ground level (m AOD)
Block A	37 storeys plus rooftop plant	153.95	31.0 (at Level 00)
Block B	49 storeys plus rooftop plant	190.55	31.0 (at Level 00)
Block C	18 storeys plus rooftop plant	115.94	33.00 (at Level 00)

Landscape and Public Realm

- 4.94 Landscaping and public realm will include planting to compensate for the loss of existing vegetation, improve the street scene, provide informal meeting and play spaces and integrate the Site with the River Irwell.
- 4.95 Soft landscaping will be provided, which will provide natural cooling to the Proposed Scheme and include climate tolerant species in line with the England Biodiversity Strategy³¹ and Natural England's Climate Change Adaptation Manual³². This will also provide a greater level of suitable nesting habitat than is to be lost to facilitate the Proposed Scheme.
- 4.96 Given the urban context of the Site and that the public realm area interacts with existing pedestrian routes at the western, southern and eastern extents of the Site, the proposed public realm will also incorporate areas of hardstanding. The use of hardstanding will provide safe pedestrian access through and around the Site and areas for seating alongside providing access for servicing / maintenance / emergency vehicles to traverse the Site. Street furniture will also be included, such as bins and wayfinding elements.
- 4.97 The ground level public realm has been divided into three interconnected character areas as described below.

City Square

- 4.98 City Square is situated in the south-eastern part of the Site. This has been designed to allow for unobstructed access to Block C and Motor Square. New structured planting and other landscaping will be provided, along with shared surfaces for the servicing egress.

Urban Arboretum

- 4.99 The Urban Arboretum is located within the central parts of the Site, fronting on the A34 Bridge Street and has been designed to be a multifunctional space. The space incorporates the existing mature trees that are subject to TPOs and includes further native and non-native low-level shrub and tree planting. A combination of hard

materials will define circulation areas and routes (including play trails) through the soft landscaped areas.

Native Riverside Corridor

- 4.100 The Native Riverside Corridor is situated across the northern extents of the Site with River Irwell. This area will include an elevated riverside walk which extends over the retained bank edge in some locations and links the A34 Bridge Street with Trinity Bridge. This will provide views across the River Irwell and include rest points for people to enjoy and relax. There will also be clusters of native trees alongside understorey and biodiverse meadow planted to supplement the existing retained trees.

Amenity Areas

Block A and Block B

- 4.101 Communal residential amenity spaces will be included within Block A at Levels 00, 01 and 36 and in Block B at Levels 00, 01 and 48 (see **Figures 4.3, 4.4 and 4.10 – 4.13**). These internal areas are intended to be multifunctional, including working, exercise and social spaces.

Block C

- 4.102 Amenity areas will be included within Block C at Levels B1, 00, 01 and 18 (see **Figures 4.2, 4.3, 4.4, 4.14 and 4.15**). The areas at Levels B1, 00 and 01 will be accessible for future employees / visitors of Block C and are intended to be multifunctional, both for exercise and socialising.
- 4.103 The rooftop terrace areas at Level 18 will be composed of simple, naturalistic designs which seek to maximise useability. A combination of materials will be used for the terrace areas that will tie in with the façade treatment.

Access, Circulation and Parking

Vehicular access and circulation

- 4.104 A new vehicular access / egress will be provided off the A34 Bridge Street in the north-eastern corner of the Site near to Block A and this will provide access to the surface level car park (see **Figure 4.3**).
- 4.105 A further access will be provided off the A34 Bridge Street between Block A and Block C to provide for servicing / maintenance / emergency service vehicles to reach the centre / traverse the Site. The egress for this route will be to the east of Block C, onto St. Mary's Parsonage (see **Figure 4.3**).
- 4.106 All highways works will be designed in accordance with relevant guidance and standards, such as MCC's Design for Access 2³³.

Pedestrian and cyclist access and circulation

- 4.107 Pedestrian and cycle access into / out of the Site will be available at level from footways along the A34 Bridge Street and St. Mary's Parsonage and the public amenity area adjacent to Trinity Bridge^c. Permeable lines of movement along key desire lines

^c The existing public realm area situated between Alberton House and Albert Bridge House.

from pedestrian crossings on the A34 Bridge Street and St. Mary's Parsonage are provided within the Proposed Scheme.

- 4.108 There will be circulation areas and routes through the Site with wayfinding features (as noted under 'Landscape and Public Realm'). Stairs / ramps will be provided where there are level changes across the Site. The design of the circulation areas account for MCC's Design for Access 2 guidance. The areas of public realm will increase the permeability of the Site and unlock new, traffic-free routes for pedestrians and cyclists.
- 4.109 The existing footways along the A34 Bridge Street and St. Mary's Parsonage will be widened into the Site, where required.

Parking

- 4.110 There will be a surface level car park in the north-eastern corner of the Site that sits partially under Block A. This car park will provide <10 spaces^d.
- 4.111 Cycle parking / storage facilities for future residents / employees / visitors workers will be provided within the relevant Blocks, with access provided from ground level and also in the ground level public realm.

Public transport provision

- 4.112 Given its urban location, the Site is highly accessible by public transport and wider pedestrian / cycle access to Manchester City Centre. There are several bus and Tramlink stops close to the Site and Salford Central Railway Station is approximately 170m north-west of the Site. Therefore, there will be no new provision for public transport as part of the Proposed Scheme.

Basements

- 4.113 The Proposed Scheme includes separate basements for each of the Blocks. As shown in **Figure 4.2**, the basements include the cores of each Block alongside operational plant (including cold water storage, extracts and pumps), utilities intakes and changing facilities.

Building Materials and Façade Treatment

- 4.114 The Proposed Scheme will be constructed using concrete to create the superstructure and provide the necessary structural stability for the Blocks. A range of other materials will also be used, including glass, timber and plastic.
- 4.115 As shown in **Figures 4.10 – 4.15**, the external façade treatments are as follows:
- Block A and Block B elevations are to include anodised scalloped and perforated panels, with predominantly rusty / red / bronze tones as well as grey, cream and mocha tones and glazing; and
 - Block C elevations comprise deep mullions / fins and anodised perforated and sinusoidal panels, with bronze and grey tones and glazing.

^d It is noted that this may be increased in the future depending on disabled bay requirements but is unlikely to be substantially more.

Flooding Strategy

- 4.116 As set out in the **Flood Risk Assessment**, northern extents of the Site are categorised as high flood risk areas – including flood zones 3a and 3b (functional floodplain).
- 4.117 Within the area classified as at high risk, there is amenity space (the Native Riverside Corridor). Such spaces are considered to be ‘water compatible’ development within the PPG³⁴ and therefore are appropriately located. A part of Block B also lies with the areas of higher flood risk though ‘less vulnerable’ uses are proposed at the ground floor level which are suitable in this flood zone.
- 4.118 Within the area at high risk, any changes to ground levels will ensure that the existing flood storage volume is not reduced.
- 4.119 Resilience measures, such as the setting of suitable building levels to avoid water ingress and directing overland flows away from buildings to designated areas where some ponding may occur (e.g. soft landscaping areas) will also be incorporated within the Proposed Scheme

Surface Water Drainage Strategy

- 4.120 The key design principles from the surface water drainage strategy set out in the **Drainage Strategy Report** are outlined below.
- 4.121 The surface water drainage strategy will include a mixture of features, including the use of rainwater harvesting, green / blue roof systems, permavoid system, rain gardens and swales. Attenuation of run-off will predominantly be through a series of below-ground tanks located across the centre of the Site and potentially within the Blocks. Appropriate climate change allowances have been considered in devising the system (e.g. the 1 in 100-year storm including a 40% allowance for future climate change).
- 4.122 The system is anticipated to discharge into the United Utilities combined network using existing and / or new connections (potentially via a pumping system). The discharge flow rate will be at the greenfield run-off rate. However, an alternative system where the surface water system discharges into the River Irwell at an unrestricted rate is also under consideration and subject to liaison with the relevant stakeholders. In either option, it is assumed that the proposed areas of soft landscaping along the riverbank are not attenuated.
- 4.123 Appropriate water treatment will be inherent in the drainage design through the incorporation of SuDS features and pollution prevention measures (e.g. interceptors). These will be designed / installed in line with relevant guidance.
- 4.124 The surface water drainage system will be subject to an ongoing maintenance regime to ensure continued functionality. All waste arising from maintenance activities will be handled, stored and disposed of correctly to avoid pollution.

Foul Water Drainage Strategy

- 4.125 A new foul water drainage system will be installed. This will re-use existing connections / include new connections, where appropriate, and discharge into the United Utilities combined sewer network (via pumping system). Works will be undertaken in

accordance with the standards and specifications set out in the Sewerage Sector Guidance³⁵.

Acoustic Design Strategy

4.126 The following acoustic measures have been committed to as part of the Proposed Scheme:

- Landlord and tenant buildings services plant will have appropriate noise and vibration control measures and be located in enclosures or noise screened areas or at a distance away so as to be in accordance with British Standard (BS) 4142³⁶ and Planning NTG³⁷ at nearest façades or open spaces;
- Façade design will include sound insulation specification to ensure that external noise breakout from internal commercial or entertainment noise will be managed in accordance with PNTG and other available guidance;
- Façade design will include sound insulation specification to achieve the internal noise criteria of BS 8233³⁸ and PNTG as may be appropriate in habitable rooms;
- The guidance of ADE³⁹ for internal sound insulation will be enhanced to a minimum of 60dB DnT,w between non-domestic uses and new homes;
- Lease agreements or sale agreements will include a maximum set of internal noise levels for the operation of commercial and retail / restaurant / café (entertainment noise) premises within the Proposed Scheme and will require the incorporation of electronic noise limiting devices or other systems to control amplified music outputs;
- Deliveries and collections to new commercial, retail, restaurant / café (entertainment premises) within the Proposed Scheme will be governed by lease agreements or sale agreements and will include an exclusion time period from 23:00 – 07:00 hours unless otherwise agreed by MCC;
- Lease agreements or sale agreements for commercial, retail / restaurant and café (entertainment premises) floorspace within the Proposed Scheme will include control of external bottle bin charging or other external refuse disposal in accordance with MCC license conditions or if not applicable an exclusion time period from 00:00 – 07:00 hours would apply;
- Internal vibration transfer between different building uses or from building services plant will be designed in accordance with British Standard 6472 Guide to evaluation of human exposure to vibration in buildings ⁴⁰ and PNTG;
- Adoption of specific Tenant acoustic design requirements where they do not conflict with other requirements for noise control, sound insulation or vibration control;
- The design of Building A is for mechanical ventilation to achieve Approved Document F (ADF)⁴¹ and Approved Document O (ADO)⁴² requirements and the

attenuation of the ducted air intakes and exhausts by design will not degrade the façade performance; and

- The internal sound insulation separations between new homes within the Proposed Scheme will comply with the guidance of Approved Document E (ADE)⁴³.

Ventilation Strategy

4.127 A **Ventilation Statement** will be submitted alongside the Application. The strategy is summarised as follows:

- For Block A and Block B, a mechanical supply and extract ventilation strategy will be used. Short periods of purge ventilation (opening a door or window) are accounted for; and
- For Block C, a mechanical ventilation system using centralised Air Handling Units on the rooftop will operate alongside a mixed-mode strategy when external conditions permit the openings within the façade to be operated.

4.128 Other areas within the Blocks (e.g. reception / lobby areas, etc.) will be mechanically or naturally ventilated, as appropriate.

Lighting Design Strategy

4.129 Given the general urban nature of the Site and surrounding area, artificial lighting will largely be contained to the areas of the public realm and the facades and interiors of the Blocks. Existing lighting on the surrounding road network will be retained, albeit such installations may be subject to minor relocation to facilitate access / footway works.

4.130 Lighting within the Urban Arboretum and City Square public realm character areas will comprise amenity / architectural lighting designed to accentuate the architectural value of the surrounding built form of the relevant Blocks and the elements of the public realm. This will be achieved through various lighting elements, including ambient lighting, accent lighting and decorative lighting elements. A more sensitive approach will be taken along the Native Riverside Corridor, with downward / directional lighting installations.

4.131 Lighting installations will be provided within the interior of the Blocks, associated with internal usage of the spaces. Lighting is also anticipated on the façades of the Blocks, comprising architectural lighting to accentuate elements of the design. Illuminated advertisements / signage associated with the retail / restaurant / café / office uses will also be included.

4.132 Lighting will be designed and installed in line with relevant standards and guidance, such as the Institute of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light GN01:2020⁴⁴, British Standard 5489-1:2020 Code of Practice for the design of road lighting – Part 1: Lighting of roads and public amenity areas⁴⁵ and Commission Internationale l'Eclairage (CIE) 126: Guidelines for Minimising Sky Glow⁴⁶.

4.133 Where appropriate, lighting installations will be also designed to be ecologically sensitive, in accordance with relevant guidance⁴⁷. This will include integrated fittings to contain light spill, use of hard landscaping features to block light and create dark corridors in retained and adjacent habitats, particularly along the northern boundary of the Site.

4.134 In addition, high-intensity obstruction lights will be included at roof level in line with relevant legislation and guidance⁴⁸.

Utilities Strategy

4.135 The Proposed Scheme will require new electric, potable water and telecommunications connections. These will be designed and installed in liaison with the relevant operators. Where required, off-site reinforcements will be undertaken.

4.136 The new utilities intakes will be provided within the basements. New substations will be provided at Level 00 in each Block.

Waste Strategy

4.137 Waste streams generated during operation are assumed to include the following:

- Residential, consisting of domestic refuse, mixed recyclables, paper, cardboard and food; and
- Commercial, comprising mixed recyclables, paper, cardboard, food and lighting units (excluding including hazardous waste).

4.138 The estimated weekly waste arisings for the above uses are set out in **Table 4.5** based on British Standard 5906: 2005⁴⁹.

Table 4.5: Estimated weekly waste arisings

Component	Land use class ^e	Relevant category	Equation for weekly waste arisings (litres (L)) ^f	Litres
Block A	C3	Domestic	Number of dwellings x {(volume arising per bedroom [70 L] x average number of bedrooms ^g) + 30}	91,440
Block B	C3	Domestic	Number of dwellings x {(volume arising per bedroom [70 L] x average number of bedrooms ^h) + 30}	100,560

^e For the purposes of the operational waste calculations, the Sui Generis uses have been discounted as it is considered that any waste arisings would be de minimis compared to the other proposed land uses.

^f The number of employees is provided within **Chapter 10: Socio-economics and Human Health**.

^g A worst-case of 3-bedrooms has been utilised in the calculations.

^h A worst-case of 3-bedrooms has been utilised in the calculations.

Component	Land use class ^e	Relevant category	Equation for weekly waste arisings (litres (L)) ^f	Litres
	E (a, b, c)	Office	Volume arising per employee (50 L) x number of employees)	200
Block C	E (g)	Office	Volume arising per employee (50 L) x number of employees)	98,200
	E (a, b, c)			1,000
Total				291,400

* rounded figures have been used in the calculations.

4.139 Waste storage facilities and access for refuse collection are included at Levels 00 and 00 Mezzanine within Block A and Block B and at Level 00 in Block C. Sufficient space has been allowed for regular collections. Waste will be collected by vehicles using the circulation route through the centre of the Site.

4.140 In addition, there is likely to be green waste generated by grounds maintenance across the public realm and amenity areas and waste from the drainage maintenance regime. These arisings will be stored, handled and disposed of in line with relevant guidance and standards.

Energy Strategy

4.141 An **Energy Strategy** has been submitted alongside the Application. The energy strategy incorporates the adoption of an all-electric strategy with the use of a mix of technologies, including Air Source Heat Pumps and the installation of photovoltaic panel arrays on rooftops (where there is sufficient space).

4.142 An emergency generator(s) will also be provided. This will be used for back-up / testing purposes only. The energy plant(s) will be located and operated in line with best practice.

4.143 Properties will be built in accordance with Building Regulations which require reductions in carbon emissions.

Security and Community Safety Strategy

4.144 It is assumed that the Proposed Scheme will incorporate the 'Secured by Design' principles and measures to enhance community safety (such as the provision of appropriate lighting, as outlined under 'Lighting Design Strategy').

Fire Strategy

4.145 The Proposed Scheme will be subject to Building Regulations and standards in order to be classified as safe for use. Appropriate features have been included, such as two staircases within Block A and Block B, fixed automatic sprinkler system and active smoke and heat ventilation.

Operational Logistics

Operational Traffic Movements

4.146 The operational traffic flows are anticipated to be limited (i.e. < 100 Light Duty Vehicles and / or 25 Heavy Duty Vehicles).

Operational Employment

4.147 Once completed, the Proposed Scheme is predicted to generate 1,986 Full-Time Equivalent (FTE) gross jobs.

Operational Hours

4.148 The Proposed Scheme seeks flexible operating hours for the different uses proposed. The operating hours for the proposed land uses are outlined in **Table 4.6**.

Table 4.6: Use classes and operating hours

Use class	Operating hours
E (a, b, c)	07:00 – 24:00 daily
E (g)	24 hours / 7 days a week
C3	24 hours / 7 days a week

Climate Change Resilience Measures

4.149 There has been consideration of the evolving climate throughout the design of the Proposed Scheme. The evolving climate can include an increase in mean summer and winter temperatures, increase in annual precipitation, decrease in mean summer precipitation and extreme weather events.

4.150 The following key climate resilience measures are considered to be integral to the Proposed Scheme:

- Any remodelling of ground levels within the area classified as at high risk of flooding will ensure that there is no reduction in flood capacity and uses are located appropriately in terms of flood risk (see 'Flooding Strategy');
- A suitable allowance for increased rainfall associated with climate change has been incorporated within the design of the surface water drainage strategy (see 'Surface Water Drainage Strategy');
- Green infrastructure and landscaping (see 'Landscape and Public Realm') will provide natural cooling to the Proposed Scheme and include climate tolerant species. This will enhance the resilience of biodiversity to future climatic changes; and
- Appropriate measures will be implemented to ensure suitable internal summertime conditions for occupants (e.g. using an appropriate glazing specification and passive cooling conditions) based on an overheating

assessment using recognised methodologies (such as CIBSE TM52:2013⁵⁰ and TM59:2017⁵¹).

References

- ¹ <https://www.gov.uk/guidance/invasive-non-native-alien-plant-species-rules-in-england-and-wales>.
- ² The Hazardous Waste (England and Wales) Regulations 2005 No. 894.
- ³ Control of Asbestos Regulations 2012 No. 632.
- ⁴ British Standard 5930:2015 Code of Practice for Site Investigations.
- ⁵ British Standard 10175:2011+A1:2013 Investigation of Potentially Contaminated Sites - Code of Practice.
- ⁶ Environment Agency (2023) Land Contamination Risk Assessment.
- ⁷ Environmental Protection Act 1990 c. 43.
- ⁸ British Standard 8485:2015 + A1:2019 Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings.
- ⁹ CIRIA (2007) Assessing risks posed by hazardous ground gases to buildings (C665).
- ¹⁰ CIRIA (2002) C572: Treated ground engineering properties and performance.
- ¹¹ Building Research Establishment (2015) Document FB75: Building on Fill - Geotechnical Aspects.
- ¹² British Standard 6031:2009: Code of Practice for Earthworks.
- ¹³ HM Government (2013) Approved Document A - Structure (2004 Edition incorporating 2004, 2010 and 2013 amendments).
- ¹⁴ DEFRA (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.
- ¹⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1021051/Waste_classification_technical_guidance_WM3.pdf.
- ¹⁶ The Waste (England and Wales) Regulations 2011 No. 988.
- ¹⁷ Environmental Protection Act 1990 c. 43.
- ¹⁸ The Environmental Protection (Duty of Care) Regulations 1991 No. 2839.
- ¹⁹ <https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice>.
- ²⁰ British Standard 8582:2013 – Code of practice for surface water management for development sites.
- ²¹ CIRIA (2001) C532: Control of water pollution from construction sites. Guidance for consultants and contractors.
- ²² HSE (2014) Avoiding danger from underground services HSG47.
- ²³ Environment Agency (2001) Piling and penetrative ground improvement methods on land affected by contamination: guidance on pollution prevention.
- ²⁴ BRE (2018) BREEAM UK New Construction Non-domestic Buildings (All UK) Technical Manual SD5078:BREEAM New Construction 2018 3.0.
- ²⁵ BRE (2018) Home Quality Mark ONE Technical Manual England SD239.
- ²⁶ The Control of Pollution (Special Waste) Regulations 1980 No. 1709.
- ²⁷ The Dangerous Substances (Conveyance by Road in Road Tankers and Tank Containers) Regulations 1981 No. 1059.
- ²⁸ Health and Safety at Work etc. Act 1974 c. 37.
- ²⁹ Control of Pollution Act 1974 c. 40.
- ³⁰ Construction (Design and Management) Regulations 2015 No. 51.
- ³¹ DEFRA (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services.
- ³² Natural England (2020) Climate Change Adaptation Manual (NE751).
- ³³ https://www.manchester.gov.uk/downloads/download/5366/design_for_access_2.
- ³⁴ <https://www.gov.uk/guidance/flood-risk-and-coastal-change#other-flood-risk-considerations>
- ³⁵ Water UK (2023) Sewerage Sector Guidance – Approved Documents.

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- ³⁶ British Standard 4142:2014+A1:2019 - Method for rating and assessing industrial and commercial sound.
- ³⁷ MCC (2022) Planning & Noise Technical Guidance.
- ³⁸ British Standard 8233:2014 Guidance on sound insulation and noise reduction for buildings.
- ³⁹ Approved Document E (2015) Resistance to the passage of sound.
- ⁴⁰ British Standard 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings.
- ⁴¹ Approved Document F (2021) Ventilation Volume 1: Dwellings.
- ⁴² Approved Document O (2021) Overheating.
- ⁴³ Approved Document E (2015) Resistance to the passage of sound.
- ⁴⁴ Institute of Lighting Professionals (2021) Guidance Notes for the Reduction of Obtrusive Light GN01.
- ⁴⁵ British Standard 5489-1:2020 Code of Practice for the design of road lighting – Part 1: Lighting of roads and public amenity areas.
- ⁴⁶ CIE (1997) 126: Guidelines for Minimising Sky Glow.
- ⁴⁷ Bat Conservation Trust and Institution of Lighting Professionals (2023) Bats and artificial lighting at night (GN08/23).
- ⁴⁸ Air Navigation Order 2016 No. 765.
- ⁴⁹ British Standard 5906:2005 Waste Management in buildings – Code of practice.
- ⁵⁰ CIBSE (2013) TM52 The limits of thermal comfort: Avoiding overheating in European buildings.
- ⁵¹ CIBSE (2017) TM59 Design methodology for the assessment of overheating risk in homes.

5. Consideration of Alternatives

Introduction

- 5.1 This Chapter reports the ‘reasonable alternatives’ considered with respect to the Proposed Scheme as required by Schedule 4, Paragraph 2 of the EIA Regulations¹, which states that an ES should include:

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

- 5.2 The PPG² also indicates that where ‘...alternative approaches to development have been considered, the Environmental Statement should include a description of the reasonable alternatives studied which are relevant to the proposed development and its specific characteristics and provide an indication of the main reasons for the choice made, including a comparison of the environmental effects..’.

Approach to Consideration of Alternatives

- 5.3 The EIA Regulations and PPG do not identify a specific methodology for the assessment of alternatives or criteria to be used to inform the evaluation of ‘reasonable alternatives’. The methodology adopted is based on professional experience of similar projects and the nature of the Proposed Scheme as well as focus on the delivery of a proportionate assessment in line with PPG.
- 5.4 The consideration of alternatives has followed a two-step approach, set out as follows:
- **Step 1:** Consideration of ‘factors’ that constitute alternatives based on the EIA Regulations (i.e. alternative sites (locations), alternative designs, alternative technologies and the ‘do nothing’ scenario) and justification / discussion for the inclusion / exclusion from further appraisal; and
 - **Step 2:** Qualitative appraisal of the ‘factors’ brought forward from Step 1 and, where applicable, a comparison of environmental effects.

Step 1: Consideration of ‘Factors’

- 5.5 Step 1 was completed and reported as part of the EIA Scoping Report (**Appendix 2.1**). This concluded that alternative technologies and alternative designs would require consideration in Step 2. These are considered below.

Step 2: Qualitative Appraisal of ‘Factors’

Alternative Technologies

- 5.6 As a mixed-use development, alternative ‘technologies’ are not applicable to fundamental operational activities as would be the case for other types of

development (i.e. industrial processes or energy generation). However, alternative energy strategy technologies have been considered.

5.7 Within the **Energy Strategy**, a series of renewable energy technologies have been identified and evaluated to determine if these were likely to be suitable. A summary is provided below:

- Energy from waste – considered to be not viable due to urban context of the Site;
- Air source heat pumps – considered to be viable due to their ability to provide both low carbon heating and hot water;
- Ground source heat pumps – considered to be not viable due to the need for extensive ground works to install the system on-site alongside proximity to the River Irwell;
- Photovoltaics – considered to be viable due to their flexibility, dependent on the need for rooftop plant and / or the inclusions of green / blue roofs;
- Solar thermal water heating – considered to be viable but available roof area to be used to prioritise photovoltaics;
- Wind power – considered to be not viable due to the urban context;
- Biomass heating – considered to be not viable due to high maintenance implications and the release of emissions given the urban context; and
- District heat network – this is not considered to be viable as there is no existing network in place.

5.8 In addition, the following passive design principles are also considered to reduce greenhouse gas emissions:

- Optimisation of building orientation and fabric performance to minimise energy consumption and improve thermal comfort;
- Use of mixed mode ventilation and control of demand;
- Maximisation of natural lighting; and
- Consideration of the use of metering / sub-metering and measures to allow users to control their own internal environment.

5.9 With such measures in place, there would be a reduction in greenhouse gas emissions (and associated adverse effects) during the operational stage.

Alternative Development Designs

5.10 The key aspects taken from the St. Mary's Parsonage Strategic Regeneration Framework³ comprise:

- Addressing the historic urban grain;
- Improving ground level permeability and pedestrian connections;
- Responding to the neighbouring streetscape and Conservation Areas;
- Using the opportunity to create buildings of height on the Site; and
- Recognition of the Site being suited for office use.

5.11 Taking and building on the above, the design has been informed by the following overarching key principles:

- Maximising public realm at ground level and creating walkable and cyclable routes through the Site;
- Delivering a 'Best in Class' new office within Manchester City Centre;
- Permeability and accessibility from multiple approaches to the Site;
- Opening up access to the River Irwell;
- Retention, repair and augmentation of the existing ecological assets on-site;
- Activation at ground to extend the urban grain and local amenities into the Site; and
- Delivery of massing and height that sits within the context of the River Irwell 'corridor', and as Albert Bridge acts as a gateway to the City Centre, offering the opportunity for landmark heights.

5.12 Key aspects considered through the design process include:

- Retention / demolition of Albert Bridge House;
- Layout and arrangement;
- Land use and quantum;
- Building heights and massing; and
- Connectivity and public realm.

5.13 These are considered in further detail in turn below.

Retention / demolition of Albert Bridge House

5.14 The retention and refurbishment of Albert Bridge House was considered early in the design process.

5.15 In 2019, Historic England determined that the criteria for not listing were not met, stating that the design of Albert Bridge House is typical of a building of that age, lacking

sophistication of layout and planning, innovative technology or quality artwork. Further details are provided in the EIA Scoping Report (**Appendix 2.1**).

- 5.16 The existing 18-storey tower is planned out on a 7.5m structural grid with 2.7m clear height on a typical floor. These characteristics are not seen as suitable for modern high quality working spaces and are deemed to be below British Council of Offices (BCO) guidance / standards⁴. In addition, layout and efficiency of the existing floorplates would not meet market demand / requirements.
- 5.17 It is recognised that there is 'embedded' carbon involved in demolition and redevelopment. To approximately quantify the embodied carbon 'lost' due to demolishing the existing building rather than re-using / refurbishing, the existing Albert Bridge House floor area (19,432 m² Gross Internal Area) can be multiplied by the Royal Institution of Chartered Surveyors (RICS) high rise office carbon factor⁵, giving approximately 28,468 tCO₂e.
- 5.18 It is not accurate to assume that the existing building structure of Albert Bridge House could be retained exactly in its current state; it is likely to require some element of refurbishment, reinforcement and extension along with refurbished or replaced cladding / façade elements. In addition, there is a range of features of the existing Albert Bridge House that are unlikely to be able to be retained / re-used (e.g. lighting, service systems, etc.). As such, the approximate quantification of carbon that is saved or 'locked in' to the existing structure is likely over-estimated.
- 5.19 In contrast to a retrofit proposal, the new build option is also expected to achieve better performance during operation, through enhanced insulation and air tightness targets that might not be technically feasible to achieve through retrofit.

Layout and arrangement

- 5.20 The layout and arrangement of the Proposed Scheme have been influenced by both the relatively small Site area and 'fixed' boundaries defined by the existing road network to the west, south and east and the River Irwell to the north.
- 5.21 The triangular configuration of the Site lends itself to a large open space fronting onto the A34 Bridge Street, with buildings holding the corners at Trinity Bridge and Albert Bridge and at St. Mary's Parsonage / Trinity Square.
- 5.22 Within this framework, the layout has evolved to maximise views and access to the River Irwell frontage, establish a central public realm area within the Site, provide routes through the Site and retain trees subject to TPOs.

Land use and quantum

- 5.23 As noted above, the Site lies within the St. Mary's Parsonage Strategic Regeneration Framework area. Other commercial redevelopments are proposed in the area, for instance at Alberton House and Kendals and Fraser, given it lies adjacent to Spinningfields and represents an opportunity to expand the commercial offer to deliver added value economic growth and enhanced productivity.
- 5.24 The Proposed Scheme includes a new office building, Block C, to provide new space for the market. In addition, the location of the Site provides an opportunity to add

complementary uses (i.e. retail /café / restaurant / bar uses) to the wider commercially focused Strategic Regeneration Framework area, creating more diversity in uses in this part of the City Centre.

- 5.25 The Proposed Scheme will also provide a boost to the supply of housing to meet Manchester's visions for sustainable growth, whilst providing high quality accommodation. The 800 units proposed are equivalent to 2.2% of the 10-year housing target within MCC (see **Chapter 10: Socio-economics and Human Health**).
- 5.26 Such a mix of uses supports a more 'sustainably' focused environ, offering an opportunity for residents to live close to their work as well as the wider retail and commercial aspects of the City Centre.
- 5.27 The quantum of land use has largely been driven by the site constraints, the arrangement of the Blocks and viability considerations. The mix of residential units has evolved through the design process to respond to the market and housing requirements.

Building heights and massing

- 5.28 As noted above, Albert Bridge House is a visually prominent building at the gateway between Manchester and Salford. Given this, building heights and the massing have been carefully considered through the design process.
- 5.29 The tallest component of the Proposed Scheme is within Block B (up to 49 storeys) which sits in the north-eastern part of the Site. The location of the taller elements has remained unchanged through the design development, albeit the maximum heights of the Blocks have evolved due to further technical design analysis and market feedback.
- 5.30 Along the River Irwell a mixture of building heights can be observed, creating a context of variation and visual interest. The building heights vary along the river-facing northern elevations to contribute to the existing height variations.
- 5.31 The massing strategy has evolved naturally during the design development process, responding to the heights and feedback from the market. The strategy also responds to the more sensitive heritage context to the east of the Site (towards the Parsonage Gardens Conservation Area) by descending towards the south, blending in with the local context and existing / emerging building heights.

Connectivity and public realm

- 5.32 Most of the existing public realm within the Site is taken up by a publicly accessible pay-and-display car park (and this is partially fenced-off). A small area of public realm, Albert Bridge Gardens, lies along the northern edge of the Site and is set down at a lower level along the River Irwell, which does not allow for passive surveillance and encourages antisocial behaviour.
- 5.33 The Site is adjacent / near several key strategic routes (e.g. the A34 Bridge Street, Deansgate and Blackfriars Street) which provide a good level of pedestrian infrastructure and pedestrian crossings at key junctions. However, within the Site, Albert Bridge House has a poor configuration at ground level, with the current building forming a physical barrier within the St. Mary's Parsonage area. In addition, at ground

level severance and separation are experienced between Albert Bridge House and St. Mary's Parsonage due to level differences.

- 5.34 The pedestrian Trinity Bridge across the River Irwell also provides connections between Salford and Manchester, although its visible presence and associated wayfinding is currently limited.
- 5.35 The Proposed Scheme will incorporate generous hard and soft landscaping and public realm at ground level that will improve permeability for pedestrians and improve accessibility to surrounding open and amenity spaces for the public. The Proposed Scheme will deliver remodelling and regrading to integrate the new public realm across the Site with its surrounds. Ground floor active frontages within the Blocks will animate the public realm within the Site.

References

¹ The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) SI 2017/517.

² Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities Planning Practice Guidance Environmental Impact Assessment Paragraph: 035 Reference ID: 4-035-20170728.

³ KPF (2020) St. Mary's Parsonage Strategic Regeneration Framework.

⁴ <https://www.bco.org.uk/Research/Publications/BCOGuideToSpec2019.aspx>

⁵ Royal Institute of Chartered Surveyors (RICS) (2014) Methodology to calculate embodied carbon, 1st Edition.

6. Noise and Vibration

Introduction

- 6.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Scheme in relation to noise and vibration.
- 6.2 The Chapter describes the technical consultation that has been undertaken during the EIA, the scope of the assessment and assessment methodology and a summary of the baseline information that has informed the assessment.
- 6.3 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered to be significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendices 2.1 and 2.2**) and iterative scoping process where applicable.
- 6.4 This Chapter, and its associated **Figures 6.1 – 6.5** and **Appendices 6.1 – 6.5**, is intended to be read as part of the wider ES with particular reference to the introductory Chapters of this ES (**Chapters 1 – 5**).
- 6.5 In addition, this Chapter should be read in conjunction with **Chapter 12: Assessment of Cumulative Effects**.

Summary of Consultation

- 6.6 **Table 6.1** provides an overview of the consultation that has been undertaken to inform the Proposed Scheme and EIA in addition to that completed for EIA Scoping, including the consideration of likely significant effects and the methodology for assessment.

Table 6.1: Summary of consultation

Body / organisation	Contact	Date and form of consultation	Summary
MCC	Environmental Protection Officer	Email, 2 nd April 2025 (Appendix 6.1).	Confirmation sought that MCC Planning and Noise Technical Guidance (October 2022) ¹ (PNTG) is the latest applicable. Confirmation sought that the extensive noise survey of the Site dated March and August 2022 can be relied upon as there has

Body / organisation	Contact	Date and form of consultation	Summary
			been no significant change to the local area since. Confirmation sought regarding local noise complaints received since 2022. Confirmation sought on reporting requirements for noise and vibration assessment. Confirmation is awaited from MCC on the above.

Scope of the Assessment

- 6.7 An EIA Scoping Report was submitted to MCC on 9th April 2025, as presented as **Appendix 2.1**. The Scoping Opinion was received on 3rd June 2025 (**Appendix 2.2**). This section provides an update on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Unlikely / Not Significant

- 6.8 The following effects were considered unlikely / not significant as part of the EIA Scoping Report and therefore have not been considered further within the EIA or reported in the ES:

- Disturbance due to construction road traffic noise;
- Disturbance due to operational road traffic noise;
- Building services plant noise;
- Commercial noise breakout;
- Commercial delivery and collection noise;
- Vibration from operational building services plant and tenant activities;
- Existing aircraft noise; and
- Existing environmental vibration from the local transport network.

Effects Likely / Significant

- 6.9 Since the EIA Scoping process, two additional receptors have been identified in relation to two effects 'scoped in', as follows:

Noise emissions from general construction activity

- 6.10 Through further analysis two additional sensitive receptor locations have been selected to represent the future residential properties on-site (R26 and R27)^a. These are included within the assessment reported in this Chapter.

Vibration transfer from general construction activity

- 6.11 Through further analysis two additional sensitive receptor locations have been selected to represent the future residential properties on-site (R26 and R27). These are included within the assessment reported in this Chapter.
- 6.12 **Table 6.2** outlines the effects that are considered likely / significant and are reported within this Chapter.

Table 6.2: Effects likely / significant

Likely significant effect	Receptor(s)	Applicable stage(s)
Noise emissions from general construction activity	Nearest existing off-site residents, the nearest existing commercial receptors (locations R1 to R20) and future residential properties on-site (locations R26 and R27) (Figure 6.1 and Figure 6.3)	Construction
Vibration transfer from general construction activity	Nearest existing off-site residents, the nearest existing commercial receptors (locations R1 to R20) and future residential properties on-site (locations R26 and R27) (Figure 6.1 and Figure 6.3)	Construction
Introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues)	Existing late night entertainment premises (including music venues) (locations R21 to R25 (Figure 6.2))	Operation
Existing road and commercial premises noise on the Proposed Scheme	Future on-site residents (locations R26 to R27 (Figure 6.3))	Operation

^a Residential properties being the most sensitive of the proposed land uses on-site.

Assessment Methodology

Legislative Framework, Policy and Guidance

6.13 The following legislation and policy have informed the assessment of effects within this Chapter and are detailed further in **Appendix 6.2**:

- Environmental Protection Act 1990 (EPA)²;
- Control of Pollution Act 1974 (CoPA)³;
- Noise Policy Statement for England (NPSE)⁴; and
- National Planning Policy Framework (NPPF) 2024⁵.

6.14 The following guidance has informed the assessment of effects within this Chapter and is detailed further in **Appendix 6.2**:

- PPG: Noise⁶;
- Professional Practice Guidance (ProPG) on Planning & Noise⁷;
- PNTG;
- British Standard 6472 Guide to evaluation of human exposure to vibration in buildings⁸ (BS 6472-1);
- British Standard 7445 Description and measurement of environmental noise⁹ (BS 7445-1);
- British Standard 7445 Guide to the acquisition of data pertinent to land use¹⁰ (BS 7445-2);
- British Standard 5228 Code of practice for noise and vibration control on construction and open sites, Part 1: Noise¹¹ (BS 5228-1);
- British Standard 5228 Code of practice for noise and vibration control on construction and open sites, Part 2: Vibration¹² (BS 5228-2);
- Transport Research Laboratory (TRL) Report 429¹³;
- Good Practice Guide on the Control of Noise from Pubs and Clubs¹⁴ (IOA);
- BS 8233 Guidance on sound insulation and noise reduction for buildings¹⁵ (BS 8233);
- Approved Document E¹⁶ (ADE);
- Approved Document F¹⁷ (ADF);
- Approved Document O¹⁸ (ADO); and

- British Standard 4142 Method for rating and assessing industrial and commercial sound¹⁹ (BS 4142).

Defining the Study Area

6.15 The study area (refer to **Figure 6.4**) has been defined within approximately 100m of the Application boundary to capture the nearest potential ‘worst-case’ affected occupied buildings / premises. It has also been extended to include Ralli Quays in Salford at approximately 115m due to potential sensitivity to noise and vibration.

Background Studies to Inform the ES

6.16 **Table 6.3** summarises all studies / surveys / analysis / evaluations undertaken to inform the assessment presented within this Chapter.

Table 6.3: Studies / surveys / evaluations / analysis undertaken to inform the ES

Study / survey / analysis / evaluation	Overview	Date of completion
Noise measurement survey (Appendix 6.3)	A noise measurement survey including attended and unattended positions was carried out, quantifying ambient, background and maximum noise event levels. The survey duration was selected to be seven consecutive days to capture daily fluctuations.	9 th March 2022*
Vibration perception survey (Appendix 6.3)	Perception observations of prevailing vibration were carried out around the Site during typical daytime working hours to observe the most intense period.	9 th March 2022*
Entertainment noise measurement survey (Appendix 6.3)	An attended noise measurement survey was carried out to quantify source sound levels from nearby entertainment activity at night. A dry Friday night in August was selected to capture likely worst-case conditions of use of external areas.	26 th August 2022
Night noise sampling (Appendix 6.3)	An attended noise measurement survey to obtain sample levels and observe the area.	17 th December 2024
Review of MCC’s PNTG	Requirements for noise and vibration surveys and assessments have been reviewed.	3 rd February 2025
* A site observation visit on 17 th December 2024 concluded that there had not been any material change to the local noise or vibration environment since 2022.		

Assessment Process

Assessment of noise emissions from general construction activity

- 6.17 In accordance with CoPA and EPA, the effects of construction noise have been considered. **Chapter 4: Development Specification** outlines the proposed construction works but does not define types and quantities of plant involved as these will be defined by the appointed contractor(s) in due course. Construction noise has been treated as a temporary impact. Noise predictions have been carried out following the methods of BS 5228-1, which provides methods for predicting construction noise levels based on reference data for the emissions of typical construction plant and activities.
- 6.18 **Table 6.4** shows the construction sub-stages that would likely take place, assumed type and quantity of plant along with an assumed percentage of time the relevant plant is likely to operate at maximum power output.

Table 6.4: Construction plant types, quantities and percentage maximum power on-times

Plant and equipment	Enabling works	Demolition	Earthworks	Foundations	Superstructure and cladding	Fit-out	Public realm and landscaping
Tracked excavator	1x10%	1x75%	2x75% [1x75%]	2x75% [1x75%]			1x25%
Cutting tools	2x1%	2x25%	3x10% [2x10%]	3x10% [2x10%]	3x25% [2x25%]	2x10% [1x10%]	1x15%
Hand-held tools	1x10%	1x25%	2x10% [1x10%]	2x10% [1x10%]	2x25% [1x25%]	2x10% [1x10%]	2x25%
HGVs / lorries	2x5%	10x5%	6x5% [5x5%]	6x5% [5x5%]	6x5% [5x5%]	6x5% [5x5%]	2x5%
Bulldozer		1x5%	2x5% [1x5%]				
Compaction plant		1x5%		2x25% [1x25%]			1x10%
Wheeled breakers		1x25%					
Tracked grab / claw		1x75%					
Dumper truck		1x75%	2x75% [1x75%]	2x75% [1x75%]			
Driven piling rig				2x75% [1x75%]			

Plant and equipment	Enabling works	Demolition	Earthworks	Foundations	Superstructure and cladding	Fit-out	Public realm and landscaping
Generator				2x100% [1x100%]	2x100% [1x100%]		
Water pump				2x100% [1x100%]	2x100% [1x100%]		
Concrete mixers and pumps				4x75% [3x75%]	4x75% [3x75%]		
Tower crane					2x25% [1x25%]		
Mobile crane					2x50% [1x50%]		
Loader / fork lift truck				2x50% [1x50%]	2x50% [1x50%]		
Mortar mixing					2x75% [1x75%]		
Scaffolding					3x10% [1x10%]		
Asphalt paving							1x10%
Tracked crusher		1x75%					
Notes:							
format used = quantity x percentage maximum power on-time							
[...] = reduced construction plant estimate for phasing analysis on future sensitive receptors within the Proposed Scheme (see below)							

6.19 **Table 6.5** provides the assumed sound power levels associated with each sub-stage of the construction works.

Table 6.5: Construction plant and equipment assumed sound power levels

Plant and equipment	Enabling works	Demolition	Earthworks	Foundations	Superstructure and cladding	Fit-out	Public realm and landscaping
dB L _{WA}	101	118	113 [111]	121 [117]	117 [114]	107 [104]	109

Note: [...] = reduced construction estimate for phasing analysis on future sensitive receptors within the Proposed Scheme (see below)

- 6.20 As defined in **Chapter 4: Development Specification**, the proposed working hours are 07:30 – 18:00 hours Monday to Friday and 08:00 – 14:00 on Saturday with no audible working on Sundays or Public / Bank Holidays generally planned. On some occasions there are certain operation that may be required to proceed during these periods. These will be infrequent and will be agreed with key stakeholders (including MCC). Access to the Site will be permitted 30 minutes prior to the working day commencing with noise being kept to a minimum for the first half hour of each day. The working day Monday – Friday has been taken as a 10-hour working period.
- 6.21 For existing receptors, the worst-case assessment has assumed that Block A, Block B and Block C will be built out concurrently. Within this scenario, it has not been assumed that the peak construction period will occur during any period of occupation of either Block A or Block B. A separate scenario considering the potential noise effects on Block B from the construction of Block A has also been assessed to identify likely significant effects that could arise from a phased delivery of the Proposed Scheme. As noted above, these receptors represent the most sensitive land uses proposed.
- 6.22 A minimum distance of assessment has been adopted from each sensitive receptor (see **Figure 6.1**) to the appropriate working areas as set-out below:
- Enabling works, earthworks, public realm and landscaping to the nearest Application boundary location with the exception of the A34 Bridge Street where no works are expected at the boundary other than oversailing provision / limited highways works. Along the A34 Bridge Street, the closest working location to the Site boundary has been taken as the existing north-eastern pavement location;
 - Demolition to the location of the existing buildings on-site; and
 - Foundations, superstructure and cladding, and fit-out to the nearest building footprint of either Block A, Block B or Block C with the exception of the north-eastern works to Block B which extend to near the Application boundary.

Assessment of vibration transfer from general construction activity

- 6.23 In accordance with CoPA and EPA, the effects of construction vibration have been considered. Construction vibration has been treated as a temporary impact. All

construction stage plant has the potential to generate transient vibration when passing by / at the Site boundary adjacent / close to sensitive receptors. However, it is generally short lived and such activities are not considered to be significant.

- 6.24 Methods of working which have a potential to generate significant continuous or periodic intermittent vibration and induce it into the ground have been identified and assessed against BS 5228-2 and BS 6472-1.
- 6.25 For existing receptors in the surrounding area, the worst-case assessment has assumed that Block A, Block B and Block C will be built out concurrently. In this scenario, it has not been assumed that the peak vibration period will occur during any period of occupation of either Block A or Block B. A separate scenario considering the potential vibration effects on Block B from the construction of Block A has also been assessed to identify likely significant effects that could arise from a phased delivery of the Proposed Scheme. As noted above, these receptors represent the most sensitive land uses proposed.
- 6.26 The identified activities likely to cause a significant effect are:
- Breaking-out ground bearing slabs;
 - Driven piling; and
 - Use of compaction plant for hardening and levelling piling mats, roads and other surfaces.
- 6.27 Received vibration at the closest working locations to sensitive receptors has been calculated by comparison to reference plant vibration levels contained in BS 5228-2 or TRL.

Assessment of introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues)

- 6.28 **Appendix 6.2** describes in detail the 'Agent of Change' principle, which is established in the NPPF. In summary, this principle requires the person or business who is introducing a new land use to manage the impact of that change. Therefore, it places the responsibility of a scheme introducing new residential receptors to suitably address the impact of noise from existing commercial activities which may potentially affect these receptors. The potential for disturbance should be addressed by first minimising the risk of disturbance from existing sources through good design at an early stage, including considerations of distance, screening, layout and similar measures. Any residual impacts should then be managed using other acoustic design measures, such as the incorporation of sound insulating façades.
- 6.29 The Proposed Scheme will introduce new homes to an area with established late night entertainment premises. The 'Agent of Change' principle has been assessed in a simple manner at this stage to avoid lengthy detailed assessments based on assumptions that may become redundant over the course of the anticipated 4-year development period of the Proposed Scheme.

- 6.30 Existing identified late night entertainment premises (see **Figure 6.2**) have been assessed against the comparison of measured LAeq (EN) (EN being the measured entertainment noise level) and background LA90 (WEN) (WEN being the representative background noise level without the entertainment noise present) to each other alongside the IOA criteria to identify an exceedance level, indicating external audibility. Consideration has been given to the expected internal noise contribution from the entertainment noise source accounting for the design sound insulation, ventilation and overheating strategy. The assessment for the potential for disturbance has been carried out against the PNTG and BS 8233 criteria for internal noise levels.

Assessment of existing road and commercial premises noise on the Proposed Scheme

- 6.31 The results of the baseline environmental noise surveys and the provisions determined for future baseline conditions have been used to conduct an 'Initial Noise Risk Assessment' following the approach outlined in ProPG. The Proposed Scheme committed primary mitigation (see **Chapter 4: Development Specification**) has been used to assess the feasibility of achieving the guidance of BS 8233 and PNTG.

Reporting of the Environmental Effect and Significance Criteria

- 6.32 The assessment of likely significant environmental effects as a result of the Proposed Scheme has taken into account the construction and operational stages. The following sections define the approach adopted within the assessment for the determination of sensitivity, magnitude of change (or impact), the level of effect and significance.

Determining Sensitivity of Receptor

- 6.33 The sensitivity of affected receptors has been considered on a scale of **high, medium, low or negligible**.
- 6.34 **Table 6.6** provides the definitions applied to receptor types which have been determined based on the guidance contained in BS 8233 and other relevant reference criteria. The sensitivity descriptions and examples apply to both noise and vibration.

Table 6.6: Definition of sensitivity of receptors

Sensitivity	Description	Examples
High	Receptors where people or operations are particularly susceptible to noise or vibration	Homes (dwellings, flats and shared accommodation)
Medium	Receptors moderately sensitive to noise or vibration, where it may cause some distraction or disturbance	Noise sensitive leisure (hotels, art, dance and music, museums); Court Buildings; and commercial offices, conference rooms, meeting rooms
Low	Receptors where distraction or disturbance from noise or vibration is minimal	Commercial facilities (retail), workshops and industrial facilities; and non-noise

Sensitivity	Description	Examples
		sensitive leisure (nightclubs, bars, restaurants)
Negligible	Receptors where distraction or disturbance from noise or vibration is not material	Car parks and unoccupied buildings

Determining the Magnitude of Change (or Impact)

- 6.35 The magnitude of change (or impact) has been considered as the change experienced from the current baseline conditions at the sensitive receptor or against prescribed thresholds / criteria (applicable to future receptors) and has been considered on a scale of **large**, **medium**, **small** or **negligible**.

Assessment of noise and vibration transfer from general construction activity

- 6.36 Annex E of BS 5228-1 provides example criteria of absolute noise limits for construction activities (including demolition) and has been used to determine the impact of the construction stage reported within this Chapter. The criteria do not represent mandatory limits but rather a set of example approaches intended to reflect the type of methods commonly applied to construction noise. In broad terms, the example criteria are based on a set of fixed limit values which, if exceeded, may result in a significant effect unless ambient noise levels are sufficiently high to provide a degree of masking.
- 6.37 The range of guidance values detailed in Annex E of BS 5228-1 have been used in conjunction with consideration of the nature of the area and the existing baseline noise levels to numerically define the magnitude levels of **Table 6.7**. Annex E of BS 5228-1 provides varied definitions for the range of daytime working hours which can be grouped for equal consideration. The values presented in **Table 6.7** have been chosen to relate to daytime hours from 07:30 – 18:00 on weekdays (Monday to Friday), and 07:30 – 13:00 on Saturdays. On Saturdays between the working hours of 13:00 and 14:00, the thresholds of the magnitude categories reduce by 10dB. Saturday afternoon noise levels are only considered for residential (home) receptors given that these could be occupied during this period.
- 6.38 Annex B of BS 5228-2 provides example criteria for the significance of construction stage vibration. Particular regard has been given to Section B.2 of BS 5228-2 which provides advice on human response to vibration and Table B.1 of BS 5228-2 which considers the effects of vibration levels in terms of Peak Particle Velocity (PPV). PPV is considered more appropriate when providing guidance for construction stage activities (including demolition), which are likely to result in events with ranging vibration magnitude. **Table 6.7** provides the criteria for magnitude of construction stage vibration impacts reported in this Chapter.
- 6.39 As construction stage noise and vibration will always be an introduction of a new noise or vibration source (albeit temporarily), where impacts are identified they will be adverse.

Table 6.7: Magnitude of change / impact for construction noise and vibration

Magnitude	Noise level* dB $L_{Aeq,T}$	Noise details	Vibration level PPV $mm.s^{-1}$	Vibration details
Large	> 85	Trigger level for temporary rehousing, or reasonable cost thereof, as set out in E.4 of BS 5228-1.	> 10.0	Vibration above $10 mm.s^{-1}$ is likely to be intolerable, even during brief exposures. Cosmetic damage may start to occur in some light-weight structures above $10 mm.s^{-1}$. Considered to be above Significant Observed Adverse Effect Level (SOAEL) ^b .
Medium	≥ 75 ≤ 85	Trigger level for noise insulation works occurs at 75 dB(A), or cost thereof, as set out in Table E.2 of BS 5228-1.	> 1.0 ≤ 10.0	Vibration in this range is likely to become intolerable for any more than short duration exposure and therefore considered as the onset of SOAEL. There will be a perception of damage risk to property, but damage risk is very low.
Small	> 65 < 75	Below the threshold level for noise insulation works and in accordance with categories B and C in BS 5228-1 Annex E.	≥ 0.3 ≤ 1.0	The threshold of which construction vibration might be perceptible in residential environments. The upper value may cause complaint if prior warning is not given. Considered to be between Lowest Observed Adverse Effect Level ^c (LOAEL) and SOAEL. $0.3 mm.s^{-1}$ is considered as the onset of LOAEL.
Negligible	≤ 65	Threshold of significance for the site based on measured noise levels and BS 5228-1 Annex E, category A.	< 0.3	Vibration levels below this level are unlikely to be perceptible in residential environments.

^b Definition is provided in **Appendix 6.2**.^c Definition is provided in **Appendix 6.2**.

Magnitude	Noise level* dB $L_{Aeq,T}$	Noise details	Vibration level PPV $mm.s^{-1}$	Vibration details
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Note * on Saturdays between 13:00 to 14:00 the threshold noise levels reduce by 10dB.

Assessment of introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues)

- 6.40 Consideration has been given to the IOA criteria for entertainment noise to derive a simplified set of likelihood of exceedance criteria (see **Table 6.8** based on the overall value and not a third octave band value) for use in the assessment to identify which premises pose a risk of complaint. The applicable time periods are both daytime (07:00 – 23:00 hours) and night (07:00 – 23:00 hours) as existing entertainment premises operate across both these periods.

Table 6.8: Entertainment noise exceedance criteria

Exceedance level	Criteria	Audibility
Large	$L_{Aeq,T}$ (EN) exceeds $L_{A90,T}$ (WEN) by 10dB or more	Clearly audible
Medium	$L_{Aeq,T}$ (EN) exceeds $L_{A90,T}$ (WEN) by 1dB and 9dB	Clearly audible
None	$L_{Aeq,T}$ (EN) does not exceed $L_{A90,T}$ (WEN)	Just audible
Notes: (EN) is with entertainment noise, (WEN) is without entertainment noise		

- 6.41 The assessment criteria for the magnitude of change applicable to internal received noise levels are set out in **Table 6.9** based on the 'Agent of Change' principle of providing an internal environment to suitably control the likelihood of complaint.

Assessment of existing road and commercial premises noise on the Proposed Scheme

- 6.42 The magnitude criteria set out in **Table 6.9** are internal received sound levels (inclusive of mixed sources; road, commercial and entertainment noise) derived from BS 8233 and PNTG. The criteria cover all ventilation conditions (defined in ADF) and overheating conditions (defined in ADO).

Table 6.9: Magnitude of change related to internal received environmental noise contributions

Magnitude of change	Criteria	Description
Large	More than 10dB greater than BS 8233 and PNTG Guidance Criteria	Not suitable for new homes.
Medium	More than + 5dB greater than the BS 8233 and PNTG Guidance Criteria up to and including + 10dB	Likely not to be suitable for permanent accommodation as there is an increased risk of adverse conditions for health.
Small	Greater than the BS 8233 and PNTG Guidance Criteria by up to + 5dB	Up to a 5dB increase in the BS 8233 guidance criteria is stated in BS 8233 as reasonable conditions are still achieved in newly constructed homes, where greater levels of external noise may prevail and / or there is a desire for natural ventilation in urban areas.
Negligible	BS 8233 and PNTG Guidance Criteria: 50 – 55dB $L_{Aeq,16hr}$ (daytime) External Amenity Spaces [1]; 35dB $L_{Aeq,16hr}$ (daytime) Living Rooms and Bedrooms; 40dB $L_{Aeq,16hr}$ (daytime) Dining Rooms; 30dB $L_{Aeq,8hr}$ (night) Bedrooms; and 45dB $L_{AFmax,T}$ (night) Bedrooms.[2] $\leq 47dB$ at 63Hz and $\leq 41dB$ at 125Hz (for entertainment sources only)	Compliance with BS 8233 guidance criteria for newly constructed homes and the MCC adopted criteria of PNTG.

Notes:

[1] For traditional external amenity areas such as gardens or patios, it is desirable that sound levels do not exceed 50 dB $L_{Aeq,16hr}$ between 07:00 – 23:00, with an upper guideline value of 55 dB $L_{Aeq,16hr}$ as adopted in the PNTG. This would apply to shared outdoor amenity areas proposed as part of the Proposed Scheme. For small balconies, which may be used for activities such as drying washing, or growing pot plants, the setting of noise limits is not necessarily appropriate. It is recognised within BS 8233, ProPG and PPG that these guideline values cannot always be achieved in higher noise areas where development may be desirable. BS 8233 gives the specific example that, in urban areas close to strategic transport links, a compromise between elevated noise levels and other factors, such as the

convenience of living in these locations, or making efficient use of land resources, might be warranted. ProPG and PPG acknowledge that, where noise levels in private amenity space are higher than the guideline values, that the impact can be offset should residents have access to quieter amenity space (whether private, or for use by a number of residents) within a short walking distance of their dwelling.

[2] BS 8233 does not specifically specify a sound level, although it states maximum event noise should be controlled, instead a commonly adopted sound level has been applied for this purpose, using guidance from PNTG and ProPG.

Determining the Level of Effect

6.43 The level of effect has been informed by the magnitude of change (or impact) due to the Proposed Scheme and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and **Table 6.10** has been a tool which has assisted with this process.

6.44 Whilst **Table 6.10** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement, where possible.

Table 6.10: Determining the level of effect

Magnitude of change (or impact)	Sensitivity				
		High	Medium	Low	Negligible
	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

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

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

adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Scheme is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change and / or can recover from the change; and

- **Negligible:** Where the Proposed Scheme 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.

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

Determining Significance

6.47 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 where applicable.

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

Baseline Conditions

6.49 **Table 6.11** provides the details of the sensitive receptors included in the assessments. The following figures show their respective locations:

- **Figure 6.1** shows the existing sensitive receptors;
- **Figure 6.2** shows the existing entertainment premises receptors; and
- **Figure 6.3** shows the future introduced sensitive receptors.

Table 6.11: Sensitive receptors

Reference	Status	Type	Description
R1	Existing	Commercial	Plot B7 Salford Central, New Bailey Street
R2	Existing	Homes	29 New Bailey Street
R3	Existing	Commercial	Riverside, Worsley Street
R4	Existing	Homes	Affinity Living Riverside, 32 Quay Street
R5	Existing	Homes	The Bridge, 40 Dearmans Place
R6	Existing	Hotel	The Lowry Hotel, 50 Dearmans Place
R7	Existing	Homes	The Century Buildings, 14 St. Mary's Parsonage
R8	Existing	Commercial	Cardinal House, 20 St. Mary's Parsonage

Reference	Status	Type	Description
R9	Existing / Future ^d	Commercial	Alberton House, 30 St. Mary's Parsonage ^e
R10	Existing	Commercial	3 St. Mary's Parsonage
R11	Existing / Future	Commercial	28 St. Mary's Parsonage / 27 – 33 King Street West ^f
R12	Existing	Commercial	19A Back Bridge Street
R13	Existing	Restaurant / Bar / Nightclub	55 – 57 Bridge Street
R14	Existing	Commercial	22 – 44 Bridge Street
R15	Existing	Commercial	18 – 20 Bridge Street
R16	Existing	Court Building	Manchester Crown Court
R17	Existing	Court Building	Civil Justice Centre
R18	Existing	Museum	People's History Museum, Left Bank
R19	Existing	Homes	Left Bank
R20	Existing	Commercial	Ralli Quays, Salford
R21	Existing	Restaurant / Bar	The Oast House Bar & Restaurant
R22	Existing	Restaurant / Bar	Manchester Hall, Bridge Street
R23	Existing	Restaurant / Bar / Nightclub	The Liars Club / MOJO / Crazy Pedro's, Bridge Street
R24	Existing	Restaurant / Bar	The former Carnival Street Food, Bridge Street
R25	Existing	Restaurant / Bar / Nightclub	BLVD Manchester, The Avenue North, Bridge Street
R26	Future	Homes	Block A of the Proposed Scheme
R27	Future	Homes	Block B of the Proposed Scheme

^d This is treated as existing within the assessment reported below.

^e Subject to an application for demolition and redevelopment for commercial use (MCC planning reference: 134287/FO/2022).

^f Subject to an application for demolition and redevelopment for commercial use (MCC planning reference: 135028/FO/2022).

Reference	Status	Type	Description
R28	Future	Commercial	Block C of the Proposed Scheme

- 6.50 A site observation visit on 17th December 2024 concluded that there had not been any material change to the study area since an extensive environmental noise measurement survey had been undertaken in 2022. The environmental noise survey was carried out within the period of Wednesday 2nd March and Wednesday 9th March 2022 to quantify prevailing ambient, background, late night entertainment and maximum event noise levels in accordance with BS 7445-1 and BS 7445-2. The survey comprised a combination of both attended and unattended measurements. Further details are provided in **Appendix 6.3**, including, location plans, photos, equipment, weather, dates and conditions of measurement.
- 6.51 A plan showing the noise measurement positions is provided in **Figure 6.5** and **Appendix 6.3** details the measurement position references.
- 6.52 For the noise measurements, daytime has been defined as 07:00 – 23:00 hours and night as 23:00 – 07:00 hours.
- 6.53 A summary of the overall ‘free-field’ (not influenced by reflecting surfaces) results from the measurements at positions P1 and P2 is set out below in **Table 6.12**. The results from positions P3, P4, P5 and P6 have been used to adjust the measurements at P1 and P2 (see **Appendix 6.3**) to give a representation of the noise conditions at ground floor level. The adjusted ground floor noise levels are presented in **Table 6.13**. For reference positions P1 to P6 are defined as:
- Position P1 was at roof level of the central tallest part of the existing building on-site;
 - Position P2 was at roof level of the eastern most block of the existing building on-site;
 - Position P3 was at ground level at the Trinity Bridge public open space;
 - Position P4 was at ground level on the A34 Bridge Street;
 - Position P5 was on the north bank of the River Irwell (within Clermont-Ferrand Square, the Public Amenity Space, near to 32 Quay Street, to the west of Trinity Bridge); and
 - Position P6 was at ground level on St. Mary’s Parsonage.
- 6.54 The background noise levels have been statistically analysed (see **Appendix 6.3**) following guidance provided in BS 4142 and the 10th percentile selected as a conservative approach. In accordance with BS 4142 the typical background level for the daytime and night does not necessarily correlate to the lowest or most frequently occurring level. It should be noted that a time period of 15 minutes has been used for both the daytime and night and that BS 4142 uses this period for the night only and a 1 hour period for the daytime. Using a 15 minute period during the daytime, results in

lower background noise levels and, therefore, a more stringent assessment. Similarly, a statistical approach has been followed selecting the 90th percentile LAF,max,15mins relating to typical high maximum event values.

- 6.55 The baseline noise levels measured included the operational noise generated by the existing Albert Bridge House building on-site (road traffic and building services plant), which became vacant and non-operational in late 2022 (following the completion of the 2022 surveys). Therefore, it is anticipated that the prevailing background noise levels could be marginally lower due to the cessation of building services plant.

Table 6.12: Summary of unattended measured noise levels at Positions P1 and P2

Position reference	Daytime			Night			
	Lowest ambient L _{Aeq,16hr} dB	Highest ambient L _{Aeq,16hr} dB	Background L _{A90,15min} dB	Lowest ambient L _{Aeq,8hr} dB	Highest ambient L _{Aeq,8hr} dB	Maximum event L _{AFmax,15min} dB	Background L _{A90,15min} dB
P1	56	62	53	53	57	73	49
P2	51	56	47	48	53	71	44

Table 6.13: Summary of adjusted measured noise levels at Positions P3, P4, P5 and P6

Position reference	Daytime			Night			
	Lowest ambient L _{Aeq,16hr} dB	Highest ambient L _{Aeq,16hr} dB	Background L _{A90,15min} dB	Lowest ambient L _{Aeq,8hr} dB	Highest ambient L _{Aeq,8hr} dB	Maximum event L _{AFmax,15min} dB	Background L _{A90,15min} dB
P3	54	59	47	51	56	73	44
P4	61	67	55	58	63	73	51
P5	49	54	45	46	51	65	42
P6	58	64	50	55	59	80	46

6.56 Measurement positions P7 to P10 were used to quantify the prevailing noise levels generated by specific late night entertainment premises which incorporate amplified music and / or live music obtained on 26th August 2022, where:

- Position P7 was at ground level opposite the former Carnival Street Food on the A34 Bridge Street;
- Position P8 was at ground level in Motor Square near Crazy Pedros / MOJO / Liars Club;
- Position P9 was at ground level opposite Manchester Hall on the A34 Bridge Street; and
- Position P10 was at ground level near The Oast House Bar and Restaurant off Dolefield / Wood Street also covering BLVD Manchester.

6.57 **Table 6.14** provides the overall, low frequency 63Hz (Hertz) and 125Hz octave band entertainment noise levels measured at positions P7 to P10 along with a description of what was audible.

Table 6.14: Low frequency measured noise levels from entertainment premises

Position reference	Approximate distance of measurement (m)	Maximum measured noise level $L_{Aeq,T}$ dB	Maximum measured noise level at 63Hz $L_{Aeq,T}$ dB	Maximum measured noise level at 125Hz $L_{Aeq,T}$ dB	Description of audibility
P7	11	79	90	81	Amplified music associated with a DJ set and patrons at the former Carnival Street Food.
P8	15	73	75	71	Amplified music noise audible from Crazy Pedros / MOJO / Liars Club, although, greatest influence was amplified music from the former Carnival Street Food.
P9	15	73	78	77	Function on at Manchester Hall, although nothing audible above the amplified music from the former Carnival Street Food.
P10	25	83	96	88	Amplified music from a live band set at The Oast House Bar and Restaurant. No amplified music noise audible from BLVD Manchester above The Oast House

Position reference	Approximate distance of measurement (m)	Maximum measured noise level $L_{Aeq,T}$ dB	Maximum measured noise level at 63Hz $L_{Aeq,T}$ dB	Maximum measured noise level at 125Hz $L_{Aeq,T}$ dB	Description of audibility
Bar and Restaurant contribution.					

- 6.58 Road traffic on the A34 Bridge Street to the south and west of the Site is the main source of noise during both the daytime and at night. Amplified music and entertainment noise is audible along the A34 Bridge Street from various premises primarily the former Carnival Street Food with other contributions from Crazy Pedros / MOJO / Liars Club, Manchester Hall, BLVD Manchester and The Oast House Bar and Restaurant most nights of the week, although Friday and Saturdays have the latest opening hours and greater contributions. At elevated building levels, more so to the east of the Site, there is a greater prevalence of noise from roof mounted building services plant. To the north, existing ambient noise levels are lower due to increased distance from A34 Bridge Street and the greater mix of homes and open space (Parsonage Gardens).

Future Baseline

- 6.59 There are some variables which could change the prevailing environmental noise conditions, some of which are listed below:
- Road traffic evolution has been assumed to be approximately an 8% increase by 2030 on the local road network. This equates to a less than 1dB change overall;
 - The UK Government has committed to phase out the sale of new diesel and petrol engine cars and vans in the 2030s. This may not specifically reduce the quantity of vehicles on the UK road network, but it is intended to fast track the purchase of new electric vehicles or hybrids, which inherently will be slightly quieter than the existing vehicle mix; and
 - Climate changes have the potential to increase local noise levels. The main influence would be from heating, cooling and ventilation plant items working at a greater duty and for longer periods. The immediate local area has much plant of these types, mostly located on roof tops.

Primary and Tertiary Mitigation

Construction Stage

- 6.60 The following primary and tertiary mitigation which has been evaluated as part of the construction stage assessment is outlined below:

- A CEMP will govern the construction stage commitments proposed to manage / control noise and vibration;
- Best Practical Means (BPM) will be adopted, as defined in the CoPA, along with practical advice received from MCC;
- Static / semi-static plant and equipment will be located centrally or be screened with a noise barrier. Envisaged plant items include crushers, generators and water pumps;
- Mobile plant items will not traverse near boundaries more than necessary or idle unnecessarily;
- Control mechanisms limiting vibration from piling will be in accordance with BS 5228-2;
- Plant will only be located at closest working distances to sensitive receptors when necessary. Most of the time, movements will be considerably further away;
- Engines will not be permitted to idle for unnecessary periods of time; and
- A complaints procedure will be managed on the Site, which will log all complaints received, investigate the nature of the complaint and seek to avoid a repeat where practically possible.

Operational Stage

6.61 The following primary and tertiary mitigation which has been evaluated as part of the operational stage assessment is outlined below:

- Landlord and tenant buildings services plant will have appropriate noise and vibration control measures and be located in enclosures or noise screened areas or at a distance away so as to be in accordance with BS 4142 and PNTG at nearest façades or open spaces;
- Façade design will include sound insulation specification to ensure that external noise breakout from internal commercial or entertainment noise will be managed in accordance with PNTG and other available guidance;
- Façade design will include sound insulation specification to achieve the internal noise criteria of BS 8233 and PNTG as may be appropriate in habitable rooms;
- The guidance of ADE for internal sound insulation will be enhanced to a minimum of 60dB DnT,w between non-domestic uses and new homes;
- Lease agreements or sale agreements will include a maximum set of internal noise levels for the operation of commercial and retail / restaurant / café (entertainment noise) premises within the Proposed Scheme and will require the incorporation of electronic noise limiting devices or other systems to control amplified music outputs;

- Deliveries and collections to new commercial, retail, restaurant / café (entertainment premises) within the Proposed Scheme will be governed by lease agreements or sale agreements and will include an exclusion time period from 23:00 - 07:00 hours unless otherwise agreed by MCC;
- Lease agreements or sale agreements for commercial, retail / restaurant and café (entertainment premises) floorspace within the Proposed Scheme will include control of external bottle bin charging or other external refuse disposal in accordance with MCC license conditions or if not applicable an exclusion time period from 00:00 - 07:00 hours would apply;
- Internal vibration transfer between different building uses or from building services plant will be designed in accordance with BS 6472 and PNTG;
- Adoption of specific Tenant acoustic design requirements where they do not conflict with other requirements for noise control, sound insulation or vibration control;
- The design of Block A and Block B is for mechanical ventilation to achieve ADF and ADO requirements and the attenuation of the ducted air intakes and exhausts by design will not degrade the façade performance; and
- The internal sound insulation separations between new homes within the Proposed Scheme will comply with the guidance of ADE.

Assessment of Effects, Secondary Mitigation and Residual Effects

Construction Stage

Noise emissions from general construction activity

- 6.62 Construction stage works will include the demolition of Albert Bridge House and the construction of the new Blocks and associated infrastructure and landscaping. These types of work can lead to noise generation.
- 6.63 Construction noise has been assessed following the adoption of the aforementioned tertiary mitigation using the worst-case of Block A, Block B and Block C being implemented concurrently (as set out above). The estimated minimum distances of the works areas to each applicable sensitive receptor have been assessed, which is likely to account for any typical working practice. The noise sensitive receptors included in this assessment are R1 to R20, which are the existing sensitive receptors (see **Figure 6.1**).
- 6.64 To account for potential phasing of the Proposed Scheme, the assessment has been extended to indicate a worst-case for a future sensitive receptor (R27) (Block B of the Proposed Scheme, see **Figure 6.3**). For this assessment, Block A and Block C have been assumed to be built concurrently whilst Block B is already occupied. It is also noted that R27 is representative of R26 (Block A of the Proposed Scheme, **Figure 6.3**).
- 6.65 Calculations using the source noise levels of **Table 6.5** have followed guidance in BS 5228-1. **Table 6.15** provides the distances used in the calculations. For the worst-case assessment, no screening effects have been included as some noise sources will be

elevated above ground level. It should be noted that the minimum distances are plan distances and do not account for variations in height between sources and sensitive receptors to maintain a worst-case approach.

Table 6.15: Sensitive receptor distances for construction stage activities assessment

Receptor reference	Distance to enabling works, earthworks, public realm and landscaping (m)	Distance to demolition (m)	Distance to foundations, superstructure and cladding, and fit-out for Block A (m)	Distance to foundations, superstructure and cladding, and fit-out for Block B (m)	Distance to foundations, superstructure and cladding, and fit-out for Block C (m)
R1	80	136	100	150	184
R2	46	75	56	88	129
R3	47	61	56	70	118
R4	44	46	54	65	105
R5	76	78	108	86	125
R6	82	84	136	100	134
R7	100	114	190	130	128
R8	45	61	138	74	75
R9	1	16	95	32	29
R10	25	50	128	73	47
R11	16	37	116	68	25
R12	43	43	135	98	50
R13	40	40	133	98	49
R14	28	28	108	94	37
R15	24	24	72	72	24
R16	24	24	30	70	34
R17	34	66	25	80	83
R18	28	84	35	95	104
R19	76	123	94	155	162
R20	130	202	155	214	234
R27	13	-	20	-	13

- 6.66 **Table 6.16** provides the calculated noise levels and magnitude for the construction stage works for all proposed hours with the exception of between 13:00 and 14:00 hours on a Saturday which are presented in **Table 6.17** for the residential (homes) receptors only (R2, R4, R5, R7, R19 and R27). The Saturday afternoon period has different magnitude criteria than the rest of the typical working week and has been treated separately (as outlined above).
- 6.67 The magnitude of construction stage noise levels in **Tables 6.16** and **6.17** have been identified at each sensitive receptor by comparison to **Table 6.7**.

Table 6.16: Calculated magnitude of construction stage noise (except for Saturday afternoon)

Receptor reference	Enabling works	Demolition	Earthworks	Foundations	Superstructure and cladding	Fit-out	Public realm and landscaping
R1	55	67	67	73	69	59	63
R2	60	72	72	78	74	64	68
R3	60	74	72	78	74	64	68
R4	60	77	72	78	74	64	68
R5	55	72	67	74	70	60	63
R6	55	72	67	73	69	59	63
R7	53	69	65	71	67	57	61
R8	60	74	72	76	72	62	68
R9	> 85	> 85	> 85	84	80	70	> 85
R10	65	76	77	80	76	66	73
R11	69	79	81	85	81	71	77
R12	60	77	72	79	75	65	68
R13	61	78	73	79	75	65	69
R14	64	81	76	82	78	68	72
R15	65	82	77	85	81	71	73
R16	65	82	77	83	79	69	73
R17	62	74	74	85	81	71	70
R18	64	72	76	82	78	68	72
R19	55	68	67	74	70	60	63

Receptor reference	Enabling works	Demolition	Earthworks	Foundations	Superstructure and cladding	Fit-out	Public realm and landscaping
R20	51	64	63	69	65	55	59
R27	-	-	81	> 85	84	77	79

Notes:

All noise levels presented are in dB(A);

Red = Large magnitude; Amber = Medium magnitude; Green = Small magnitude; and Normal = Negligible magnitude

Table 6.17: Calculated magnitude of construction stage noise (Saturday afternoon 13:00 – 14:00 only)

Receptor reference	Enabling works	Demolition	Earthworks	Foundations	Superstructure and cladding	Fit-out	Public realm and landscaping
R2	60	72	72	> 75	74	64	68
R4	60	> 75	72	> 75	74	64	68
R5	55	72	67	74	70	60	63
R7	53	69	65	71	67	57	61
R19	55	68	67	74	70	60	63
R27	-	-	> 75	> 75	> 75	> 75	> 75

Notes:

All noise levels presented are in dB(A);

Red = Large magnitude; Amber = Medium magnitude; Green = Small magnitude; and Normal = Negligible magnitude

- 6.68 The level of effect has been determined based on the worst magnitude at each sensitive receptor across the construction stage works (see **Tables 6.16** and **6.17**) and by comparison to **Table 6.10**. **Table 6.18** provides a summary of the determined level of effect.

Table 6.18: Summary of construction stage noise level of effect

Receptor reference	Receptor sensitivity	Worst construction magnitude	Level of effect	Applicability
R1	Medium	Small	Minor	Applies throughout construction
R2	High	Medium	Moderate [2]	Applies only during foundations
		Large [1]	Major [1]	Applies during foundations only (Moderate or Minor for others)
R3	Medium	Medium	Minor [2]	Applies only during foundations
R4	High	Medium	Moderate [2]	Applies during demolition and foundations
		Large [1]	Major [1]	Applies during demolition and foundations only (Moderate or Minor for others)
R5	High	Small	Minor [2]	Applies throughout construction
		Medium [1]	Moderate [1] [2]	Applies during demolition, earthworks, foundations and superstructure and cladding
R6	Medium	Small	Minor	Applies throughout construction
R7	High	Small	Minor [2]	Applies throughout construction
		Medium [1]	Moderate [1] [2]	Applies during demolition earthworks, foundations and superstructure and cladding

Receptor reference	Receptor sensitivity	Worst construction magnitude	Level of effect	Applicability
R8	Medium	Medium	Minor [2]	Applies throughout construction
R9	Medium	Large	Moderate [2]	Applies during enabling, demolition, earthworks and public realm and landscaping
R10	Medium	Medium	Minor [2]	Applies during demolition, earthworks, foundations and superstructure and cladding
R11	Medium	Medium	Minor [2]	Applies during demolition, earthworks, foundations, superstructure and cladding and public realm and landscaping
R12	Medium	Medium	Minor [2]	Applies during demolition, foundations and superstructure and cladding
R13	Low	Medium	Minor	Applies during demolition, foundations and superstructure and cladding
R14	Medium	Medium	Minor [2]	Applies throughout construction
R15	Medium	Medium	Minor [2]	Applies throughout construction
R16	Medium	Medium	Minor [2]	Applies throughout construction
R17	Medium	Medium	Minor [2]	Applies during foundations and superstructure and cladding

Receptor reference	Receptor sensitivity	Worst construction magnitude	Level of effect	Applicability
R18	Medium	Medium	Minor [2]	Applies during foundations, earthworks and superstructure and cladding
R19	High	Small	Minor [2]	Applies throughout construction
		Medium [1]	Moderate [1] [2]	Applies during demolition, earthworks, foundations and superstructure and cladding
R20	Medium	Small	Minor	Applies during foundations only
R27	High	Large	Major	Applies during foundations only (Moderate for others)
		Large [1]	Major [1]	Applies from earthworks onwards
Notes:				
[1] indicates the level of effect for construction working between 13:00 and 14:00 hours on a Saturday. [2] indicates where the level of effect has been determined by professional judgement.				

- 6.69 Where professional judgement has been applied to determine the level of effect, consideration has been given to the City Centre location of the Site and the associated prevailing ambient noise conditions which provide masking noise lowering perception at the receptor locations. The duration of the effect has been assigned based on whether the receptor is exposed to the worst-case predicted noise throughout construction or for multiple activities / parts of construction which would be a duration of greater than a year (medium-term) or for a single activity / part thereof likely to be a duration of less than a year (short-term).
- 6.70 The sensitivity of R27 (future residential property on-site and representative of R26) is considered to be high. The magnitude of impact is considered to be large. Therefore, there is likely to be a direct, temporary, medium-term, adverse effect which is considered to be major (noting this relates to a Saturday afternoon only and for the rest of the construction working period, the foundation works would be a direct, temporary, short-term, adverse effect which is considered to be major, and for other

construction activities there would be a direct, temporary, medium-term, adverse effect which is considered to be moderate).

- 6.71 The sensitivity of R4 (existing residential property) is considered to be high. The magnitude of change is considered to be large. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be major (noting this relates to a Saturday afternoon only and for the rest of the construction working period there would be direct, temporary, medium-term, adverse effect which is considered to be up to moderate).
- 6.72 The sensitivity of R2 (existing residential property) is considered to be high. The magnitude of change is considered to be large. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be major (noting this relates to a Saturday afternoon only and for the rest of the construction working period, the foundation works would be a direct, temporary, short-term, adverse effect which is considered to be moderate, and for other construction activities there would be a direct, temporary, medium-term, adverse effect which is considered to be minor).
- 6.73 The sensitivity of R5, R7 and R19 (existing residential properties) is considered to be high. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, temporary, medium-term, adverse effect which is considered to be moderate (noting this relates to a Saturday afternoon only and for the rest of the construction working period, there would be a direct, temporary, medium-term adverse effect which is considered to be minor).
- 6.74 The sensitivity of R9 (existing commercial premises) is considered to be medium. The magnitude of change is considered to be large. Therefore, there is likely to be a direct, temporary, medium-term, adverse effect which is considered to be moderate.
- 6.75 The sensitivity of R3, R10, R11, R12, R14, R15, R16, R17 and R18 (existing commercial premises, court buildings and museum) is considered to be medium. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, temporary, medium-term, adverse effect which is considered to be minor.
- 6.76 The sensitivity of R1, R6, R8 and R20 (existing commercial properties and hotel) is considered to be medium. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, temporary, medium-term, adverse effect which is considered to be minor.
- 6.77 The sensitivity of R13 (existing restaurant / bar / nightclub premises) is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, temporary, medium-term, adverse effect which is considered to be minor.

Secondary mitigation or enhancement

- 6.78 The noise assessment has indicated that some sensitive receptors are likely to experience moderate and major levels of effect even taking into account a commitment to a CEMP approach. This is not an unexpected result at this stage for a number of reasons:

- Sensitive receptor R9 is effectively directly adjacent to the Site boundary;
- Future sensitive receptor R27 (also representative of R26) is on-site;
- Piling quantities, methods and depths are not defined at this stage and no sub-contractor analysis is available, which relates to the foundations stage;
- In practice, plant items will be spread around the works areas and not all located at the closest working location constantly as assumed for the worst-case assessment approach, which will make a considerable difference to the calculated noise levels received;
- The calculations are based on BS 5228-1 reference noise levels for typical types of plant and the actual plant items could be newer models with lower sound power levels;
- The worst-case assessment does not include for down time each day for rest / comfort breaks;
- Actual working practices / methods and durations at each location for specific works items are not finally developed for review or assessment; and
- There are more stringent noise limits on a Saturday afternoon during the working hours of between 13:00 –14:00 hours.

6.79 If the proposed working hours on a Saturday afternoon were curtailed to finish at 13:00 hours, only sensitive receptors R2, R4, R9 and R27 (also representative of R26) are predicted to result in a moderate level of effect during the main construction working hours (see **Table 6.18**), with the exception of the foundations stage for R27 (also representative of R26).

6.80 It is expected in practice that the implementation of the CEMP will be an adequate mechanism for controlling noise emissions from the construction stage works. Consideration of the above and application of the management principles in the CEMP are likely to reduce the worst-case assessment calculation results by approximately 5dB(A) and in most cases by more, effectively reducing the magnitude of large to medium in all cases, except for sensitive receptor R9 and R27 (also representative of R26) which could remain as a large magnitude for the closest Site boundary working locations. However, the management and monitoring mechanisms are designed to identify these situations in a swift manner and action would be taken to either reduce the impact so it is not prolonged or resolve the matter directly with the sensitive receptor.

6.81 Other mechanisms for control that will require consideration include:

- Addition to or modification of methodology / protocols / procedure within a CEMP;
- A separate standalone method statement of working; and
- A formal Section 61 Notice under the CoPA.

- 6.82 Whichever of the above methods is preferred, it is envisaged to be developed by the appointed contractor(s) in conjunction with MCC prior to commencement of the specific construction stage activities. This can be secured by way of a planning condition.
- 6.83 It is reasonable to conclude that following the managed process above, it is unlikely that there would be a resultant large magnitude of noise remaining. However, depending on the necessity for essential works at close proximity to some sensitive receptors, there could still be a medium magnitude of noise, especially between 13:00 and 14:00 hours on a Saturday.

Residual effect

- 6.84 The sensitivity of R27 (future residential property on-site and representative of R26) is considered to be high. The magnitude of impact, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, medium-term, adverse residual effect which is considered by professional judgement to be moderate.
- 6.85 The sensitivity of R2, R4, R5, R7 and R19 (existing residential properties) is considered to be high. The magnitude of change, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, medium-term, adverse residual effect which is considered by professional judgement to be moderate.
- 6.86 The sensitivity of R3, R9, R10, R11, R12, R14, R15, R16, R17 and R18 (existing commercial premises, court buildings and museum) is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, medium-term, adverse residual effect which is considered by professional judgement to be minor.
- 6.87 The sensitivity of R1, R6, R8 and R20 (existing commercial premises and hotel) is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, temporary, medium-term, adverse residual effect which is considered to be minor.
- 6.88 The sensitivity of R13 (existing restaurant / bar / nightclub premises) is considered to be low. The magnitude of change, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, medium-term, adverse residual effect which is considered to be minor.

Significance

- 6.89 This effect is considered to be **Significant** at sensitive receptors R2 (29 New Bailey Street), R4 (Affinity Living Riverside, 32 Quay Street), R5 (The Bridge, 40 Dearmans Place), R7 (The Century Buildings, 14 St. Mary's Parsonage), R19 (Left Bank) and R27 (future residential property on-site (Block B of the Proposed Scheme – this is also representative of R26 (Block A of the Proposed Scheme))).
- 6.90 The effect is considered to be **Not Significant** at sensitive receptors R1 (Plot B7 Salford Central, New Bailey Street), R3 (Riverside, Worsley Street), R6 (The Lowry Hotel, 50 Dearmans Place), R8 (Cardinal House, 20 St. Mary's Parsonage), R9 (Alberton House, 30 St. Mary's Parsonage), R10 (3 St. Mary's Parsonage), R11 (28 St. Mary's Parsonage),

R12 (19A Back Bridge Street), R13 (55 – 57 Bridge Street), R14 (22 – 44 Bridge Street), R15 (18 – 20 Bridge Street), R16 (Manchester Crown Court), R17 (Civil Justice Centre), R18 (People’s History Museum, Left Bank) and R20 (Ralli Quays, Salford).

Vibration transfer from general construction activity

- 6.91 During the construction stage, there are various activities that have the potential to give rise to groundborne vibration, of which the following are the more likely encountered for the Proposed Scheme based on the methods of **Chapter 4: Development Specification**, i.e.:
- Use of hydraulic breakers;
 - Piling (driven techniques assumed as a worst-case at this stage); and
 - Vibratory ground compaction plant.
- 6.92 Whilst occasional momentary vibration can also arise when heavy plant or vehicles pass buildings at very short separation distances (typically 10m or less), this is not sufficient to constitute a risk of significant effects and therefore on-site vehicular movement vibration effects have not been considered.
- 6.93 **Appendix 6.4** provides reference vibration levels in terms of PPV for types of plant that may be used to undertake the above identified activities on the Site⁸. The reference levels align with the magnitude thresholds in **Table 6.7** and present a distance from the vibration source necessary to reach the thresholds for each magnitude of change (or impact) category. For ease of reference the ranges of **Appendix 6.4** are summarised as:
- For hydraulic breaking, typically, from 9m to 100m is necessary to reduce from a large to negligible magnitude of change / impact with respect to vibration;
 - For driven piling, typically, from 7m to 160m is necessary to reduce from a large to negligible magnitude of change / impact in respect to vibration; and
 - For compaction plant, typically, from 15m to 140m is necessary to reduce from a medium to negligible magnitude of change / impact in respect to vibration.
- 6.94 All sensitive receptors R1 to R20 have been included in the assessment which has been based on Block A, Block B and Block C of the Proposed Scheme being built concurrently (as set out above). To account for potential phasing of the Proposed Scheme, the assessment has been extended to indicate a worst case for a future sensitive receptor R27 (Block B of the Proposed Scheme, see **Figure 6.3**). For this assessment, Block A and Block C have been assumed to be built concurrently whilst Block B is already occupied.
- 6.95 Use of excavator mounted hydraulic breakers that could generate groundborne vibration is likely to be limited to the demolition and foundation works sub-stages. Therefore, the closest distance (for vibration sources, taken from **Table 6.15**) of either

⁸ Augering is also considered in **Appendix 6.4** to test this type of foundation. This is considered further under ‘Secondary Mitigation and Enhancement’.

the demolition or foundation sub-stages has been used as a worst-case in the assessment.

- 6.96 For the piling assessment, the closest distance (for vibration sources, taken from **Table 6.15**) of either Block A, Block B or Block C has been used as a worst-case.
- 6.97 Use of vibratory ground compaction plant is likely to be limited to the earthworks, foundations and public realm and landscaping sub-stages. Therefore, the closest distance (for vibration sources, taken from **Table 6.15**) of the earthworks, foundations or public realm and landscaping sub-stages have been used as a worst-case in the assessment.
- 6.98 The vibration sources will only operate at the worst-case locations assessed for short durations within the overall programme and will typically be much further away for the majority of the works.
- 6.99 **Table 6.19** provides the estimated vibration levels from the construction of the Proposed Scheme for the activities identified above and by comparison to **Table 6.10**, the level of effect has been determined.

Table 6.19: Estimated vibration levels (magnitude) and level of effect from the construction stage

Receptor reference and sensitivity [1]	Breakers		Piling		Compaction	
	PPV (mm.s ⁻¹)	Level of effect	PPV (mm.s ⁻¹)	Level of effect	PPV (mm.s ⁻¹)	Level of effect
R1 (M)	< 0.3 at 100m	Negligible	> 1.0 < 3.0 at 100m	Minor [2]	≥ 0.3 ≤ 1.0 at 80m	Minor
R2 (H)	≥ 0.3 ≤ 1.0 at 56m	Minor [2]	> 1.0 < 3.0 at 56m	Moderate [2]	≥ 0.3 ≤ 1.0 at 46m	Minor [2]
R3 (M)	≥ 0.3 ≤ 1.0 at 56m	Minor	> 1.0 < 3.0 at 56m	Minor [2]	≥ 0.3 ≤ 1.0 at 47m	Minor
R4 (H)	≥ 0.3 ≤ 1.0 at 46m	Minor [2]	> 3.0 ≤ 10.0 at 54m	Moderate [2]	≥ 0.3 ≤ 1.0 at 44m	Minor [2]
R5 (H)	≥ 0.3 ≤ 1.0 at 78m	Minor [2]	> 1.0 < 3.0 at 86m	Moderate [2]	≥ 0.3 ≤ 1.0 at 76m	Minor [2]
R6 (M)	≥ 0.3 ≤ 1.0 at 84m	Minor	> 1.0 < 3.0 at 100m	Minor [2]	≥ 0.3 ≤ 1.0 at 82m	Minor

Receptor and reference and sensitivity [1]	Breakers		Piling		Compaction	
	PPV (mm.s ⁻¹)	Level of effect	PPV (mm.s ⁻¹)	Level of effect	PPV (mm.s ⁻¹)	Level of effect
R7 (H)	< 0.3 at 114m	Negligible	≥ 0.3 ≤ 1.0 at 128m	Minor [2]	≥ 0.3 ≤ 1.0 at 100m	Minor [2]
R8 (M)	≥ 0.3 ≤ 1.0 at 61m	Minor	> 1.0 < 3.0 at 74m	Minor [2]	≥ 0.3 ≤ 1.0 at 45m	Minor
R9 (M)	> 3.0 ≤ 10.0 at 16m	Moderate	> 3.0 ≤ 10.0 at 29m	Moderate	> 3.0 ≤ 10.0 at 1m	Moderate
R10 (M)	≥ 0.3 ≤ 1.0 at 47m	Minor	> 3.0 ≤ 10.0 at 47m	Moderate	> 1.0 < 3.0 at 25m	Minor [2]
R11 (M)	> 1.0 < 3.0 at 25m	Minor [2]	> 3.0 ≤ 10.0 at 25m	Moderate	> 1.0 < 3.0 at 16m	Minor [2]
R12 (M)	≥ 0.3 ≤ 1.0 at 43m	Minor	> 3.0 ≤ 10.0 at 50m	Moderate	≥ 0.3 ≤ 1.0 at 43m	Minor
R13 (L)	≥ 0.3 ≤ 1.0 at 40m	Negligible [2]	> 3.0 ≤ 10.0 at 49m	Minor	≥ 0.3 ≤ 1.0 at 40m	Negligible [2]
R14 (M)	> 1.0 < 3.0 at 28m	Minor [2]	> 3.0 ≤ 10.0 at 37m	Moderate	> 1.0 < 3.0 at 28m	Minor [2]
R15 (M)	> 1.0 < 3.0 at 24m	Minor [2]	> 3.0 ≤ 10.0 at 24m	Moderate	> 1.0 < 3.0 at 24m	Minor [2]
R16 (M)	> 1.0 < 3.0 at 24m	Minor [2]	> 3.0 ≤ 10.0 at 30m	Moderate	> 1.0 < 3.0 at 24m	Minor [2]
R17 (M)	> 1.0 < 3.0 at 25m	Minor [2]	> 3.0 ≤ 10.0 at 25m	Moderate	> 1.0 < 3.0 at 25m	Minor [2]
R18 (M)	> 1.0 < 3.0 at 35m	Minor [2]	> 3.0 ≤ 10.0 at 35m	Moderate	> 1.0 < 3.0 at 28m	Minor [2]

Receptor reference and sensitivity [1]	Breakers		Piling		Compaction	
	PPV (mm.s ⁻¹)	Level of effect	PPV (mm.s ⁻¹)	Level of effect	PPV (mm.s ⁻¹)	Level of effect
R19 (H)	≥ 0.3 ≤ 1.0 at 94m	Minor [2]	> 1.0 < 3.0 at 94m	Moderate [2]	≥ 0.3 ≤ 1.0 at 76m	Minor [2]
R20 (M)	< 0.3 at 155m	Negligible	≥ 0.3 ≤ 1.0 at 155m	Minor	≥ 0.3 ≤ 1.0 at 130m	Minor
R27 (H)	> 3.0 ≤ 10.0 at 13m	Moderate [2]	> 3.0 ≤ 10.0 at 13m	Moderate [2]	> 3.0 ≤ 10.0 at 13m	Moderate [2]

Notes:

[1] The receptor sensitivity is indicated by (H) = high, (M) = medium, (L) = low and (N) = negligible. [2] Indicates where the level of effect has been determined by professional judgement.

Red = Large magnitude; Amber = Medium magnitude; Green = Small magnitude; and Normal = Negligible magnitude.

- 6.100 Where professional judgement has been applied to determine the level of effect, consideration has been given to guidance in both BS 5228-2 and BS 6472-1 with regard to human perception at the receptor locations. The duration of the effect has been assigned based on the fact that the worst-case working locations assessed will only be for short periods of time, expected to be less than a year (short-term).
- 6.101 The findings of **Table 6.19** indicate that the use of excavator mounted hydraulic breakers and compaction plant are unlikely to generate greater than a minor level of effect, with the exception of sensitive receptor R9 which is adjacent to the Site boundary and sensitive receptor R27 (also representative of R26). The driven piling works for forming foundations indicate the potential for a moderate level of effect at sensitive receptors, except for R1, R3, R6, R7, R8, R13 and R20 where there is likely to be a minor level of effect.
- 6.102 The worst-case level of effect for each sensitive receptor is summarised below.
- 6.103 The sensitivity of R2, R4, R5 and R19 (existing residential properties) and R27 (future residential property on-site and representative of R26) is considered to be high. The magnitude of change (impact for R26 and R27) is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be moderate.

- 6.104 The sensitivity of R7 (existing residential properties) is considered to be high. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be minor.
- 6.105 The sensitivity of R1, R3, R6 and R8 (commercial premises and hotel) is considered to be medium. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be minor.
- 6.106 The sensitivity of R9, R10, R11, R12, R14, R15, R16, R17 and R18 (existing commercial premises, court buildings and museum) is considered to be medium. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be moderate.
- 6.107 The sensitivity of R20 (existing commercial premises) is considered to be medium. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be minor.
- 6.108 The sensitivity of R13 (existing restaurant / bar / nightclub premises) is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse effect which is considered to be minor.

Secondary mitigation or enhancement

- 6.109 Sensitive receptors R9 and R27 (also representative of R26) may experience a short-term, medium magnitude even with the CEMP in place, when the works undertaken are at the worst-case (i.e. closest) locations. The management and monitoring mechanisms can be enhanced to identify these situations in a swift manner so action can be taken to either reduce the magnitude so it is not prolonged or resolve the matter directly with the sensitive receptor.
- 6.110 A review of the construction programme for construction works activity close to sensitive receptors R9 and R27 (also representative of R26) will be included in the CEMP to identify periods when a close level of observation may be required, by operatives or construction management personnel.
- 6.111 Mitigation is necessary to be developed for the piling works. The assessment has assumed driven piling as a worst-case assumption at this stage but the actual foundation construction method is not confirmed. If the piling technique can be developed as Continuous Flight Auger (CFA) to form suitable foundations within the ground conditions of the Site, then there would be a minor magnitude of impact at sensitive receptor R27 (also representative of R26), and a negligible magnitude at all other sensitive receptors considered (see further details in **Appendix 6.4**).
- 6.112 The following actions will be considered during the construction stage works proposals development, which would assist to minimise the vibration levels assessed:
- Whether the time of activity working can be adjusted for times when adjacent sensitive receptors are not occupied;

- Investigate the ground conditions prior to finalising the piling technique selections;
- If driven piling techniques are unavoidable for the formation of suitable foundations, localised activity specific vibration monitoring would be adopted at the closest working locations to the identified sensitive receptors (e.g. R9, R11 and any other receptor deemed appropriate) to advise on actual conditions, to provide a feedback mechanism, to allow real-time adjustment should a necessity arise. This can also be applied to any Proposed Scheme phasing for on-site occupied sensitive receptors (e.g. R26 and R27); and
- Method statements / procedures would be developed prior to the start of the piling works, for construction operatives to follow.

6.113 Other mechanisms for control that can be adopted include:

- Development of methodology / protocols / procedure within a CEMP;
- A separate standalone method statement of working; and
- A formal Section 61 Notice under the CoPA.

6.114 Whichever of the above methods is preferred, it is envisaged to be developed by the appointed contractor(s) in conjunction with MCC prior to commencement of the specific construction activity. This can be secured by way of a planning condition.

6.115 It is reasonable to conclude that following the managed process above and dependent on the necessity for driven piling works and the close proximity of these to some sensitive receptors, there could still be a medium magnitude of vibration at some sensitive receptors.

Residual effect

6.116 The sensitivity of R2, R4, R5, R19 (existing residential properties) and R27 (also representative of R26 and future residential properties of the Proposed Scheme) is considered to be high. The magnitude of change (impact for R26 and R27), following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse residual effect which is considered by professional judgement to be moderate.

6.117 The sensitivity of R7 (existing residential properties) is considered to be high. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, temporary, short-term, adverse residual effect which is considered by professional judgement to be minor.

6.118 The sensitivity of R1, R3, R6 and R8 (existing commercial premises and hotel) is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse residual effect which is considered by professional judgement to be minor.

- 6.119 The sensitivity of R9, R10, R11, R12, R14, R15, R16, R17 and R18 (existing commercial premises, court buildings and museum) is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse residual effect which is considered to be moderate.
- 6.120 The sensitivity of R20 (existing commercial premises) is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, temporary, short-term, adverse residual effect which is considered by professional judgement to be minor.
- 6.121 The sensitivity of R13 (existing restaurant / bar / nightclub premises) is considered to be low. The magnitude of change, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, temporary, short-term, adverse residual effect which is considered by professional judgement to be minor.

Significance

- 6.122 This effect is considered to be **Significant** at sensitive receptors R2 (29 New Bailey Street), R4 (Affinity Living Riverside, 32 Quay Street), R5 (The Bridge, 40 Dearmans Place), R9 (Alberton House, 30 St. Mary's Parsonage), R10 (3 St. Mary's Parsonage), R11 (28 St. Mary's Parsonage), R12 (19A Back Bridge Street), R14 (22 – 44 Bridge Street), R15 (18 – 20 Bridge Street), R16 (Manchester Crown Court), R17 (Civil Justice Centre), R18 (People's History Museum, Left Bank), R19 (Left Bank) and R27 (future residential property on-site (Block B of the Proposed Scheme – this is also representative of R26 (Block A of the Proposed Scheme))).
- 6.123 This effect is considered to be **Not Significant** at sensitive receptors R1 (Plot B7 Salford Central, New Bailey Street), R3 (Riverside, Worsley Street), R6 (The Lowry Hotel, 50 Dearmans Place), R7 (The Century Buildings, 14 St. Mary's Parsonage), R8 (Cardinal House, 20 St. Mary's Parsonage), R13 (55-57 Bridge Street) and R20 (Ralli Quays, Salford).

Operational Stage

Introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues)

- 6.124 MCC has previously confirmed that there have been historic complaints prior to 2022 of entertainment noise received from residents on St. Mary's Parsonage. It is the intention of the Proposed Scheme to introduce homes on the Site within Block A, sensitive receptor R26 (see **Figure 6.3**) and Block B, sensitive receptor R27 (see **Figure 6.3**). Both buildings are of similar acoustic design and will be located a similar distance from existing licensed late-night entertainment premises; therefore, the assessment has focussed primarily on Block A, but the findings equally apply to Block B. Block A has façades facing towards existing licensed late-night entertainment premises within the study area, identified as sensitive receptors R21, R22, R23, R24 and R25 (see **Figure 6.2**).
- 6.125 **Table 6.20** provides a summary of the restaurant / bar / nightclub (entertainment) premises and their respective operating hours.

Table 6.20: Entertainment noise venues in the study area

Noise source receptor reference / external level dB(A)	Premises name	Location	Operating hours
R21 / 83dB L _{Aeq,T} (at 25m)	The Oast House Bar and Restaurant	The Avenue Courtyard, Spinningfields	Sun. – Wed. 12:00 to 00:00 Thurs. – Sat. 12:00 to 01:00
R22 / 73dB L _{Aeq,T} (at 15m)[1]	Manchester Hall	22 – 44 Bridge Street	Mon. – Sun. 11:00 to 00:00
R23 / 73dB L _{Aeq,T} (at 15m)[1]	MOJO / Liars Club / Crazy Pedro's	55 – 57 Bridge Street	Sun. – Thurs. 12:00 to 04:00 Fri. – Sat. 12:00 to 05:00
R24 / 79dB L _{Aeq,T} (at 11m)[2]	The former Carnival Street Food	A34 Bridge Street	Sun. – Wed. 12:00 to 22:00 Thurs. – 12:00 to 23:00 Fri. – 12:00 to 00:00 Sat. – 12:00 to 01:00
R25 / 83dB L _{Aeq,T} (at 25m)[1]	BLVD Manchester	The Avenue North	Thurs. – 17:00 to 00:00 Fri. – 15:00 to 04:00 Sat. – 13:00 to 04:00 Sun. – 16:00 to 04:00
Notes:			
[1] indicates the premises is not included in the assessment as noise emissions from other premises were of greater influence.			
[2] Carnival Street Food is closed, however, the venue / land could be used for a similar use in the future by another operator.			

- 6.126 Observations made during the night noise measurement survey (refer to **Appendix 6.3**) indicate that amplified music noise from the former Carnival Street Food (R24) and The Oast House Bar and Restaurant (R21) is the dominant low frequency noise emissions of the local entertainment premises affecting the A34 Bridge Street. It was not possible to distinguish source noise levels from sensitive receptors R22, R23 and R25 as their contributions were lower than the overall ambient noise levels. Consequently, R22, R23 and R25 have been excluded from the calculations, concentrating only on the greatest measured noise sources.

- 6.127 The assessment has used the measured noise levels from R21 83dB LAeq,T (at 25m) and R24 79dB LAeq,T (at 11m) to undertake a noise propagation calculation based on plan distances and screening effects at low level.
- 6.128 The analysis is set out in **Table 6.21** for the daytime and at night, with reference to the entertainment noise exceedance criteria of **Table 6.8**. A tolerance of +5dB has been included for some loss of screening effect with increased height, to account for mid to upper floors which may have a more direct view but will also be further distant in slant.

Table 6.21: Entertainment noise analysis

Source reference	Source noise level dB(A)	Approximate distance to receptor (m)	Distance and screening correction dB [3]	Predicted received noise level LAeq,T (EN)	Existing background noise level LA90,T (WEN)	Difference between (EN) and (WEN) dB [4]	Exceedance and risk [4]
Daytime (07:00 to 23:00 hours)							
R21	83 [1]	125	-24	59	55	+4 (+9)	Medium (Medium)
R24	79 [2]	127	-31	48	55	-7 (-2)	None (None)
Night (23:00 to 07:00 hours)							
R21	83 [1]	125	-24	59	51	+8 (+13)	Medium (Large)
R24	79 [2]	127	-31	48	51	-3 (+2)	None (Medium)
Notes:							
[1] measured at a distance of 25m.							
[2] measured at a distance of 11m.							
[3] includes -10 dB screening correction for no direct line of sight in plan to Block A at lower floor levels. [4] tolerance of +5dB added to account for the potential for increased line of sight in slant with increased height up Block A							

- 6.129 The likely effect will be entirely dependent on the subjective response of future occupants to noise levels internally, activities they are undertaking and their personal feelings towards the entertainment premises. However, the analysis presented in **Table 6.21** indicates that there is a risk of complaint from future introduced homes of Block A (and Block B) towards sensitive receptor R21 and potentially R24 if the Proposed Scheme's design is not capable of providing suitable internal noise conditions. For sensitive receptors R22, R23 and R25, professional judgement indicates a risk of complaint is unlikely from the currently prevailing activities.

- 6.130 The provisions stated in **Chapter 4: Development Specification** have been developed in response to the existing external environmental noise conditions. The good practice acoustic design adopted for the Proposed Scheme is to achieve the BS 8233 and PNTG internal noise criteria for new homes for all conditions road traffic, commercial and entertainment noise. Comparison of this approach to the magnitude criteria of **Table 6.9** indicates a negligible magnitude of change.
- 6.131 In order to demonstrate the feasibility of the Proposed Scheme's acoustic design approach, example calculations have been presented for Block A in **Appendix 6.5**. The results indicate the sound reduction required by the façades typically range between $R_w + C_{tr}$ 24 and 38 to achieve the BS 8233 and PNTG criteria, which is readily achievable with common building materials and acoustically enhanced glazing components. Even at mid to upper floor levels where there may be a slight increase in external noise level, the façade requirement would be $R_w + C_{tr}$ 41dB at worst (refer to **Appendix 6.5**) which is achievable from acoustically enhanced glazing. The design of Block A (and Block B) is for mechanical ventilation to achieve ADF and ADO requirements and the attenuation of the ducted air intakes and exhausts by design will not degrade the façade performance. This implies that it is very unlikely that the internal noise conditions would invoke a cause for complaint from a reasonable person of normal hearing ability.
- 6.132 The sensitivity of R21, R22, R23, R24 and R25 (existing restaurants / bar / nightclub premises) is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Secondary mitigation or enhancement

- 6.133 No secondary mitigation or enhancement is required / has been identified.

Residual effect

- 6.134 In the absence of secondary mitigation the residual effects for R21, R22, R23, R24 and R25 (existing restaurants / bar / nightclub premises) are the same as that reported in the pre-mitigation scenario.

Significance

- 6.135 This effect is considered to be **Not Significant** for all assessed receptors R21 (The Oast House Bar & Restaurant), R22 (Manchester Hall, Bridge Street), R23 (The Liars Club / MOJO / Crazy Pedro's, Bridge Street), R24 (the former Carnival Street Food, Bridge Street) and R25 (BLVD Manchester, The Avenue North).

Existing road and commercial premises noise on the Proposed Scheme

- 6.136 The existing measured environmental noise on the Site comprised combinations of road traffic from the A34 Bridge Street and commercial noise sources during the daytime (transportation noise being most prevalent to the west and south), with additional entertainment noise contributions from commercial premises in the evenings and at night most days of the week.
- 6.137 The Proposed Scheme will introduce different uses across the Site. The most sensitive use will be the residential (home) areas above ground floor level (Level 02+) within Block A and Block B which have a high sensitivity. All other uses located within Block A

(at Level 00 and 01), Block B (at Level 00 and 01) and in Block C are commercial type operations and have lower sensitivity to external noise ingress, hence these have not been included in the assessment.

- 6.138 The range of measured ambient noise levels in **Table 6.12** have been used for the assessment, the highest of which have been taken as the worst-case.
- 6.139 The assessment has been undertaken for Block A (R26) as it is closest and most exposed to the surrounding noise sources. The results would also represent the worst-case for Block B (R27), although, in practice, Block B will be exposed to slightly lower external noise levels due to additional distance and screening.
- 6.140 An initial noise risk assessment for Block A following the method of ProPG has been carried out. ProPG requires the assessment not to include any sound insulation mitigation or design development, therefore, the design provisions of **Chapter 4: Development Specification** have not been taken into account. The resultant indications for Block A are:
- During the daytime for façades facing the A34 Bridge Street, there is a medium risk for noise;
 - During the daytime for façades facing to the east (away from the A34 Bridge Street), there is a low to medium risk for noise;
 - During the night for façades facing the A34 Bridge Street, there is a high risk for noise; and
 - During the night for façades facing to the east (away from A34 Bridge Street), there is a medium to high risk for noise.
- 6.141 The ProPG initial noise risk assessment indicates there are acoustic design challenges to be considered to enable acceptable internal noise conditions on the Site for new homes within Block A and by inference, Block B.
- 6.142 An AVO level 1 site risk assessment for Block A has been carried out. AVO requires the assessment not to include any sound insulation mitigation or design development, therefore, the design provisions of **Chapter 4: Development Specification** have not been taken into account. The resultant indications for Block A are:
- During the daytime for façades facing the A34 Bridge Street, there is a high risk of an adverse effect of noise by opening windows to mitigate overheating;
 - During the daytime for façades facing to the east (away from the A34 Bridge Street), there is a medium risk of an adverse effect of noise by opening windows to mitigate overheating;
 - During the night for façades facing the A34 Bridge Street, there is a high risk of an adverse effect of noise by opening windows to mitigate overheating; and

- During the night for façades facing to the east (away from the A34 Bridge Street), there is a medium to high risk of an adverse effect of noise by opening windows to mitigate overheating.
- 6.143 The AVO level 1 site risk assessment for Block A (and by inference, Block B) indicates there are overheating and acoustic challenges to be considered to enable acceptable internal noise conditions, with a recommendation that a level 2 assessment is carried out as the detailed design develops.
- 6.144 The provisions stated in **Chapter 4: Development Specification** have been developed in response to the existing external environmental noise conditions. The good practice acoustic design adopted for the Proposed Scheme is to achieve the BS 8233 and PNTG internal noise criteria for new homes for all conditions road traffic, commercial and entertainment noise. Comparison of this approach to the magnitude criteria of **Table 6.9** indicates a negligible magnitude of change.
- 6.145 In order to demonstrate the feasibility of the Proposed Scheme's acoustic design approach, example calculations have been presented for Block A in **Appendix 6.5**. The results indicate the sound reduction required by the façades typically range between $R_w + C_{tr}$ 20 and 32 to achieve the BS 8233 and PNTG criteria, which is readily achievable with common building materials and acoustically enhanced glazing components. The design of Block A (and Block B) is for mechanical ventilation to achieve ADF and ADO requirements and the attenuation of the ducted air intakes and exhausts by design will not degrade the façade performance.
- 6.146 There will be common external amenity spaces for residents of Block A and Block B at the ground floor level (Level 00) within the Proposed Scheme (see **Figures 4.3**). Existing external noise levels across the Site range between 49dB to 67dB $L_{Aeq,T}$, with the higher levels close to the A34 Bridge Street. Within the guidance of BS 8233, ProPG and PPG there is acknowledgement that where there are external amenity spaces with higher noise levels than are desirable, the impact can be offset if there are quieter areas provided within a short walk for occupants. This will be the case for the Proposed Scheme, whereby there are spaces which meet the desirable guidance of BS 8233, for example Clermont-Ferrand Square (north of the River Irwell) and Parsonage Gardens (to the north-east along St. Mary's Parsonage). Professional judgement indicates that external noise amenity would result in a negligible to small magnitude.
- 6.147 Therefore, for the existing road and commercial premises noise on the Proposed Scheme, the greatest magnitude of change is small resulting from external areas only. The introduced future sensitive receptors R26 and R27 have a high sensitivity.
- 6.148 The sensitivity of R26 and R27 (future residential properties on-site) is considered to be high. The magnitude of change is considered to be up to small. Therefore, based on professional judgement there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Secondary mitigation or enhancement

- 6.149 The Proposed Scheme detailed design will continue to develop in line with the undertakings and a scheme of sound insulation design report will be submitted prior to

occupation of Block A (and Block B) when all the necessary detailed design and construction forms will be known. This will be secured by way of a planning condition.

Residual effect

6.150 The sensitivity of R26 and R27 (future residential properties on-site) is considered to be high. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse residual effect which is considered to be minor.

Significance

6.151 This effect is considered to be **Not Significant** for sensitive receptors R26 and R27 (future residential properties).

Limitations and Assumptions

6.152 To ensure transparency within the EIA process, the following limitations and assumptions have been identified.

- The focus of the assessment is on the residential Blocks (Block A and Block B) rather than Block C. However, the effects on these Blocks (as reported above) can be taken as a proxy for the 'worst-case' for Block C (R28 on **Figure 6.3**);
- The noise measurement positions have not been agreed with MCC but follow normally accepted means of acquiring noise measurements in City Centre locations;
- The measured noise and vibration levels acquired have been assumed to be representative of the existing environmental conditions of the Site, noting that Albert Bridge House was operational at the time of measurement but ceased operation in late 2022. Therefore, background noise levels are anticipated to be marginally lower under prevailing conditions;
- The primary and tertiary mitigation of **Chapter 4: Development Specification** will be adopted in full;
- It has been assumed that the existing sensitive receptor locations (R1 to R25) maintain their identified sensitivity until at least the Proposed Scheme is fully operational (anticipated to be in 2030 / 31) as a worst-case;
- At this stage the detailed construction processes have not been fully defined in terms of quantities and types of plant and the length of time each day at full operating power. Therefore, reasonable assumptions have been made to permit calculations to be carried out. These have been based on professional judgement for the type of activity but may be subject to alteration when the appointed contractor(s) or sub-contractor(s) plan the works. However, the assumptions made have enabled an assessment of likely significant effects at this stage;
- For the construction noise and vibration assessments, a worst-case has been assumed based on plant operating at the boundary of any working area closest to sensitive receptors as set-out in this Chapter;

- All piling works have been assumed to be of a driven technique as the foundation types and piling methods have not been defined at this stage;
- The assessment of vibration transfer in the ground has been based on clay / hard ground conditions. Other ground types may react differently to vibration source excitation;
- The vibratory roller data has been taken from Figure 11b of TRL based on a trial on both hoggin and London clay surfaces being compacted;
- In **Table 6.20**, the list of late night entertainment premises identified is representative of current conditions and may not be fully comprehensive as premises can change hands frequently and the operational hours are often amended dependent on the patrons on a particular occasion. The operating hours presented are assumed to be representative for assessment purposes; and
- The existing late night entertainment premises remain operational until the completion of the Proposed Scheme (anticipated to be in 2030 / 31).

Summary

6.153 **Table 6.22** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter.

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

Table 6.22: Summary of residual effects

Effect	Receptor	Residual effect	Is the residual effect Significant?
Construction stage			
Noise emissions from general construction activity	Nearest existing off-site residents, the nearest existing commercial receptors and future residential properties on-site: R2, R4, R5, R7, R19 (existing residential properties) and R26 and R27	Moderate adverse	Yes

Effect	Receptor	Residual effect	Is the residual effect Significant?
	(future residential properties on-site)		
	R3, R9, R10, R11, R12, R14, R15, R16, R17 and R18 (existing commercial premises, court buildings and museum)	Minor adverse	No
	R1, R6, R8 and R20 (existing commercial premises and hotel)	Minor adverse	No
	R13 (existing restaurant / bar / nightclub premises)	Minor adverse	No
Vibration transfer from general construction activity	Nearest existing off-site residents, the nearest existing commercial receptors and future residential properties on-site: R2, R4, R5 and R19 (existing residential properties) and R26 and R27 (future residential properties on-site)	Moderate adverse	Yes
	R7 (existing residential properties)	Minor adverse	No
	R1, R3, R6 and R8 (existing commercial premises and hotel)	Minor adverse	No

Effect	Receptor	Residual effect	Is the residual effect Significant?
	R9, R10, R11, R12, R14, R15, R16, R17 and R18 (existing commercial premises, court buildings and museum)	Moderate adverse	Yes
	R20 (existing commercial premises)	Minor adverse	No
	R13 (existing restaurant / bar / nightclub premises)	Minor adverse	No
Operational stage			
Introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues)	Existing late night entertainment premises including music venues): R21, R22, R23, R24 and R25 (existing restaurants / bar / nightclub premises)	Negligible adverse	No
Existing road and commercial premises noise on the Proposed Scheme	Future on-site residents: R26 and R27 (future residential properties on-site)	Minor adverse	No

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¹⁵ British Standards Institute (2014) BS 8233 Guidance on sound insulation and noise reduction for buildings. Available at: <https://knowledge.bsigroup.com/products/guidance-on-sound-insulation-and-noise-reduction-for-buildings> [Date accessed: 04/04/25]

¹⁶ Approved Document E (2015) Resistance to the passage of sound. Available at: <https://www.gov.uk/government/publications/resistance-to-sound-approved-document-e> [Date accessed: 04/04/25]

¹⁷ Approved Document F (2021) Ventilation Volume 1:Dwellings. Available at: <https://www.gov.uk/government/publications/ventilation-approved-document-f> [Date accessed: 04/04/25]

¹⁸ Approved Document O (2021) Overheating. Available at: <https://www.gov.uk/government/publications/overheating-approved-document-o> [Date accessed: 04/04/25]

¹⁹ British Standards Institute (2019). BS 4142:2014+A1:2019 - Method for rating and assessing industrial and commercial sound. Available at: <https://knowledge.bsigroup.com/products/methods-for-rating-and-assessing-industrial-and-commercial-sound> [Date accessed: 04/04/25]

7. Townscape and Visual

Introduction

- 7.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Scheme in relation to townscape and visual.
- 7.2 The Chapter describes the scope of the assessment and assessment methodology and a summary of the baseline information that has informed the assessment.
- 7.3 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered to be significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendices 2.1** and **2.2**) and iterative scoping process where applicable.
- 7.4 This Chapter, and its associated **Appendix 7.1: Townscape and Visual Assessment** (containing **Figures 7.1.1 – 7.1.17**) and **Appendix 7.2: Photomontages**, is intended to be read as part of the wider ES with particular reference to the introductory Chapters of this ES (**Chapters 1 – 5**).
- 7.5 In addition, this Chapter should be read in conjunction with **Chapter 12: Assessment of Cumulative Effects**.

Summary of Consultation

- 7.6 The project team has undertaken an EIA Scoping exercise (described further under the 'Scope of the Assessment' section below), which included consultation with MCC and other stakeholders. No consultation with MCC or other statutory agencies during the preparation of this Chapter beyond that undertaken as part of the EIA Scoping Report (**Appendix 2.1**) and Scoping Opinion (**Appendix 2.2**) has been completed.

Scope of the Assessment

- 7.7 An EIA Scoping Report was submitted to MCC on 9th April 2025, as presented as **Appendix 2.1**. The Scoping Opinion was received on 3rd June 2025 (**Appendix 2.2**). This section provides an update on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Unlikely / Not Significant

- 7.8 The following effects were considered unlikely / not significant as part of the EIA Scoping Report (**Appendix 2.1**) and therefore have not been considered further within the EIA or reported in the ES. However, these effects are considered in detail within the Townscape and Visual Impact Assessment (**Appendix 7.1**):

- Impact on townscape character areas (Manchester City Centre Neighbourhoods) outside of the Zone of Theoretical Visibility (ZTV);
- Impact on townscape character areas (Manchester City Centre Neighbourhoods and Salford City Centre Areas) within the ZTV during construction;
- Impact on townscape character within the ZTV outside of the Site;
- Impact on visual receptors outside of the ZTV;
- Impact on the night-time character;
- Impact on visual receptors during construction;
- Change of land use within the Site;
- Removal of existing vegetation;
- Impact on existing urban grain;
- Impact on the existing Site topography;
- Impact on receptors using the local road network within the ZTV; and
- Impact on receptors at their place of work within the ZTV.

7.9 Where relevant the above effects are assessed in **Appendix 7.1**, including construction stage effects.

7.10 Following the EIA Scoping process (based on further assessment), effects on the following receptors are considered unlikely / not significant and are not considered further in this Chapter. The evidence to support this is outlined below:

Impact on townscape character within the ZTV and in close proximity to the Site

7.11 Whilst this effect has been assessed within the ES (see **Table 7.2** below), the following specific receptors have been ‘scoped out’ as there are no direct changes as a result of the development of the Site: Spinningfields, Chapel Wharf and New Bailey. Following the conclusion of the Townscape and Visual Assessment (**Appendix 7.1**), these impacts were considered to be negligible adverse (refer to **Appendix 7.1**, Table 7.1.2).

7.12 Therefore, impacts on townscape character within the ZTV and in close proximity to the Site – Spinningfields, Chapel Wharf and New Bailey – are unlikely to be significant and has not been considered further within the EIA or reported in this ES. However, they are considered in the Townscape and Visual Impact Assessment (**Appendix 7.1**).

Impact on the residential visual receptors within the ZTV in close proximity to the Site

7.13 Whilst this effect has been presented within the ES (see **Table 7.2** below), the following specific receptors have been ‘scoped out’: residential receptors on King Street and Deansgate. Following the conclusion of the assessment, these impacts were considered to be largely negligible adverse with minor adverse concluded during operation on residential receptors at Viewpoint 25 (refer to **Appendix 7.1**, Table 7.1.4).

- 7.14 Therefore, impacts on the residential visual receptors within the ZTV and in close proximity to the Site – King Street and Deansgate – are unlikely to be significant and has not been considered further within the EIA or reported in this ES. However, they are considered in the Townscape and Visual Impact Assessment (**Appendix 7.1**).

Effects Likely / Significant

- 7.15 Since the EIA Scoping process, additional receptors have been identified in relation to two effects ‘scoped in’, as follows:

Impact on the residential visual receptors within the ZTV in close proximity to the Site

- 7.16 Through further analysis it was considered that residential receptors adjacent to Clermont-Ferrand Square (Viewpoint 1), Left Bank (Viewpoint 6) and Albert Bridge / New Bailey Street (Viewpoint 7) were potentially likely to experience significant effects. As such, these receptors have been included within the assessment reported in this Chapter.

Impact on receptors using public open space within the ZTV in close proximity to the Site

- 7.17 Through further analysis it was considered that receptors using Parsonage Gardens (Viewpoint 3), were potentially likely to experience significant effects. As such, these receptors have been included within the assessment reported in this Chapter.

- 7.18 In addition, following the EIA Scoping process, an additional effect has been included within this Chapter:

Impact on receptors using the strategic recreation route within the ZTV in close proximity to the Site

- 7.19 Through further analysis it was considered that users of the strategic recreation route following the north bank of the River Irwell (Viewpoints 1 and 7) were potentially likely to experience significant effects. As such, these receptors have been included within the assessment reported in this Chapter.

- 7.20 **Table 7.1** outlines the effects considered likely / significant and that are reported within this Chapter.

Table 7.1: Effects likely / significant

Likely significant effect	Receptor(s)	Applicable stage(s)
Impact on open space within the Site	Existing open space within the Site	Operation
Impact on townscape character within the ZTV and in close proximity to the Site	Existing townscape character within and in close proximity to the Site. Areas to include: Retail Core (refer to Viewpoints 2, 11, 12, 13, 14, 16, 32 and 41) (Refer to Appendix 7.1 , Figure 7.1.4 – Townscape Character – MCC City Centre Neighbourhoods and Salford City Centre Areas)	Operation

Likely significant effect	Receptor(s)	Applicable stage(s)
Impact on existing building height within the Site	Existing building height within the Site (contributing to the townscape character)	Operation
Impact on the residential visual receptors within the ZTV in close proximity to the Site	Residents of dwellings including those adjacent to Clermont-Ferrand Square (refer to Viewpoint 1) and on the A34 Bridge Street ('Bridge Street' for the purposes of this Chapter) (refer to Viewpoint 3), St. Mary's Parsonage (refer to Viewpoint 12 ^a), Left Bank (refer to Viewpoint 6), Albert Bridge / New Bailey Street (refer to Viewpoint 7), King Street West (refer to Viewpoint 14 ^b) (Refer to Appendix 7.1 , Figure 7.1.11 – Viewpoints, Close Range and Figure 7.1.12 – Viewpoints)	Operation
Impact on receptors using public open space within the ZTV in close proximity to the Site	Users of local areas of open space including those using Clermont-Ferrand Square, Motor Square and Parsonage Gardens (refer to Viewpoints 1, 3 and 13, respectively) (Refer to Appendix 7.1 , Figure 7.1.11 – Viewpoints, Close Range and Figure 7.1.12 – Viewpoints)	Operation
Impact on receptors using the strategic recreation route within the ZTV in close proximity to the Site	Users of the strategic recreation route on the Salford bank of the River Irwell (refer to Viewpoints 1 and 7) (Refer to Appendix 7.1 , Figure 7.1.11 – Viewpoints, Close Range and Figure 7.1.12 – Viewpoints)	Operation

Assessment Methodology

Legislative Framework, Policy and Guidance

7.21 There is no relevant legislation for townscape and visual.

7.22 The following policy documents have informed the assessment of effects within this Chapter and are detailed further in **Appendix 7.1**:

- NPPF (Revised 2 December 2024 and updated March 2025)¹;
- Places For Everyone - Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039 (Adopted March 2024)²;

^a The viewpoint references related to this receptor have been updated since EIA Scoping.

^b The viewpoint references related to this receptor have been updated since EIA Scoping.

- MCC Core Strategy (Adopted 2012, addendum 2024)³;
- Salford Local Plan: Development Management Policies and Designations (Adopted January 2023)⁴; and
- Trafford Council's Local Plan: Core Strategy Development Plan Document (Adopted January 2012)⁵.

7.23 The following guidance has informed the assessment of effects within this Chapter and is detailed further in **Appendix 7.1**:

- PPG⁶;
- Guidelines for Landscape and Visual Impact Assessment third edition, published by the Land-scape Institute (LI) (2013) (GLVIA3)⁷;
- Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3) – LITGN-2024-01⁸;
- Visual Representation of Development Proposals - Technical Guidance Note 06/19 (2019)⁹; and
- Historic England note on Tall Buildings (2022)¹⁰.

Defining the Study Area

7.24 The extent of the study area is broadly defined by the ZTV Influence as determined by the desktop study, GIS visibility analysis and verified during field studies, up to 2km from the centre of the Site (refer to **Appendix 7.1**, Figure 7.1.10). This is in line with GLVIA3 (paragraphs 5.2 and 6.2). Beyond this the townscape is considered to be visually and perceptually divorced from the Site by the intervening topography, vegetation and built form.

Background Studies to Inform the ES

7.25 **Table 7.2** summarises all studies / surveys / analysis / evaluations undertaken to inform the assessment presented within this Chapter.

Table 7.2: Studies / surveys / evaluations / analysis undertaken to inform the ES

Study / survey / analysis / evaluation	Overview	Date of completion
Desk-based study	Key townscape and visual receptors which have the potential to be affected by the Proposed Scheme have been identified using Geographical Information Systems (GIS) in-combination with published Natural England (NE) and MCC data, identifying and mapping relevant local and national planning designations and constraints.	August 2022 and January – April 2025

Study / survey / analysis / evaluation	Overview	Date of completion
Site survey	Documentation of the existing Site and immediate context condition with photographic record.	April 2025
Field survey	Representative viewpoint photography taken at identified viewpoint locations in accordance with Landscape Institute Technical Guidance Note 06/19.	April 2025
Photomontages (Appendix 7.2)	The visual assessment is supported by the use of photomontages to help in the visualisation of the Proposed Scheme. Of the 41 viewpoints, 24 of the views were identified for photomontages, as they are considered to be representative and due to their proximity to the Site and heritage assets, demonstrate how the Proposed Scheme would sit within views of the existing townscape.	April 2025

- 7.26 The townscape baseline has established the townscape character within the Site and surrounds as a resource in its own right.
- 7.27 The visual baseline establishes the area in which the Site and the Proposed Scheme may be visible, the different groups of people who may experience the views, the places where they will be affected and the nature, character and amenity of those views.
- 7.28 The area of study for the visual assessment was determined through identifying the area from which the existing Site and Proposed Scheme may be visible (the Zone of Theoretical Visibility (ZTV)). The baseline ZTV of the Site was determined through digital mapping based on LIDAR data, constructing a map showing the area where the Proposed Scheme may theoretically be visible. The actual extent of visibility was checked in the field to record the screening effect of buildings, walls, fences, trees, and landform to provide an accurate baseline assessment of visibility. Viewpoints within the ZTV were identified during the desk-based study and the viewpoints used for photographs selected to demonstrate the relative visibility of the Site (and its relationship with the surrounding townscape and built forms).
- 7.29 The site survey includes a photographic record of the viewpoints. At each of the viewpoints, the grid reference (of the viewpoint) the viewer height (measured to the lens of the camera), the date (of survey) the distance to the development (from the viewpoint) were recorded. The photographs have been taken using a digital SLR camera with a 50mm fixed focal length lens, giving a focal length equivalent to 75mm on a 35mm film camera. The photographs were taken in accordance with guidance outlined in the document 'Visual Representation of Development Proposals - Technical

Guidance Note 06/19 (Landscape Institute; 2019). **Appendix 7.1**, Figure 7.1.11 - Viewpoints, Close Range and Figure 7.1.12 – Viewpoints, illustrates a total of 41 representative viewpoints included within the assessment.

- 7.30 **Table 7.3** summarises these key external views, which are shown in **Appendix 7.1**, Figures 7.1.11 and 7.1.12. These represent a range of representative views from roads, recreational open spaces and publicly accessible locations near to existing dwellings and heritage assets. These were informed in part by the work undertaken for the 2022 Application and updated following further analysis and discussions with the built heritage consultant. Not all of the visual receptors / viewpoints set out in **Table 7.3** have been considered in detail as part of the assessment presented in the 'Assessment of Effects, Secondary Mitigation and Residual Effects' section below (i.e. only those where there was a potential for a likely significant effect to occur – see **Table 7.1**). However, an assessment has been undertaken for each visual receptor and is reported in the Townscape and Visual Impact Assessment (**Appendix 7.1**). Those which are considered in further detail in this Chapter are noted in **bold**.

Table 7.3: Visual receptors / baseline

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
1	Trinity Bridge (adjacent to Clermont-Ferrand Square)	Residents of dwellings, users of public open space (Clermont-Ferrand Square), users of the strategic recreation route	Formed by the linear River Irwell in the foreground, and the built form lining the river beyond. Vertical elements of Spinningfields form portions of the existing more distant visual horizon beyond the Site to the right of the view.	Open views
2	St. Mary's Parsonage	Road users, employees at their place of work, setting of heritage assets ^c	Formed by the built form lining St. Mary's Parsonage and Tower 12 within Spinningfields at the head of the junction of St. Mary's Parsonage and Bridge Street. Views out are limited from this location due to the density of the surrounding urban grain. However, further elements within	Open views

^c Changes in setting are considered within the **Heritage Statement** that has been submitted alongside the Application.

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
			Spinningfields form a part of the distant skyline.	
3	Bridge Street	Residents of dwellings, road users, employees at their place of work, users of public open space (Motor Square), setting of heritage assets	Formed by the built form of the listed Freemasons Hall lining Bridge Street and the built form of 29 New Bailey Street and the emerging built form within New Bailey, Salford which form elements of the skyline beyond the Site.	Open views
4	Dolefield / Wood Street	Road users, employees at their place of work	Formed by the built form lining Dolefield and the Site at the head of the junction of Dolefield and Bridge Street. Views out are limited from this location due to the density of the urban grain.	Open views
5	Gartside Street	Road users, employees at their place of work	Formed by the built form lining Gartside Street, built form and existing trees within the Site and built form of 29 New Bailey Street beyond the Site.	Open views
6	Left Bank	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining Left Bank, built form and existing trees within the Site and built form within Alberton House (subject to a proposed redevelopment) ^d beyond the Site.	Open views
7	Albert Bridge / New Bailey Street	Residents of dwellings, road users, setting of heritage	Formed by Albert Bridge, the mature vegetation and built form lining the River Irwell. Vertical elements of Spinningfields and the City	Open views

^d Identified as Cumulative Project 1 within **Chapter 12: Assessment of Cumulative Effects.**

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
		assets, users of the strategic recreation route	Centre form portions of the more distant visual horizon beyond the development to the left and right of the view.	
8	New Bailey Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the existing and emerging built form and mature trees lining New Bailey Street and built form within Spinningfields beyond. Views out are limited from this location due to the density of the surrounding urban grain.	Views are truncated
9	Quay Street	Road users, employees at their place of work	Formed by the built form and surface car parking lining Quay Street, vertical elements within 29 New Bailey Street and emerging built form within New Bailey to the south. Views out are limited from this location due to the density of the surrounding urban grain.	Partial glimpsed views
10	Chapel Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining Chapel Street and Blackfriars Street and vertical elements within the Chapel Wharf complex to the south.	Views are truncated
11	Blackfriars Bridge	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the view over the River Irwell within the central portion of the view and the built form lining the river.	Partial glimpsed views
12	St. Mary's Parsonage	Residents of dwellings,	Formed by the built form lining St. Mary's Parsonage.	Partial views

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
	near St. Mary's Gate	road users, employees at their place of work, setting of heritage assets	Views out are limited from this location due to the density of the surrounding urban grain.	
13	St. Mary's Parsonage	Road users, employees at their place of work, setting of heritage assets, users of public open space (Parsonage Gardens)	Formed by the built form lining St. Mary's Parsonage including the listed National Buildings and Arkwright House and mature vegetation within Parsonage Gardens. Views out are limited from this location due to the density of the surrounding urban grain.	Open views
14	King Street West	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining King Street West including the listed 31 and 33, King Street West. Views out are limited from this location due to the density of the surrounding urban grain.	Open views
15	John Dalton Street	Road users, employees at their place of work, setting of heritage assets	Formed by the road junction of John Dalton Street, Deansgate and Bridge Street and their associated built form. Views out are limited from this location due to the density of the surrounding urban grain.	Partial views
16	King Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining King Street including the listed Warehouse Shop and 19 King Street. Views out are limited from this location due to the density of the surrounding urban grain.	Partial views

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
17	Princess Street / Albert Square	Road users, employees at their place of work, setting of heritage assets	Formed by the built form lining Princess Street including the listed Northern Assurance Building.	Partial glimpsed views
18	Great Northern Square	Residents of dwellings, employees at their place of work, setting of heritage assets, open space users	Formed by the built form lining Deansgate and Peter Street.	Views are truncated
19	Junction of Quay Street and Byrom Street	Road users, employees at their place of work, setting of heritage assets	Formed by the built form lining Quay Street and within Spinningfields.	Views are truncated
20	Gartside Street	Road users, employees at their place of work	Formed by the built form lining Gartside Street and the Site at the head of the junction of Gartside Street and Bridge Street. Views out are limited from this location due to the density of the urban grain.	Partial glimpsed views
21	Lower Byrom Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining Lower Byrom Street and within Spinningfields	Views are truncated
22	Junction of New Quay Street and Water Street	Residents of dwellings, road users, setting of heritage assets	Formed by the built form lining New Quay Street, Water Street and within Spinningfields.	Partial glimpsed views

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
23	Irwell Street Bridge	Residents of dwellings, road users, employees at their place of work, setting of heritage assets, users of the strategic recreation route	Formed by the Irwell Street Bridge and built form lining the river.	Partial glimpsed views
24	Junction of Liverpool Road and Old Medlock Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining Liverpool Road including parts of the listed Former Liverpool Road Railway Station.	Views are truncated
25	Trinity Way near Frederick Street	Residents of dwellings, road users	Formed by the built form and mature trees lining Trinity Way and the vertical elements of the built form beyond.	Views are truncated
26	Blackfriars Road	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining Blackfriars Road including parts of the listed Manchester Tennis and Racquet Club.	Views are truncated
27	Pedestrian footway north of Victoria Bridge	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the views along the River Irwell, the built form lining the river and within the City Centre.	Partial glimpsed views

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
28	Junction of Spring Gardens and King Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining King Street including the listed Midland Bank Building. Views out are limited from this location due to the density of the surrounding urban grain.	Partial views
29	Peter Street / St. Peter's Square	Road users, employees at their place of work, setting of heritage assets	Formed by St Peter's Square, built form lining, the square and Peter Street.	Views are truncated
30	Junction of Chapel Street and Great George's Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by built form lining Chapel Street.	Views are truncated
31	Victoria Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining the river and within the City Centre.	Partial glimpsed views
32	St. Ann's Square / Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form and mature trees lining St. Ann's Street and St. Ann's Square.	Views are truncated
33	Junction of Liverpool Road and	Residents of dwellings, road users,	Formed by the built form lining Lower Byrom Street and within Spinningfields.	Views are truncated

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
	Lower Byrom Street	employees at their place of work, setting of heritage assets		
34	Junction of Deansgate and Brazennose Street	Road users, employees at their place of work, setting of heritage assets	Formed by the built form lining King Street and Cross Street including the listed John Rylands Library. Views out are limited from this location due to the density of the surrounding urban grain.	Views are truncated
35	Junction of King Street and Deansgate	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining King Street West and Deansgate including the listed Kendals Building. Views out are limited from this location due to the density of the surrounding urban grain.	Partial views
36	Junction of King Street and Cross Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining King Street and Cross Street including the listed Eagle House.	Partial views
37	Junction of King Street and Cheapside	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining King Street including the listed Lloyds Bank building. Views out are limited from this location due to the density of the surrounding urban grain.	Partial glimpsed views
38	Junction of King Street and Brown Street	Residents of dwellings, road users, employees at their place of	Formed by the built form lining King Street including the listed Atlas Chambers building. Views out are limited from this location	Partial glimpsed views

Viewpoint (VP)	Location	Visual receptor(s)	Character and amenity of the view	Existing visibility of Site
		work, setting of heritage assets	due to the density of the surrounding urban grain.	
39	Junction of New Bailey Street and Chapel Street	Residents of dwellings, road users, employees at their place of work, setting of heritage assets	Formed by the built form lining New Bailey Street and Chapel Street and within Spinningfields.	Partial glimpsed views
40	Adelphi Street near Adelphi Wharf	Residents of dwellings, road users, employees at their place of work, setting of heritage assets, users of the strategic recreation route	Formed by the surface level car parking, the built form in the surrounding townscape and within the City Centre beyond.	Views are truncated
41	St. Mary's Parsonage (near Arkwright House)	Road users, employees at their place of work, setting of heritage assets	Formed by the built form lining St. Mary's Parsonage including the listed St. Mary's Parsonage building and Tower 12 within Spinningfields at the head of the junction of St. Mary's Parsonage and Bridge Street. Views out are limited from this location due to the density of the surrounding urban grain.	Open views

Assessment Process

- 7.31 The assessment has been undertaken in accordance with GLVIA3. The assessment has been based on relevant guidance, professional judgement and has used Accurate Visual Representations (AVRs).

- 7.32 Relevant guidance for the production of the AVRs have been followed, as contained in GLVIA3 and Visual Representation of Development Proposals (LI TGN 06/19). Camera points and photo control points have been surveyed and have been tied to the 3D Model for the Proposed Scheme.
- 7.33 The visualisations provided accord with the requirements of type 4 visualisations (as described in LI TGN 06/19). AVRs for Viewpoints 1, 3, 13, 14, 15, 35 and 41 are produced as rendered Computer Generated Images (CGI). The AVRs for the remaining views are produced as block massing or wireframe. Three images have been provided for each viewpoint: Baseline; Proposed Scheme (shown as CGI, block massing or wireline); and Proposed Scheme (shown as CGI, block massing or wireline) with Cumulative Projects (shown as block massing or wireline). Further details are provided in **Appendix 7.2: Photomontages**.

Reporting of the Environmental Effect and Significance Criteria

- 7.34 The assessment of likely significant environmental effects as a result of the Proposed Scheme has taken into account the operational stage. The following sections define the approach adopted within the assessment for the determination of sensitivity, magnitude of change, the level of effect and significance.
- 7.35 As defined in GLVIA3, townscape effects are those effects on the townscape as a resource in its own right and visual effects are those effects on specific views and on the general amenity as experienced by people. The judgement made in respect of both townscape and visual effects is a combination of an assessment of the sensitivity of the receptor against the magnitude of the townscape or visual effect.

Determining Sensitivity of Receptor

- 7.36 The sensitivity of affected receptors has been considered on a scale of **high, medium, low or negligible**.
- 7.37 The judgement to be made in respect of sensitivity is a combination of the susceptibility of those receptors to the specific change due to the Proposed Scheme (for both townscape and visual receptors) along with the value attached to that receptor (again for both townscape and visual receptors).
- 7.38 The following criteria in **Table 7.4** have been used to categorise the townscape value of the Site and surrounding area.

Table 7.4: Townscape value

Value	Typical criteria	Typical scale	Typical example
High	High Importance (or Quality) and Rarity. Limited potential for substitution.	International, National, Regional	World Heritage Site, National Park or National Landscape.
Medium	Medium Importance (or Quality) and Rarity. Limited	Regional, Local	Conservation Areas / value perhaps expressed through

Value	Typical criteria	Typical scale	Typical example
	potential for substitution.		non-official publications or demonstrable use.
Low	Low Importance (or Quality) and Rarity.	Local	Areas identified as having few redeeming features and lots of scope for improvement.

- 7.39 The susceptibility to specific change for each townscape receptor is categorized as set out in **Table 7.5**.

Table 7.5: Susceptibility of townscape receptors to change

Receptor	Susceptibility of receptor to change		
	High	Medium	Low
Townscape character	A highly distinctive and coherent townscape character, with an absence of detracting or intrusive elements. Low or no capacity to accept change.	Distinctive character, with a general consistency, notwithstanding the presence of some detracting or intrusive elements. Some capacity to accept change.	Mixed character, where there is a lack of coherence and detracting or intrusive elements have become dominant or have eclipsed original character. Significant capacity to accept change.
Designated areas	National designated townscape.	Local townscape designations.	Not designated.
Townscape features	Largely or completely intact, in good condition.	Largely in moderate condition – may be in process of improvement.	Undesignated but value perhaps expressed through non-official publications or demonstrable use.
Aesthetic / perceptual aspects	Recognised formally as a coherent area / feature of aesthetic attraction.	Some areas / features of aesthetic attraction.	Not noted for aesthetic qualities.

- 7.40 The overall sensitivity of each townscape receptor is then categorised on a High / Medium / Low / Negligible basis using **Table 7.6**.

Table 7.6: Townscape sensitivity

		Townscape receptor susceptibility		
		High	Medium	Low
Townscape value	High	High	High-Medium	Medium
	Medium	High-Medium	Medium	Medium-Low
	Low	Medium	Medium-Low	Low-Negligible

- 7.41 In respect of the judgment to be made of the sensitivity of visual receptors, the value of views is categorized as set out in **Table 7.7**.

Table 7.7: Criteria for value of views

Value	Criteria
High	A unique or identified view (e.g. shown as such on Ordnance Survey (OS) map or marked on a tourist map) or one noted in literature
Medium	A typical and / or representative view from a particular receptor type
Low	Undistinguished or unprepossessing view

- 7.42 The susceptibility to specific change for each visual receptor is categorised is set out in **Table 7.8**.

Table 7.8: Susceptibility of visual receptors to change

Type of visual receptor	Susceptibility of specific change	Notes
Residential property	High	Residential properties are considered the most sensitive of potential visual receptors and are thus accorded a high susceptibility. It is an established tenet that the planning system does not serve to protect private interests; the issue is not whether owners and occupiers of neighbouring properties would experience financial or other loss (including visual effect) from a particular development but whether a development would unacceptably affect amenities and the existing use of land and buildings which ought to be protected in the public interest. Thus, in seeking to assess the visual effects

Type of visual receptor	Susceptibility of specific change	Notes
		of development account should be taken of the effects on residential property, but it is pertinent to note that purely private interests may carry less weight than public interests.
Commercial property / places of employment	Low to medium	Indoor workers are likely to have a Low susceptibility; outdoor workers (e.g. in agriculture) a medium susceptibility.
Public roads	Low to medium	The degree of susceptibility will vary according to the nature of the road and its primary purpose for users. Motorways and trunk roads are taken to have a low susceptibility; A-class roads a low to medium susceptibility, and all other roads a medium susceptibility.
Public rights of way / cycleways	High	The degree of susceptibility will vary according to the nature of the Public Rights of Way and its primary purpose for users. Bridleways and Public Rights of Way designated locally as specific routes are taken to have a high susceptibility.
Informal paths	Medium to high	Informal paths have been taken to have a medium to high susceptibility.
Strategic recreation routes	High	Users of strategic recreation routes are likely to be at leisure and thus such areas are taken to have a high susceptibility.
Public open space	High	Users of areas of public open space are likely to be at leisure and thus such areas are taken to have a high susceptibility.
Cultural heritage sites	High	Users of areas of cultural heritage sites are likely to be at leisure and thus such areas are taken to have a high susceptibility.
Recreational land	Medium	Users of recreational land are likely to be at leisure but are taken to be focused primarily on the recreational activity and thus such areas are taken to have a medium susceptibility.

- 7.43 The sensitivity of visual receptors in views is based on the professional judgement combining the value and susceptibility to change on that visual receptor as set out in **Table 7.9**.

Table 7.9: Visual sensitivity

		Visual receptor susceptibility		
		High	Medium	Low
Value of visual receptor	High	High	High-Medium	Medium
	Medium	High-Medium	Medium	Medium-Low
	Low	Medium	Medium-Low	Low-Negligible

- 7.44 For further detail, refer to **Appendix 7.1**, Section 7.12 Assessment Methodology.

Determining the Magnitude of Change

- 7.45 The magnitude of change has been considered as the change experienced from the current baseline conditions at the sensitive receptor and has been considered on a scale of **large, medium, small** or **negligible**.
- 7.46 In respect of the magnitude of change in relation to townscape impacts, **Table 7.10** sets out the judgements to be made.

Table 7.10: Magnitude of townscape change

Magnitude of change			
Large	Medium	Small	Negligible
Total loss of, or major alteration to key elements / features / characteristics of the site and / or the introduction of elements totally uncharacteristic to the receiving townscape	Partial loss of or alteration to one or more key elements / features / characteristics of the site and / or introduction of elements that would be evident, but not necessarily uncharacteristic to the receiving townscape	Limited loss of or alteration to one or more key elements / features / characteristics of the site and / or introduction of elements characteristic with the receiving townscape	Very limited or no loss or alteration to one or more key elements / features / characteristics of the site and / or introduction of elements characteristic within the surrounding townscape - approximating to a 'no change' situation

- 7.47 In respect of the magnitude of change in relation to visual impacts, **Table 7.11** sets out the judgements to be made.

Table 7.11: Criteria for magnitude of visual change

Magnitude of change			
Large	Medium	Small	Negligible
The proposals form a significant and immediately apparent part of the view that will change its overall character	The proposals will form a visible and recognisable new element within the overall view and will be readily noticed by the observer	The proposals constitute only a minor component of the wider view, which might be overlooked by the casual observer. Awareness of the proposals will not have a marked effect on the overall quality of the view	Only a very small part (or no part) of the proposal will be discernible and / or it will be at such a distance that it will be scarcely appreciated, and consequently it will have very little / no effect on the view

Determining the Level of Effect

- 7.48 The level of effect has been informed by the magnitude of change due to the Proposed Scheme and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and **Table 7.12** has been a tool which has assisted with this process.
- 7.49 Whilst **Table 7.12** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement, where possible.

Table 7.12: Determining the level of effect

		Sensitivity			
		High	Medium	Low	Negligible
Magnitude of change	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

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

- **Major effect:** Where the Proposed Scheme is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- **Moderate effect:** Where the Proposed Scheme is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
- **Minor effect:** Where the Proposed Scheme is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Scheme is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change and / or can recover from the change; and
- **Negligible:** Where the Proposed Scheme 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.

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

Determining Significance

7.52 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 where applicable.

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

7.54 For those assessments, effects of major to moderate or major significance will be considered '**Significant**' in that they are the principal townscape or visual effects of the Proposed Scheme. Effects assessed as being lower than major to moderate are considered to be a '**Not Significant**' effect.

Baseline Conditions

7.55 A summary is provided below. Full details of the townscape and visual baselines can be found at **Appendix 7.1**, Section 7.3 Townscape Baseline and Section 7.4 Visual Baseline.

Townscape Baseline

7.56 The Site currently comprises Albert Bridge House, a complex with a collection of office buildings that are currently vacant. The Site consists of four buildings each connected by covered ground level walkways. There are areas of hardstanding used for car parking to the south-west and south-east of the Site (which is currently fenced off) and

a pedestrian walkway connects to Trinity Bridge to the east. Scattered mature trees line Bridge Street to the south-west boundary, the bank of the River Irwell to the north and the pedestrian walkway to the east. The Site incorporates portions of the River Irwell to the north, St. Mary's Parsonage to the south east and Bridge Street to the south-west. Boundaries within the Site include brick or concrete walls and metal railings. The Site is bound by the River Irwell, beyond the Site, to the north-west, Alberton House to the north-east, 31 and 33 King Street West and Motor Square to the south-east and Spinningfields to the south-west.

- 7.57 The Site lies on a relatively flat plain on the immediate east bank of the River Irwell valley. Landform falls broadly from east to west across the Site, from a high point of approximately 33.1m Above Ordnance Datum (AOD) on the Site's eastern boundary to a low point of approximately 21.7m AOD adjacent to the River Irwell. The River Irwell and its valley forms the key topographical features within the study area.
- 7.58 Vegetation within the Site is largely limited to the mature trees lining the northern and western boundaries. A tree survey of the Site has been carried out in accordance with BS 5837:2012 'Trees in Relation to Design, Demolition and Construction' by Urban Green, in January 2025^e. The report revealed that the Site contains a total of 15 individual trees and 6 groups. Of these there were
- 7.59 Individual Trees:
- 10 category 'B' individual trees;
 - 3 category 'C' individual trees; and
 - 2 category 'U' individual trees.
- 7.60 Tree groups:
- 5 category 'B' tree groups; and
 - 1 category 'C' tree groups.
- 7.61 Three of the existing trees on-site are covered by Tree Protection Orders (TPOs).
- 7.62 There are a mix of tree species; those typically characteristic of an urban waterfront landscape. Species include; sycamore, elder, Italian alder, cherry, lime, Norway maple, willow and laurel.
- 7.63 Built form within the Site consists of the four buildings of the Albert Bridge House complex ranging from one up to eighteen storeys and approximately 60m in height. Building heights within the vicinity of the Site range from approximately 15m to 138m within the 29 New Bailey Street complex across the River Irwell to the north-west of the Site. Built form within the Site is showing signs of deterioration.
- 7.64 The Deansgate Conservation Area is adjacent to the south-east of the Site. There are also numerous heritage assets within the immediate townscape setting of the Site and

^e See the **Tree Report** that has been submitted alongside the Application.

the wider study area. The closest Listed Buildings to the Site are the grade II listed 31 and 33 including 3 Smithy Lane, King Street West and the grade II listed 3 St. Mary's Parsonage (within Parsonage Square Conservation Area to the immediate east of the Site), the Grade II Masonic Temple (within Deansgate Conservation Area to the south of the Site), the grade II Former Hydraulic Power Station in the grounds of City College and the grade II Albert Bridge to the south-west of the Site^f.

- 7.65 The urban grain within the Site broadly relates to the River Irwell, orientated parallel or perpendicular to the river, reflecting the waterfront development up and downstream of the Site. The urban grain within Manchester to the south and east of the Site is laid out on a broadly north-east to south-west grid. Urban Grain within Salford to the west of the Site is considerably less dense than the Manchester City Centre core.
- 7.66 The Site falls within the Retail Core Manchester Neighbourhood (MN) according to the Manchester Residential Quality Guidance document (2017), published by MCC. It partially sits within / adjoins the Spinningfields MN to the south and the Chapel Wharf and New Bailey Salford City Centre Areas (SCCA) to the north west of the River Irwell.
- 7.67 The Retail Core MN is characterised by the presence of a range of retail properties, largely pedestrianised streets and significant city centre squares and open spaces including St. Ann's Square and Parsonage Gardens. There are numerous heritage assets present including Parsonage Square Conservation Area which extends in close proximity to the east of the Site.
- 7.68 Within the Greater Manchester Urban Historic Landscape Characterisation Project (GMUHLIC) Manchester District Report (2009)¹¹, the Site is located within the Broad Character Types identified as 'Institutional' and 'Communications' and the Historic Landscape Character sub-type 'Car Park' and 'Civic & Municipal Buildings'.
- 7.69 There are no public rights of way within the Site. There is a strategic route which follows the northern bank of the River Irwell. Salford Definitive Footpath 5 also lies approximately 1.2km to the north-east of the Site. There are pedestrian and cycle links around the Site.

Visual Baseline

- 7.70 There are open and partial views of the Site for residents of dwellings adjacent to Clermont-Ferrand Square (refer to Viewpoint 1), portions of Bridge Street (refer to Viewpoint 3), St. Mary's Parsonage (refer to Viewpoint 12), Albert Bridge / New Bailey Street (refer to Viewpoints 7 and 8), Left Bank (refer to Viewpoint 6) and King Street West (refer to Viewpoint 14) in close proximity to the Site. There are also partial or partial glimpsed views from portions of King Street (refer to Viewpoints 16, 28, 35, 36, 37 and 38), New Quay Street (refer to Viewpoint 22), Irwell Street (refer to Viewpoint 23), Victoria Bridge Street (refer to Viewpoint 27), Victoria Street (refer to Viewpoint 31) and Deansgate (refer to Viewpoint 35) at greater distances. Further views from dwellings within the study area are currently truncated due to the intervening built form.

^f Further details of heritage assets are provided in the **Heritage Statement** that has been submitted alongside the Application.

- 7.71 There are open and partial views of the Site for users of open space from Clermont-Ferrand Square (refer to Viewpoint 1) to the north of the Site and Motor Square immediately adjacent to the east of the Site (refer to Viewpoint 3). There are also partial views from the western portion of Parsonage Gardens (refer to Viewpoint 13). Further views for users of public open space within the study area are truncated due to the intervening built form.
- 7.72 There are open and partial views of the Site for users of the strategic recreation route following the Salford bank of the River Irwell in close proximity to the Site (refer to Viewpoints 1 and 7). There are no further views to the Site from local receptors using Public Rights of Way due to the intervening built form.

Future Baseline

- 7.73 If the Proposed Scheme were not to be built out, it is assumed that the existing mature trees, vegetation and built form would remain on-Site. As the Site is vacant, the previous maintenance regimes are unlikely to continue resulting in the existing vegetation to become unmanaged and overgrown and for the existing built form to become more degraded.

Primary and Tertiary Mitigation

Operational Stage

- 7.74 The following primary and tertiary mitigation which has been evaluated as part of the operational stage assessment is outlined below.
- The proposed built form is considered to be of high architectural quality and elevations will include high quality detailing and materials and utilise finishes and hues, which are evident in the local townscape. Block A and Block B elevation materials include anodised aluminium panels, perforated metal panel with glazing behind, oxidised aluminium spandrel, coloured interlayer glass and glazing (as shown in **Appendix 7.1**, Figure 7.5.2). Block C elevation materials include anodised solid profiled panel, bronze colour, perforated anodised aluminium profile panel, bronze colour, insulated coloured spandrel panel and glazing (as shown in **Appendix 7.1**, Figure 7.5.3);
 - Three key areas of public realm are proposed at the ground level internally within the Site: Urban Arboretum between the Blocks across the centre of the Site, Native River Corridor along the northern boundary of the Site providing greater connectivity to the adjacent areas and City Square, which interfaces with Motor Square to the east of the Site;
 - There are also communal amenity areas within Block A and Block B, which will provide access to amenity space for future residents and terrace areas within Block C for future employees / visitors.
 - New tree planting is proposed to improve the street scene and the integration of the Site with the River Irwell; and

- The installation of lighting in external areas is required to provide a safe and secure night-time environment, whilst ensuring that the lighting design respects the setting of the surrounding area and minimises the effect on sensitive receptors. Lighting within the public realm will comprise amenity / architectural lighting, designed to accentuate the architectural value of the structure and the elements of the public realm. This will be achieved through various lighting elements, including ambient lighting, task lighting, accent lighting and decorative lighting elements. In addition, illuminated advertisements / signage associated with the commercial uses are anticipated. The detailed lighting scheme will be designed and installed in line with relevant guidance and standards (e.g. British Standard 5489-1:2020 Design of road lighting-Lighting of roads and public amenity areas¹², Code of practice, CIBSE Lighting Guide (LG) 6: The exterior environment¹³ and CIE 126: Guidelines for Minimising Sky Glow¹⁴) and will consider the surrounding sensitivities including existing neighbouring residential properties and sensitive ecological areas and is based on the use of low light pollution installations.

Assessment of Effects, Secondary Mitigation and Residual Effects

Operational Stage

Impact on open space within the Site

- 7.75 In terms of open space, the Site is currently largely inaccessible to the public apart from one of the publicly accessible surface car park (albeit part of this is fenced off) and public realm (Albert Bridge Gardens) along the northern edge of the Site and footways around the boundary with Bridge Street, St. Mary's Parsonage and Alberton House.
- 7.76 The Proposed Scheme will incorporate hard and soft landscaping. It will also include extensive public realm at ground level that will improve permeability for pedestrians and improve accessibility to surrounding open and amenity spaces for the general public. Ground floor active frontages within the Blocks will animate the public realm.
- 7.77 There are also communal amenity areas within Block A and Block B, which will provide access to amenity space for future residents and terrace areas within Block C for future employees / visitors.
- 7.78 The sensitivity of open space within the Site is considered to be medium based on medium value (associated with medium importance and local scale) and medium susceptibility (associated with moderate condition and capacity to accept change). The magnitude of change is considered to be medium (associated with introduction of elements that would not be necessarily uncharacteristic to the receiving townscape and the increase in area of publicly accessible space). Therefore, there is likely to be a direct, permanent, long-term, beneficial effect which is considered to be moderate.

Secondary mitigation or enhancement

- 7.79 A landscape management plan will be prepared and will be subject to a planning condition to ensure that the landscape proposals and public realm areas are installed and maintained throughout the lifetime of the Proposed Scheme; this document will form part of the detailed design stage.

7.80 The contents of this would be:

- Retained trees: Maintain existing trees to be healthy, free of disease, damaged or broken stems / branches and dead wood;
- Proposed tree planting: To establish a stable and healthily growing tree with a well-shaped framework for future growth. Where necessary to pollard or coppice species to prevent collapse of the trees. Regular safety inspections and report on condition of trees by arboriculture advisor. Implementation programmes of recommended tree work to comply with British Standard 3998: 2010 'Tree Work – Recommendations'¹⁵;
- Proposed shrub planting: To ensure that good horticultural practice is employed to encourage long-term health and vitality of all shrubs. Planting to be thinned / re-spaced in order that they have sufficient room to develop. Review opportunities for introducing native shrubs and those with particular wildlife value into planted areas. Maintain a clean and safe environment. Ensure cultural techniques are employed which use a variety of mulches and organic fertilisers and which minimise the use of chemicals and peat wherever possible;
- Hard landscape: To keep all areas of paving and footpaths and drainage systems across the Site free of litter, weeds, silt and other debris that will detract from the appearance of the Site and will help to retain functionality of the Site; and
- Fencing and furniture: To ensure all fences and furniture are tidy and safe to use. These features will be subject to regular inspections.

7.81 The landscape management plan will be a starting point for an evolving document and will be reviewed on a regular basis.

7.82 With this in place, the proposed landscaping will continue to establish and mature albeit the Proposed Scheme will remain visible.

Residual effect

7.83 The residual effects for open space within the Site remain the same as that reported in the pre-mitigation scenario.

Significance

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

Impact on townscape character within the ZTV and in close proximity to the Site

7.85 At the local level, the majority of the Site lies within the Retail Core Manchester Neighbourhood. This character area is considered to be of medium value (associated with medium importance and demonstrable use). Changes would directly and permanently alter the character and appearance of the Site at a local level, due to removal of built form and vegetation and the creation of additional built development; in turn altering the appearance of a small part of the settlement context. However, the Site is currently developed and development would enable removal of degraded and detracting elements within the Site (e.g. guard huts / fences / graffiti, as shown in Viewpoint 2, see **Appendix 7.1**, Section 7.1.4) which are showing signs of deterioration.

Effects are limited to a very small part of the overall Retail Core Manchester Neighbourhood area in an area already subject to a large number of urbanising influences and change within the vicinity (as shown in Viewpoints 12, 13, 14, 16, 32 and 41, see **Appendix 7.1**, Section 7.1.4). Effects are extenuated by the Site's proximity to the City Centre, the scale of the adjacent recent development (as shown in Viewpoint 11, see **Appendix 7.1**, Section 7.1.4); and through the design quality of the proposed built form and public realm.

- 7.86 The sensitivity of townscape character is considered to be low to medium based on medium value (as noted above) and low susceptibility (associated with the mixed character). The magnitude of change is considered to be large to medium (associated with the loss / alteration to key elements and features). Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be minor to moderate.

Secondary mitigation or enhancement

- 7.87 A landscape management plan will be prepared and implemented as set out above.

Residual effect

- 7.88 The residual effects of the Proposed Scheme on the townscape character within the ZTV and in close proximity to the Site remain the same as that reported in the pre-mitigation scenario.

Significance

- 7.89 This effect is considered to be **Not Significant**.

Impact on existing building height within the Site

- 7.90 Building height within the Site currently range from approximately ~60m AOD to ~5m AOD. The existing buildings will be demolished and replaced with the new buildings with heights that range from Block A at 153.95m AOD, Block B at 190.55m AOD and Block C at 115.94m AOD in height in close proximity to the tower of 29 New Bailey Street and the Manchester Civil Justice Centre on Bridge Street. Effects are extenuated by the Site's proximity to the City Centre core, the adjacent building heights to the south and west and through the design quality of the proposed built form. Building heights within the wider study area will remain unchanged by the Proposed Scheme.

- 7.91 The sensitivity of building height is considered to be low based on low value (associated with low importance and rarity locally) and low susceptibility (due to the mixed character, with a lack of coherence). The magnitude of change is considered to be large (associated with total of / major alteration to key elements (i.e. heights)). Therefore, there is likely to be a direct, permanent, long-term, beneficial effect which is considered to be minor to moderate.

Secondary mitigation or enhancement

- 7.92 No secondary mitigation or enhancement has been identified.

Residual effect

- 7.93 In the absence of secondary mitigation, the residual effects for building height remain the same as that reported in the pre-mitigation scenario.

Significance

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

Impact on the residential visual receptors within the ZTV in close proximity to the Site

7.95 The Site is visible from a number of residential receptors within the local area. Residents in dwellings adjacent to Clermont-Ferrand Square, on portions of Bridge Street, St. Mary's Parsonage and King Street West, will have partial and open views of the new built form, tree planting and new public realm. **Table 7.13** sets out the visual assessment (refer to **Appendix 7.1**, Table 7.1.4).

Table 7.13: Assessment of residential visual receptors within the ZTV in close proximity to the Site during operation

VP	Location	Value	Susceptibility	Sensitivity of receptor to change	Size / scale, extent, duration	Overall magnitude	Overall level of effect
1	Trinity Bridge (Adjacent to Clermont-Ferrand Square)	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
There are open and partial views to the Proposed Scheme for a number of receptors within and in close proximity to Clermont-Ferrand Square which is nearby to the Site. The character and amenity of the view is formed by the linear River Irwell in the foreground and the built form lining the river beyond. Vertical elements of Spinningfields form portions of the existing more distant visual horizon beyond the development to the right of the view. The built form of the Proposed Scheme will partially truncate views to these elements. Views of the Proposed Scheme are seen in the context of the existing built form lining the river and in the wider, surrounding townscape. The sensitivity of the residential receptors is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of residents. The magnitude of change is considered to be small (there is considered to be a medium magnitude of change to the view as a result of the massing of the additional built form within the view, though this is considered to be mitigated through the design quality and materiality of the building elevations and the improved design response of the Proposed Scheme to the river frontage). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.							
3	Bridge Street	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
There are open and partial views to the Proposed Scheme for a limited number of potential receptors in dwellings in close proximity to the Site. The character and							

amenity of the view is formed by the built form of the listed Freemasons Hall lining Bridge Street and the built form of the 29 New Bailey Street complex and 4 New Bailey, Salford which form elements of the skyline beyond the Site. The Proposed Scheme will bring built form forward within the Site in views from this location and will largely truncate views to the more distant elements of the skyline locally. Views of the Proposed Scheme from the potentially small number of residential dwellings are obtuse and from upper storeys of the dwellings on the south side of Bridge Street only and are seen in the context of the existing built form lining Bridge Street, St. Mary's Parsonage and the vertical elements within New Bailey beyond the Site. The sensitivity of the residential receptors is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of residents. The magnitude of change is considered to be small (there is considered to be a medium magnitude of change to the view as a result of the massing of the additional built form within the view, though this is considered to be mitigated through the design quality of the new built form, the improvements to the streetscape along St. Mary's Parsonage and the improved design response of the Proposed Scheme to St. Mary's Parsonage and Motor Square). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

6	Left Bank	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
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There are open and partial obtuse views to the development for a number of receptors in dwellings. The character and amenity of this view is formed by the built form lining Left Bank, built form and existing trees within the Site and built form within the Alberton House (which is subject to redevelopment⁸) beyond the Site. The Proposed Scheme will bring built form forward within the view and truncate views to the north-east of Alberton House beyond the Site. Views of the Proposed Scheme are seen in the context of the existing built form of Left Bank. The sensitivity of the residential receptors is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of residents. The magnitude of change is considered to be small (there is considered to be a small magnitude of change to the view as a result of views being limited to obtuse views, the design quality of the new built form, the improvements to the streetscape of Bridge Street and St. Mary's Parsonage and due to views currently being influenced by the built form within and surrounding the Site). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

7	Albert Bridge / New Bailey Street	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
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There are open and partial views to the Proposed Scheme for a number of receptors in dwellings in close proximity to the Site. The character and amenity of the view is

⁸ See further details under Cumulative Project 1 in **Chapter 12: Assessment of Cumulative Effects**.

formed by Albert Bridge, the mature vegetation and built form lining the River Irwell. Vertical elements of Spinningfields and the City Centre form portions of the more distant visual horizon beyond the development to the left and right of the view. The Proposed Scheme will truncate a central portion of this view towards the City Centre. Views of the Proposed Scheme are seen in the context of the existing built form adjacent to the Site and in the wider, surrounding townscape beyond. The sensitivity of the residential receptors is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of residents. The magnitude of change is considered to be small (there is considered to be a medium magnitude of change to the view as a result of the massing of the additional built form within the view, though this is considered to be mitigated through the design quality and materiality of the building elevations and the improved design response of the Proposed Scheme to the river frontage). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

12	St. Mary's Parsonage / Blackfriars Street	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
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There are open and partial views to the Proposed Scheme for a limited number of receptors in dwellings. The character and amenity of the view is formed by the built form lining St. Mary's Parsonage. Views out are limited from this location due to the density of the surrounding urban grain. The Proposed Scheme will form a small portion of the skyline at the point where St. Mary's Parsonage turns to the south towards Bridge Street. Views of the Proposed Scheme are seen in the context of the existing built form lining St. Mary's Parsonage. The sensitivity of the residential receptors is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of residents. The magnitude of change is considered to be small (there is considered to be a small magnitude of change to the view as a result of views being limited to obtuse views, the design quality of the new built form and due to views currently being influenced by the built form within and adjacent to the Site). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

14	King Street West	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
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There are open and partial views to the Proposed Scheme for a number of receptors in dwellings in close proximity to the Site. The character and amenity of the view is formed by the built form lining King Street West including the listed 31 and 33, King Street West. Views out are limited from this location due to the density of the surrounding urban grain. The Proposed Scheme will bring built form forward in the view, at the termination of King Street West from this location. Views of the Proposed Scheme are seen in the context of the existing built form lining King Street. The sensitivity of the residential receptors is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of residents. The magnitude of change is considered to be

small (there is considered to be a small magnitude of change to the view as a result of views being limited to obtuse views, the design quality of the new built form, the improvements to the streetscape and due to views currently being influenced by the built form within and surrounding the Site). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

- 7.96 In summary, the character and amenity of the view will change from views over the existing built form of the Site to that of the new built form set within the retained mature trees, additional tree planting and new public realm. Due to the extent of the Proposed Scheme, viewers may see it as a new element within the view. These views are already influenced by the existing adjacent built form; and extenuated to a degree through the quality of design of the proposed built form, landscape and public realm schemes.
- 7.97 The sensitivity of residents is considered to be medium to high. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Secondary mitigation or enhancement

- 7.98 A landscape management plan will be prepared and implemented as set out above.

Residual effect

- 7.99 The residual effects of the Proposed Scheme for residential visual receptors within the ZTV in close proximity to the Site remain the same as that reported in the pre-mitigation scenario.

Significance

- 7.100 This effect is considered to be **Not Significant**.

Impact on receptors using public open space within the ZTV in close proximity to the Site

- 7.101 The Site is visible from a number of receptors using areas of open space within the local area. Users of Clermont-Ferrand Square and Motor Square will have partial and open views of the new built form, tree planting and new public realm. There are also anticipated to be partial views to the upper portions of built form within the Site from limited portions of Parsonage Gardens to the north-east of the Site. **Table 7.14** sets out the visual assessment (refer to **Appendix 7.1**, Table 7.1.4).

Table 7.14: Assessment of visual receptors using public open space within the ZTV in close proximity to the Site during operation

VP	Location	Value	Susceptibility	Sensitivity of receptor to change	Size/ scale, extent, duration	Overall magnitude	Overall level of effect
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1	Trinity Bridge (Adjacent to Clermont-Ferrand Square)	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
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There are open and partial views to the Proposed Scheme for a number of receptors within and in close proximity to Clermont-Ferrand Square, in close proximity to the Site. The character and amenity of the view is formed by the linear River Irwell in the foreground and the built form lining the river beyond. Vertical elements of Spinningfields form portions of the existing more distant visual horizon beyond the development to the right of the view. The built form of the Proposed Scheme will partially truncate views to these elements. Views of the Proposed Scheme are seen in the context of the existing built form lining the river and in the wider, surrounding townscape. The sensitivity of the receptors using the open space is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of open space users. The magnitude of change is considered to be small (there is considered to be a medium magnitude of change to the view as a result of the massing of the additional built form within the view, though this is considered to be mitigated through the design quality and materiality of the building elevations and the improved design response of the Proposed Scheme to the river frontage). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

3	Bridge Street	Medium	High	High – medium	Local / long-term / permanent	Medium	Minor adverse
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There are open and partial views to the Proposed Scheme for users of Motor Square, in close proximity to the Site. The character and amenity of the view is formed by the built form of the listed Freemasons Hall lining Bridge Street and the built form of the 29 New Bailey Street complex and 4 New Bailey, Salford which form elements of the skyline beyond the Site. The Proposed Scheme will bring built form forward within the Site in views from this location and will largely truncate views to the more distant elements of the skyline locally. Views of the Proposed Scheme are seen in the context of the existing built form lining Bridge Street, St. Mary's Parsonage and the vertical elements within New Bailey beyond the Site. The sensitivity of the receptors using the open space is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of open space users. The magnitude of change is considered to be small (there is considered to be a medium magnitude of change to the view as a result of the massing of the additional built form within the view, though this is considered to be mitigated through the design quality of the new built form, the improvements to the streetscape along St. Mary's Parsonage and Bridge Street and the improved design response of the Proposed Scheme to St. Mary's Parsonage Bridge Street and Motor Square). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

13	St. Mary's Parsonage	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
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There are open and partial views to the Proposed Scheme for users of Parsonage Gardens, in close proximity to the Site. The character and amenity of the view is formed by the built form lining St. Mary's Parsonage including the listed National Buildings and Arkwright House and mature vegetation within Parsonage Gardens. Views out are limited from this location due to the density of the surrounding urban grain. The Proposed Scheme will form a portion of the skyline at the point where St. Mary's Parsonage turns to the south towards Bridge Street. Views of the Proposed Scheme are seen in the context of the existing built form lining St. Mary's Parsonage. The sensitivity of the receptors using the open space is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of open space users. The magnitude of change is considered to be small (there is considered to be a small magnitude of change to the view as a result of views being limited to a small portion of the open space near the northern boundary, the design quality of the new built form and due to views currently being influenced by the built form within and adjacent to the Site). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

7.102 In summary, the character and amenity of the views will change from views over the existing built form of the Site to that of the new built form set within the retained mature trees, additional tree planting and new landscaped public realm. Due to the extent of the Proposed Scheme, viewers may see it as a new element within the view. These views are already influenced by the existing adjacent built form; and extenuated to a degree through the quality of design of the proposed built form, landscape and public realm.

7.103 The sensitivity of users of open space is considered to be medium to high. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Secondary mitigation or enhancement

7.104 A landscape management plan will be prepared and implemented as set out above.

Residual effect

7.105 The residual effects of the Proposed Scheme for users of public open space within the ZTV in close proximity to the Site remain the same as that reported in the pre-mitigation scenario.

Significance

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

Impact on receptors using the strategic recreation route within the ZTV in close proximity to the Site

7.107 The Site is visible from receptors using the strategic recreation route in close proximity to the Site. Users of the strategic recreation route on the Salford bank of the River Irwell will have partial and open views of the new built form, tree planting and new public realm. **Table 7.15** sets out the visual assessment (refer to **Appendix 7.1**, Table 7.1.4).

Table 7.15: Assessment of visual receptors the strategic recreation route within the ZTV in close proximity to the Site during operation

VP	Location	Value	Susceptibility	Sensitivity of receptor to change	Size / scale, extent, duration	Overall magnitude	Overall level of effect
1	Trinity Bridge (Adjacent to Clermont-Ferrand Square)	Medium	High	High – medium	Local / long-term / permanent	Small	Minor adverse
There are open and partial views to the Proposed Scheme from a number of receptors using the strategic recreation route in close proximity to the Site. The character and amenity of the view is formed by the linear River Irwell in the foreground and the built form lining the river beyond. Vertical elements of Spinningfields form portions of the existing more distant visual horizon beyond the development to the right of the view. The built form of the Proposed Scheme will partially truncate views to these elements. Views of the Proposed Scheme are seen in the context of the existing built form lining the river and in the wider, surrounding townscape. The sensitivity of the receptors using the strategic recreation route is considered to be high –medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of strategic recreation route users. The magnitude of change is considered to be small (there is considered to be a medium magnitude of change to the view as a result of the massing of the additional built form within the view, though this is considered to be mitigated through the design quality and materiality of the building elevations and the improved design response of the Proposed Scheme to the river frontage). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.							
7	Albert Bridge / New Bailey Street	Medium	High	High – medium	Local / long-term / permanent	Medium	Minor adverse

There are open and partial views to the Proposed Scheme for a number of receptors using the strategic recreation route in close proximity to the Site. The character and amenity of the view is formed by Albert Bridge, the mature vegetation and built form lining the River Irwell. Vertical elements of Spinningfields and the City Centre form portions of the more distant visual horizon beyond the development to the left and right of the view. The Proposed Scheme will truncate a central portion of this view towards the City Centre. Views of the Proposed Scheme are seen in the context of the existing built form adjacent to the Site and in the wider, surrounding townscape beyond. The sensitivity of the receptors using the strategic recreation route is considered to be high – medium based on the medium value of the view (medium importance or quality and rarity locally) and the high susceptibility of strategic recreation route users. The magnitude of change is considered to be small (there is considered to be a medium magnitude of change to the view as a result of the massing of the additional built form within the view, though this is considered to be mitigated through the design quality and materiality of the building elevations and the improved design response of the Proposed Scheme to the river frontage). Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

7.108 In summary, the character and amenity of the views will change from views over the existing built form of the Site to that of the new built form set within the retained mature trees, additional tree planting and new landscaped public realm. Due to the extent of the Proposed Scheme, viewers may see it as a new element within the view. These views are already influenced by the existing adjacent built form; and extenuated to a degree through the quality of design of the proposed built form, landscape and public realm.

7.109 The sensitivity of users of the strategic recreation route is considered to be medium to high. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Secondary mitigation or enhancement

7.110 A landscape management plan will be prepared and implemented as set out above.

Residual effect

7.111 The residual effects of the Proposed Scheme for users of the strategic recreation route within the ZTV in close proximity to the Site remain the same as that reported in the pre-mitigation scenario.

Significance

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

Limitations and Assumptions

7.113 To ensure transparency within the EIA process, the following limitations and assumptions have been identified.

- The assessment assumes that the landscape proposals of the Proposed Scheme would be implemented between the construction and operational stages (i.e.

will not be accounted for at construction) and therefore the assessment will be taken as a worst-case scenario; and

- The field survey for the photographic viewpoints was conducted during early April 2025, capturing early spring views when trees are not in leaf, and therefore the worst-case scenario.

Summary

7.114 **Table 7.16** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter.

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

Table 7.16: Summary of residual effects

Effect	Receptor	Residual effect	Is the effect significant?
Operational stage			
Impact on open space within the Site	Existing open space within the Site	Moderate beneficial	No
Impact on townscape character within the ZTV and in close proximity to the Site	Existing townscape character within and in close proximity to the Site. Areas to include: Retail Core (refer to Viewpoints 2, 11, 12, 13, 14, 16, 32 and 41)	Minor to moderate adverse	No
Impact on existing building height within the Site	Existing building height within the Site (contributing to the townscape character)	Minor to moderate beneficial	No
Impact on the residential visual receptors within the ZTV in close proximity to the Site	Residents of dwellings including those adjacent to Clermont-Ferrand Square (refer to Viewpoint 1) and on Bridge Street (refer to Viewpoint 3), St. Mary's Parsonage (refer to Viewpoint 12), Left Bank (refer to Viewpoint 6), Albert Bridge / New	Minor adverse	No

Effect	Receptor	Residual effect	Is the effect significant?
	Bailey Street (refer to Viewpoint 7) and King Street West (refer to Viewpoint 14)		
Impact on receptors using public open space within the ZTV in close proximity to the Site	Users of local areas of open space including those using Clermont-Ferrand Square, Motor Square and Parsonage Gardens (refer to Viewpoints 1, 3 and 13, respectively)	Minor adverse	No
Impact on receptors using the strategic recreation route within the ZTV in close proximity to the Site	Users of the strategic recreation route on the Salford bank of the River Irwell (refer to Viewpoints 1 and 7)	Minor adverse	No

References

- ¹ National Planning Policy Framework (NPPF) (Revised 2 December 2024 and updated March 2025).
- ² Places For Everyone - Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039 (Adopted March 2024).
- ³ MCC Core Strategy (Adopted 2012, addendum 2024).
- ⁴ Salford Local Plan: Development Management Policies and Designations (Adopted January 2023).
- ⁵ Trafford Council's Local Plan: Core Strategy Development Plan Document (Adopted January 2012).
- ⁶ PPG (Published 2016, updated 14 February 2024).
- ⁷ Guidelines for Landscape and Visual Impact Assessment third edition, published by the Landscape Institute (LI) (2013).
- ⁸ Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3) – LITGN-2024-01 (2024).
- ⁹ Visual Representation of Development Proposals - Technical Guidance Note 06/19 (2019).
- ¹⁰ Historic England note on Tall Buildings (2022).
- ¹¹ Greater Manchester Urban Historic Landscape Characterisation Project (GMUHLIC) Manchester District Report (2009).
- ¹² British Standard 5489-1:2020 Design of road lighting -Lighting of roads and public amenity areas.
- ¹³ CIBSE (2016) Lighting Guide 6: The exterior environment.
- ¹⁴ CIE (1997) 126: Guidelines for Minimising Sky Glow.
- ¹⁵ British Standard 3998: 2010 'Tree Work – Recommendations'.

8. Daylight, Sunlight and Overshadowing

Introduction

- 8.20 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Scheme in relation to daylight, sunlight and overshadowing.
- 8.21 The Chapter describes the scope of the assessment, the associated assessment methodology and a summary of the baseline information that has informed the assessment.
- 8.22 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered to be significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendices 2.1** and **2.2**) and iterative scoping process where applicable.
- 8.23 This Chapter, and its associated **Appendices 8.1 – 8.6** (which incorporate the relevant Figures 8.1 – 8.4 alongside other graphics), are intended to be read as part of the wider ES with particular reference to the introductory Chapters of this ES (**Chapters 1 – 5**).
- 8.24 In addition, this Chapter should be read in conjunction with **Chapter 12: Assessment of Cumulative Effects**.

Summary of Consultation

- 8.25 The project team has undertaken an EIA Scoping exercise (described further under the 'Scope of the Assessment' section below), which included consultation with MCC and other stakeholders. No consultation with MCC or other statutory agencies during the preparation of this Chapter beyond that undertaken as part of the EIA Scoping Report (**Appendix 2.1**) and Scoping Opinion (**Appendix 2.2**) has been completed.

Scope of the Assessment

- 8.26 An EIA Scoping Report was submitted to MCC on 9th April 2025, as presented in **Appendix 2.1**. The Scoping Opinion was received on 3rd June 2025 (**Appendix 2.2**). This section provides confirmation on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Unlikely / Not Significant

- 8.27 The following effects were considered unlikely / not significant as part of the EIA Scoping Report and therefore have not been considered further within the EIA or reported in the ES:

- Reduction in availability of daylight and sunlight to surrounding commercial properties;
- Solar glare; and
- Internal daylight / sunlight amenity.

Effects Likely / Significant

8.28 Since the EIA Scoping process, an additional receptor has been identified in relation to an effect 'scoped in', as follows:

Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme

8.29 Through further analysis, it was considered that Motor Square was potentially likely to experience significant effects. As such, this receptor has been included within the assessment reported in this Chapter.

8.30 **Table 8.1** outlines the effects likely / significant and are reported within this Chapter.

Table 8.1: Effects likely / significant

Likely significant effect	Receptor(s)	Applicable stage(s)
Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme	Residential receptors within: • The Century Buildings; • 2 – 8 Left Bank Apartments; • 29 New Bailey Street; • 32 Quay Street; • The Bridge, 40 Dearmans Place; • Bradshaw House; and • Alcock House.	Operation
Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme	Public Amenity Spaces: • 32 Quay Street; • Clermont-Ferrand Square; and • Motor Square. The River Irwell	Operation

8.31 Following demolition, there may be a period where levels of daylight and sunlight are lower or greater than the baseline levels. This will be temporary and short-term in relation to the overall construction period. During construction, effects will gradually increase in magnitude as structures are built. It is considered that the operational assessment will be a suitable 'worst-case' approximation of construction stage effects. Therefore, for the purpose of the EIA, only the operational stage of the Proposed Scheme has been modelled and assessed.

Assessment Methodology

Legislative Framework, Policy and Guidance

8.32 There is no legislation relevant to the assessment of daylight, sunlight and overshadowing.

8.33 **Table 8.2** summarises the policy applicable to daylight, sunlight and overshadowing.

Table 8.2: Policy for daylight, sunlight and overshadowing

Policy	Summary of requirements
National	
NPPF ¹ December 2024	Chapter 11, Making effective use of land – Planning policies and decisions should promote effective use of land in meeting the need for homes and other uses, while safeguarding the environment and ensuring healthy living conditions.
PPG, Effective use of land ² July 2019	Local planning authorities will need to consider whether the proposed development would have an unreasonable impact on the daylight and sunlight levels enjoyed by neighbouring occupiers.
Regional	
Greater Manchester Places For Everyone Joint Development Plan 2022 to 2039 ³ March 2024	Policy JP-P1 Sustainable Places – Sets out key attributes for development, including addressing microclimate issues such as sunlight and shade.
Local	
Manchester's Core Strategy 2012 – 2027 ⁴	Policy CC1 – Primary Economic Development Focus: City Centre and Fringe - The City Centre and fringe will be considered a suitable location for the consideration of high-density buildings and commercially led mixed-use schemes. Policy C8 – Local Centres – Impacts of new commercial development on residential amenity will be carefully considered. Policy DM1 – Development Management – Have regard to effects on amenity, including light.
Guide to Development in Manchester Supplementary Planning Document and Planning Guidance (SPD) April 2007	Wherever possible, workplaces should be located near to residential areas and other services, to support the Council's sustainable development strategy. Proposals will be carefully considered to ensure that residential and local amenity is protected, and any adverse impacts are mitigated.

- 8.34 **Table 8.3** summarises the technical standards and guidance applicable to daylight, sunlight and overshadowing.

Table 8.3: Technical standards and guidance for daylight, sunlight and overshadowing

Technical standards / guidance	Summary of requirements
Site layout planning for daylight and sunlight - A guide to good practice' (BR 209) ⁵ – the '2022 BRE Guidelines' Building Research Establishment, 2022 (3rd edition)	Guidance on site layout to provide good natural lighting within a new development, and safeguarding of daylight and sunlight within existing buildings nearby.
Daylighting and Sunlighting, RICS Professional Standard ⁶ Royal Institution of Chartered Surveyors, October 2012, reissued October 2023	Guidance for chartered surveyors on daylight, sunlight and shading and how it is dealt with in the design, planning, and environmental impact assessment of developments.

Defining the Study Area

- 8.35 Following a review of the location and massing of the Proposed Scheme and based upon professional experience, neighbouring residential properties and neighbouring amenity areas in proximity to the Site (see **Figure 8.1**) that have the potential to experience alterations in sunlight, daylight, shadow and light effluence in accordance with the methodologies set out in the 2022 BRE Guidelines were identified and thus have been considered as sensitive receptors for assessment.
- 8.36 Windows / rooms within these properties that are oriented towards the Site and were identified as being sensitive to the Proposed Scheme were included in the 3D analysis model. This 3D model is illustrated in **Figure 8.1** (see also drawings BRE/01-04 located in **Appendix 8.2**).
- 8.37 The scope of neighbouring properties and amenity areas considered has been determined as a reasonable study area to enable an assessment of likely significant effects, considering both the scale of the massing proposed and the proximity of those buildings and amenity spaces which surround and face the Site. The amenity area to be introduced by Alberton House is not included as this primarily serves a commercial space.

Background Studies to Inform the ES

- 8.38 **Table 8.4** summarises all studies / surveys / analysis / evaluations undertaken to inform the assessment presented within this Chapter.

Table 8.4: Background studies / surveys / analysis / evaluations

Studies / surveys / analysis / evaluations	Overview	Date of completion
Site visit	A visit to the Site to photograph the Site and surrounding buildings to aid understanding of the area and to confirm that the 2022 model continues to reflect the 2025 baseline condition as there have been no material changes on-site and in the immediate surrounding area.	February 2025
AccuCities 3D model	Provision of a 3D photogrammetry model of the Site and surrounding context for use within the assessments.	February 2022
Desk study	An existing baseline characterisation was completed by undertaking a review of the surrounding land uses using information and data sourced online from the Valuation Office Agency (VOA), the local authority and sales records. This review was undertaken for all surrounding properties which were considered likely to be affected by the Proposed Scheme as well as sensitive surrounding amenity spaces. The review confirmed that the 2022 model continues to reflect the 2025 baseline condition.	February 2025

Assessment Process

Overview

8.39 The Chapter reports the assessment of the impact of the completed and operational Proposed Scheme upon neighbouring sensitive receptors with regard to daylight, sunlight and overshadowing. Effects resulting from the Proposed Scheme have been identified where applicable via detailed technical analysis assessments undertaken using specialist computer software called MBS.

8.40 The drawings and results of the technical assessments reported in this Chapter are located in **Appendices 8.2 – 8.6**.

Assessment scenarios

8.41 The assessment scenarios have included:

- The existing baseline conditions; and
- The existing baseline conditions vs the Proposed Scheme.

8.42 This analysis was run in accordance with the 2022 BRE Guidelines to determine the two below points:

- The existing levels of light in the baseline conditions; and
- The change that will occur with the Proposed Scheme in place.

8.43 The assessment scenarios above are reported in this Chapter.

8.44 It is also noted that the 2022 Application^a established a 'baseline condition'. This has been considered against the conclusions for the Proposed Scheme to allow contextualisation of the impacts and for information.

8.45 In addition to the above, the following additional scenarios have been assessed:

I. The Cumulative (In-combination) Scenario

Existing baseline conditions vs Proposed Scheme and relevant neighbouring consents which assumes that the pertinent neighbouring consented developments (Alberton House^b and 27-33 King Street West^c) are built / completed at the same time as the Proposed Scheme (i.e. a 'worst-case' in terms of effects).

II. The future Consented Baseline Scenario

Existing baseline conditions + relevant Cumulative Projects vs Proposed Scheme, which assumes the implementation of the neighbouring Alberton House and the 27-33 King Street West developments occur ahead of the implementation of the Proposed Scheme. This scenario evaluates how the Proposed Scheme would impact the neighbouring residential receptors with the Cumulative Projects in place.

8.46 These additional scenarios are reported in **Chapter 12: Assessment of Cumulative Effects**. The relevant Cumulative Projects are shown in **Figures 8.11** and **8.12**.

2022 BRE Guidelines

8.47 To ensure that the assessment can be appropriately evaluated against national, sub-regional and local planning policy, daylight, sunlight and overshadowing effects have been considered in accordance with the 2022 BRE Guidelines⁷.

8.48 The 2022 BRE Guidelines provide methods for calculating the impact on light received by neighbouring buildings and amenity space, as well as the provision of light amenity provided within new development.

8.49 The 2022 BRE Guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case. Its introduction notes:

^a MCC planning Ref 135834/FO/2022.

^b MCC planning reference: 134287/FO/2022.

^c MCC planning reference: 135028/FO/2022.

'The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design... In special circumstances the developer or planning authority may wish to use different target values.'

- 8.50 The flexibility it advocates should reflect the particular characteristics of each case under consideration. It is important to bear in mind that the default numerical targets within the 2022 BRE Guidelines are largely based on a low-density suburban housing model. Therefore, it may be entirely appropriate to apply different values, especially where the general scale of obstruction will inevitably be greater. For example, when dealing with larger scale developments in dense urban environments, or where there is a planning aspiration to deliver increased densities in areas with low levels of existing obstruction. In such circumstances, achieving the initial BRE values would be very challenging and conflict with other beneficial factors in site layout design.

- 8.51 This does not mean that the recommendations and targets within the 2022 BRE Guidelines should be disregarded but instead applied with careful consideration of each site and its specific constraints. Otherwise, rigid adherence to the BRE recommendations could easily result in an inappropriate form of development. This is acknowledged at section 2.2 of the guidance, under 'Existing Buildings':

'Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site constraints.'

Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light.'

- 8.52 Suggested approaches for using alternative target values are provided within Appendix F of the 2022 BRE Guidelines, where it states that *'different targets may be used, based on the special requirements of the proposed development or its location'* (paragraph F1).

- 8.53 In the context of the Proposed Scheme, the Site is currently low to medium density. There are four blocks within the office buildings currently on-site, three of which are low rise. The low-rise nature of these three existing buildings on-site is not typical of the surroundings / urban context.

- 8.54 With the above in mind, it is also important to consider the effect on daylight, sunlight and overshadowing in terms of the quantum of light that will be left, rather than simply focusing on percentage alterations in the existing levels. However, as a starting point, the default 2022 BRE Guidelines criteria have been applied in their strictest sense for the purpose of determining the level of compliance within the key assessments undertaken.

- 8.55 Habitable rooms within residential properties are the primary focus of the daylight and sunlight assessments. In addition, non-habitable rooms such as circulation spaces,

storerooms, garages and bathrooms can be discounted, in accordance with the 2022 BRE Guidelines.

Daylight – Vertical Sky Component

- 8.56 The Vertical Sky Component (VSC) method of assessment is defined in the 2022 BRE Guidelines as the *'ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminate on a horizontal plane due to an unobstructed hemisphere of this sky'* ('Glossary', pg. 6).
- 8.57 This ratio is the percentage of the total unobstructed view that is available, once obstructions (e.g. the Proposed Scheme), are placed in front of the point of view.
- 8.58 The assessment is calculated from the centre of a window on the outward face and measures the amount of light available on a vertical wall or window following the introduction of visible barriers, such as buildings.
- 8.59 The VSC assessments reported in this Chapter have been calculated by using a 'Waldram Diagram'. The Waldram Diagram is effectively a snapshot that is taken from that point of the sky in front of the window, together with all relevant obstructions to it (i.e. the surrounding buildings. For calculation purposes, trees may be ignored unless they form dense continuous belts).
- 8.60 The maximum VSC value is almost 40% for a completely unobstructed vertical wall or window. In terms of assessment criteria, the 2022 BRE Guidelines state that:
- 'If the VSC, with the Proposed Development in place, is both less than 27% and less than 0.8 times its former value, occupants of the existing building will notice the reduction in the amount of skylight. The area lit by the window may appear more gloomy and electric lighting will be needed more of the time.'*
- 8.61 The above criteria should be applied flexibly and in view of the specific site constraints. For example, it is entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser urban and accessible environment, where the general scale of development is greater than the initial BRE default values in sections 2 and 3 of the 2022 BRE Guidelines allow for. However, this does not mean that retained light levels will be out of character, with prevailing levels experienced around such development.
- 8.62 Suggested approaches for setting appropriate alternative target values are provided within Appendix F of the 2022 BRE Guidelines.
- 8.63 Alternative target values have been considered as appropriate in consideration of a number of urban regeneration schemes.
- 8.64 One benchmark that is commonly used in denser areas is to check whether retained VSC values would be in the mid-teens or greater. An example of this approach is the

Goldsworth Road Appeal in Woking^d. There, the Inspector noted that development retaining a VSC level of 27% in neighbouring properties is unrealistic. He stated:

“Retaining a VSC level of 27% in neighbouring properties is unrealistic; as has been recognised in many appeal decisions and other documents. Even retaining 20% VSC is considered, generally, to be reasonably good, and in urban areas retaining around mid-teen % VSC is considered to be acceptable.”

- 8.65 In another appeal decision from 2023 which concerned development of Elephant Park in Elephant and Castle, Southwark the Inspector concluded that loss of daylight (and visual impacts) that would affect existing residential dwellings would not be unacceptable given the appeal site formed the *"last piece of the jigsaw"* in a regeneration scheme of significance. Bearing that in mind, the inspector concluded that *"impacts in terms of loss of daylight of the sort that have been calculated are not surprising or extreme"*^e. The impacts that were accepted in this case included retained VSCs of between 10.9% and 14.9%.
- 8.66 Ultimately, it is for the planning authority to judge whether affected properties would be left with acceptable levels of daylight and sunlight in their neighbourhood context, having regard to all relevant planning policies and guidance and balanced against the merits of the Proposed Scheme (as set out in the **Planning and Tall Building Statement**).

Daylight – No Sky Line

- 8.67 The 2022 BRE Guidelines advise that where room layouts are known, the effect on the daylight distribution can be calculated by plotting the No Sky Line (NSL). In terms of the neighbouring receptors, it has not been possible to obtain room layouts for all of the properties and therefore their layouts have been assumed where information has been unavailable.
- 8.68 The NSL is a measure of the distribution of daylight at the ‘working plane’ within a room. The ‘working plane’ means a horizontal ‘desktop’ plane 0.85m in height for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane (normally more than 20%) lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room will look poor and supplementary electric lighting may be required.
- 8.69 The potential effects of daylighting distribution in an existing building can be identified by plotting the NSL in each of the main rooms. For residential dwellings, this will include living rooms, dining rooms and kitchens. Bedrooms should also be analysed, although they are less important.

^d Appeal reference APP/A3655/W/21/3276474, Land to the north and south of Goldsworth Road, Woking, Inspector’s decision dated 10th January 2022.

^e Appeal reference APP/A5840/W/23/3319797, paragraph 57 – 59.

8.70 The 2022 BRE Guidelines identify that if the area of a room that does receive direct sky light is reduced to less than 0.8 times its former value, then this would be noticeable to its occupants.

8.71 In regard to deep rooms which are lit by windows on one side, the 2022 BRE Guidelines state at paragraph 2.2.12:

'If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable.'

Sunlight – Annual Probably Sunlight Hours

8.72 With regard to sunlight, the same skylight indicator is used as the VSC assessment using the same reference point to calculate Annual Probable Sunlight Hours (APSH), which is expressed as a percentage.

8.73 The 2022 BRE Guidelines, Section 3.2.3 notes that:

'To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90° of due south.'

8.74 The 2022 BRE Guidelines further state in Section 3.2.3 that:

'[...] kitchens and bedrooms are less important, although care should be taken not to block too much sun.'

8.75 The 2022 BRE Guidelines suggest that the sunlight to existing dwellings may be adversely affected if the APSH to main living rooms is less than 25% annually, or less than 5% during winter, and reduced to less than 0.8 times its former value; with a loss of sunlight over the whole year greater than 4% APSH in real terms.

8.76 The above criteria need to be applied sensibly depending on the contextual and site constraints involved, as noted in the 2022 BRE Guidelines:

'In certain situations, care needs to be taken in applying these guidelines... if the existing building stands unusually close to the common boundary with the new development or has a large balcony or overhang above the window, then a greater reduction in sunlight access may be unavoidable.'

8.77 The APSH values in more dense urban locations, or tightly constrained street patterns, will inevitably be lower than for a low-rise suburban environment, upon which the BRE default criteria are based. However, for the purpose of the assessments reported in this Chapter the criterion has been applied in its strictest sense.

Sun Hours on Ground (SHOG) overshadowing

8.78 The 2022 BRE Guidelines note that good site layout planning for daylight and sunlight should not be limited to providing good natural lighting within buildings and makes recommendations concerning sunlight received by amenity spaces between buildings. Amenity spaces relevant for consideration commonly include main back gardens of houses, allotments, parks and playing fields, children's playgrounds, outdoor swimming

pools, sitting-out areas, such as in public squares and focal points for views, such as a group of monuments or fountains.

- 8.79 Where sunlight to neighbouring amenity spaces may be affected by new development, the 2022 BRE Guidelines recommend that an overshadowing assessment is conducted. The key analysis is the SHOG test, which compares the proportion of an amenity area receiving at least 2 hours of sun on ground on the 21st of March in the current baseline and with the Proposed Scheme in place.
- 8.80 The 2022 BRE Guidelines note that different types of amenity space may have different sunlighting requirements and therefore, it is hard to provide a definitive rule. However, the 2022 BRE Guidelines suggest that a check may be undertaken, to see if at least 50% of an amenity area should receive 2 hours of sun after a Proposed Scheme is in place; or if below this level, whether it retains at least 0.8 times the former value (i.e. no more than 20% loss of the existing level). If these are not met, the loss of sunlight is likely to be noticeable and the *'amenity area will tend to look more heavily overshadowed.'*

Transient overshadowing

- 8.81 The 2022 BRE Guidelines suggest that where large buildings are proposed which may affect a number of gardens or open spaces in the surrounding area, it is useful to plot a shadow plan to show the location of shadows at different times of the day and year. This is referred to as 'transient shadow' and involves producing shadow plots to show the difference that the proposed building will make, compared against the existing levels of overshadowing on the surrounding amenity areas.
- 8.82 The BRE gives no quantitative criteria, but when considering the shadowing effects the 2022 BRE Guidelines note that *'it must be borne in mind that nearly all structures will create areas of shadow, and some degree of transient overshadowing of a space is to be expected.'*
- 8.83 In this Chapter, transient overshadowing analysis has been carried out for the following dates / times:
- 21st March (Spring Equinox) – 8:00am – 6:00pm;
 - 21st June (Summer Solstice) – 6:00am – 8:00pm; and
 - 21st December (Winter Solstice) – 10:00am – 4:00pm.

Summary

- 8.84 **Table 8.5** summarises the above guidance and suggested BRE criteria for daylight, sunlight and overshadowing. Transient overshadowing is not included as there are no quantitative criteria (as noted above).

Table 8.5: BRE daylight, sunlight and overshadowing assessment guidelines

Assessment method	Criteria
VSC (daylight)	A window may be affected if the VSC measured at the centre of the window is less than 27% and less than 0.8 times its former value.
NSL (daylight)	A room may be adversely affected if a significant area of the room is beyond the NSL and is less than 0.8 times its former value.
APSH (sunlight)	A window may be adversely affected following development if: the APSH measured at the centre of a windows is less than 25% annually, or less than 5% during winter; and is reduced to less than 0.8 times its former value; with a loss of sunlight over the whole year greater than 4% APSH in real terms.
Overshadowing (SHOG)	An amenity space may be adversely affected if less than 50% of its total area receives 2 hours of sun on ground and is reduced to less than 0.8 times its former value, following development.

Reporting of the Environmental Effect and Significance Criteria

- 8.85 The assessment of likely significant environmental effects as a result of the Proposed Scheme has taken into account the operational stage^f. The following sections define the approach adopted within the assessment for the determination of sensitivity, magnitude of change / impact, the level of effect and significance.

Determining Sensitivity of Receptor

- 8.86 The sensitivity of receptors has been considered on a scale of **high, medium, low** and **negligible**:

- Daylight and Sunlight: Residential dwellings within proximity to the Site are considered to be sensitive to daylight and sunlight levels, specifically habitable rooms within the properties such as living rooms and kitchens due to their reliance on natural daylight; and
- Overshadowing: Open amenity areas (e.g. playgrounds, playing fields, parks, squares, gardens, etc.) in proximity to the Site are considered to be sensitive.

- 8.87 The existing residential sensitive receptors identified are considered to be of high sensitivity of the purposes of the assessments, due to the need for natural light. These are:

- The Century Buildings;

^f As noted under 'Scope of the Assessment', the operational stage is considered to represent an approximation of the worst-case effects during the construction stage.

- 2 – 8 Left Bank Apartments;
- 29 New Bailey Street;
- 32 Quay Street;
- The Bridge, 40 Dearmans Place;
- Bradshaw House; and
- Alcock house.

8.88 The existing sensitive receptors identified in terms of open amenity space are considered to be of high sensitivity for the purposes of the assessments and are listed below:

- Public Amenity Space:
 - 32 Quay Street;
 - Clermont-Ferrand Square; and
 - Motor Square.
- The River Irwell.

8.89 While Parsonage Gardens is known to lie to the north-east of the Site, the Proposed Scheme would not materially change the sunlight amenity received by this receptor and therefore it has been discounted from further detailed assessment.

Determining the Magnitude of Change / Impact

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

8.91 The 2022 BRE Guidelines are deemed to have been met if the levels of daylight / sunlight or overshadowing within sensitive receptors meet or exceed the values established in the default guidance criteria (see **Table 8.5** above).

8.92 The initial numerical values outlined in the 2022 BRE Guidelines for determining the magnitude of change are based on percentage alterations in the baseline value, as set out in **Tables 8.6 – 8.9**. However, where baseline levels within a surrounding receptor are already low, any alterations may show a disproportionately high percentage change that can be misleading (i.e. the change in real terms may not be as noticeable to the occupant as the percentage alteration suggests) and therefore requires consideration of professional judgement also.

8.93 The nature of the daylight, sunlight and overshadowing effects may be either adverse (negative) or negligible. Where results show compliance or exceed the values suggested in the 2022 BRE Guidelines, the magnitude of change will be considered to be negligible. As the Proposed Scheme represents an increase in massing on the Site,

‘beneficial’ daylight, sunlight and overshadowing effects are not to be expected and as such are not discussed in this Chapter.

- 8.94 Accounting for the above, the numerical criteria for determining the magnitude of change for daylight, sunlight and overshadowing are set out in **Tables 8.6 – 8.9**. These are applied alongside professional judgement. Please note that the below brackets apply when calculating percentage change to two significant figures.

Table 8.6: VSC daylight criteria – Magnitude of change / impact

Category	Numerical Criteria – Daylight (VSC) – Magnitude of change / impact
Negligible	≥27% retained VSC and / or relative reduction ≤ 20%
Small	Relative reduction between 21% and 30%
Medium	Relative reduction between 31% and 40%
Large	Relative reduction above 40%

Table 8.7: NSL daylight criteria – Magnitude of change / impact

Category	Numerical criteria – Daylight (NSL) – Magnitude of change / impact
Negligible	Relative reduction ≤ 20%
Small	Relative reduction between 21% and 30%
Medium	Relative reduction between 31% and 40%
Large	Relative reduction above 40%

Table 8.8: APSH sunlight criteria – Magnitude of change / impact

Category	Numerical criteria – Sunlight (APSH) – Magnitude of change / impact
Negligible	≥25% annual APSH retained, of which ≥5% during winter months; and / or relative reduction ≤ 20%; and / or absolute reduction <4% APSH annually.
Small	Relative reduction between 21% and 30%
Medium	Relative reduction between 31% and 40%
Large	Relative reduction above 40%

Table 8.9: SHOG criteria – Magnitude of change / impact

Category	Numerical criteria – Overshadowing (SHOG) – Magnitude of change / impact
Negligible	≥50% retained SHOG and / or relative reduction ≤ 20%
Small	Relative reduction between 21% and 30%

Category	Numerical criteria – Overshadowing (SHOG) – Magnitude of change / impact
Negligible	≥50% retained SHOG and / or relative reduction ≤ 20%
Medium	Relative reduction between 31% and 40%
Large	Relative reduction above 40%

Note: the above is taken into account alongside other factors set out above and professional judgement will be applied. In addition, if the absolute values suggested in the 2022 BRE Guidelines are met with the completion of the Proposed Scheme, the magnitude of change will be considered negligible, irrespective of the percentage alteration.

- 8.95 For transient overshadowing, the 2022 BRE Guidelines do not include numerical criteria for consideration and simply state that it may be helpful to plot shadow plans of the existing and proposed buildings to define the difference in the shadows cast. Therefore, the results of the transient overshadowing assessment will be discussed, but the magnitude of change for overshadowing has been defined through the quantitative sunlight amenity assessment, as described above.

Determining Level of Effect

- 8.96 The level of effect has been informed by an evaluation of the sensitivity of the affected receptor and the magnitude of change / impact due to the Proposed Scheme.
- 8.97 It is important to reiterate that the numerical values outlined in the 2022 BRE Guidelines are purely advisory. Therefore, where the effects are beyond the 2022 BRE Guideline levels, as noted above professional judgement will be used to establish the level of effect, taking all relevant factors such as environmental context and policy into consideration and by reference to the discretionary 2022 BRE Guidelines and specific Site and neighbouring constraints.
- 8.98 Appendix H of the 2022 BRE Guidelines sets out the following recommendations in determining the impacts and effects in relation to daylight and sunlight:

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

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

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

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

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

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

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

H7 Factors tending towards a large adverse impact include:

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

8.99 The level of effect has been determined in line with the above and **Table 8.10** has been a tool which has assisted with this process. Whilst **Table 8.10** provides ranges, the level of effect is confirmed as a single level, where possible.

8.100 An overall effect conclusion has been provided for each sensitive receptor (building) considered.

Table 8.10: Matrix to support determining the level of effect

		Sensitivity			
		High	Medium	Low	Negligible
Magnitude of change / impact	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

8.101 The following terms have been used to define the level of the effects identified and, for the purposes, of this Chapter are all 'adverse' in nature as set out above:

- **Major effect:** Where the Proposed Scheme is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- **Moderate effect:** Where the Proposed Scheme is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance, or recoverability;
- **Minor effect:** Where the Proposed Scheme is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Scheme is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change and / or can recover from the change; and
- **Negligible:** Where the Proposed Scheme 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.

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

Determining Significance

8.103 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 the level of effect (which has been informed by the magnitude of change / impact and the sensitivity of the receptors as outlined above) along with professional judgement and relevant guidance where applicable.

- 8.104 Significance has only been concluded for residual effects (i.e. following the identification of secondary mitigation). Significance has been provided for each sensitive receptor (building) considered.

Baseline Conditions

- 8.105 The existing baseline condition for daylight, sunlight and overshadowing analysis comprises the existing Site (as of March 2025), neighbouring properties and amenity areas which are considered relevant for consideration.

Daylight and Sunlight

- 8.106 As set out above, The Century Buildings, 2 – 8 Left Bank Apartments, 29 New Bailey Street, 32 Quay Street, The Bridge, 40 Dearmans Place, Bradshaw House and Alcock House have been considered for the daylight and sunlight assessment.
- 8.107 **Table 8.11** lists the existing sensitive receptors considered for the detailed daylight and sunlight assessments, while **Figure 8.2** indicates their respective location outlined in green.

Table 8.11: Existing sensitive receptors considered for detailed daylight / sunlight assessments

Existing sensitive receptor	Daylight assessment	Sunlight assessment
The Century Buildings	✓	✓
2 – 8 Left Bank	✓	✓
29 New Bailey	✓	✓
32 Quay Street	✓	✓
The Bridge, 40 Dearmans Place	✓	✓
Bradshaw House	✓	✓
Alcock House	✓	✓

- 8.108 The surrounding receptors with windows that do not face within 90° of due south have been scoped out of the sunlight (APSH) assessment, in accordance with 2022 BRE Guidelines, on the basis that they do not have a reasonable expectation of sunlight amenity due to their orientation.
- 8.109 **Table 8.12** summarises the baseline daylight and sunlight results for the identified neighbouring properties listed in **Tables 8.1** and **8.11**. The full set of results is provided in **Appendices 8.2 – 8.5**.
- 8.110 A total of 1,202 windows, serving a total of 949 rooms were assessed for daylight, with 899 rooms assessed for sunlight, within the seven identified neighbouring properties. In relation to daylight, 835 (69%) of the 1,202 windows assessed for VSC have a baseline equal to or greater than the 27% VSC outlined in the 2022 BRE Guidelines. 836 (88%) of the 949 rooms assessed for NSL have a baseline daylight distribution of at

least 80% or more of the total room area. With regard to sunlight, 841 (94%) of the 899 windows meet the BRE criteria for winter APSH in the baseline and 832 (93%) windows meet the BRE criteria for annual APSH in the baseline condition.

- 8.111 Therefore, the baseline daylight and sunlight results indicate that the majority of windows and rooms within the identified neighbouring properties currently enjoy BRE compliant levels of light. Many of the existing values in certain buildings are particularly high given the separation from any other buildings, and smaller existing obstructions on the Site directly opposite.

Table 8.12: Existing baseline results – Daylight and sunlight

Existing sensitive receptor	Daylight		Sunlight				
	Total No. windows	Windows achieve ≥27% VSC	Total No. Rooms	Rooms achieve ≥80% NSL	Total No. Rooms	Rooms achieve ≥5% Winter APSH	Rooms achieve ≥25% Annual APSH
The Century Buildings	5	3 (60%)	2	1 (50%)	2	2 (100%)	2 (100%)
2 – 8 Left Bank Apartments	157	27 (17%)	74	58 (78%)	24	16 (67%)	13 (54%)
29 New Bailey Street	513	505 (98%)	447	432 (97%)	447	447 (100%)	447 (100%)
32 Quay Street	274	252 (92%)	242	242 (100%)	242	242 (100%)	242 (100%)
The Bridge, 40 Dearmans Place	101	22 (22%)	58	58 (100%)	58	58 (100%)	58 (100%)
Bradshaw House	120	14 (12%)	110	36 (33%)	110	60 (55%)	57 (52%)
Alcock House	32	13 (38%)	16	9 (56%)	16	16 (100%)	13 (81%)
Totals:	1,202	835 (69%)	949	836 (88%)	899	841 (94%)	832 (93%)

Overshadowing

- 8.112 Owing to the southerly location of the sun path, only outdoor amenity / spaces sufficiently close to the Site and located from north-west through to north-east are relevant for consideration.
- 8.113 There are four existing sensitive receptors close enough and oriented in such a way as

to be potentially affected by the Proposed Scheme and therefore identified as relevant for the SHOG and transient overshadowing assessments. **Figure 8.3** identifies the specific areas considered.

Table 8.13: Existing baseline results – SHOG overshadowing

Existing sensitive receptor	Area reference	% area receiving ≥2hrs SHOG on 21 st March
Public Amenity Space, 32 Quay Street	A1	99%
Clermont-Ferrand Square	A2	98%
Motor Square	A3	75%
The River Irwell	A4	71%

8.114 The full baseline overshadowing results can be found in **Appendix 8.4**.

8.115 The baseline SHOG results show that all four (100%) of the existing receptors tested receive at least 2hrs of sunlight to at least half their areas on 21st March, being adequately sunlit to between circa 71% and circa 99% of their respective areas. Therefore, all the open spaces surrounding the Site satisfy the 2022 BRE Guideline criteria in the existing baseline condition. This represents a high level of direct sunlight given the urban context.

Transient Overshadowing

8.116 The baseline transient shadowing levels are shown on drawings located in **Appendix 8.5**. The assessment covers 21st March.

8.117 A review of the transient shadow images for the key date of 21st March shows that the existing buildings on the Site cast a shadow throughout the day. The shadow cast moves quickly throughout the day moving west to east and passing over The River Irwell (A4) and public amenity space at 32 Quay Street (A1). This is to be expected given the massing currently on-site.

Future Baseline

8.118 In the absence of the Proposed Scheme and other development occurring, the current baseline daylight and sunlight availability is considered to remain the same. However, given the urban context of the Site and Cumulative Projects in proximity to the Site (particularly Alberton House and 27-33 King Street West), it is likely that the baseline daylight and sunlight conditions could change. Further details of this future scenario are provided in **Chapter 12: Assessment of Cumulative Effects**.

Primary and Tertiary Mitigation

Operational Stage

8.119 No primary or tertiary mitigation has been considered within the assessment.

Assessment of Effects, Secondary Mitigation and Residual Effects

Operational Stage

Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme

- 8.120 In accordance with the 2022 BRE Guidelines, neighbouring residential properties have been considered as sensitive receptors for the daylight and sunlight technical assessment as they are recognised as having a greater requirement for natural light than commercial properties.
- 8.121 Daylight and sunlight technical analysis has been undertaken to determine if existing neighbouring properties will retain sufficient levels of daylight and sunlight amenity should the Proposed Scheme be implemented. Daylight (VSC and NSL) and sunlight (APSH) technical assessments have been undertaken to consider the light levels in the existing baseline and the existing baseline vs the Proposed Scheme scenarios. Detailed information regarding the methodology for the daylight and sunlight technical assessments is provided above. The criteria in the assessment that have been applied are outlined in full above in this Chapter (see **Tables 8.6 – 8.8**).
- 8.122 The following properties as illustrated in **Figure 8.4** have been assessed:
- The Century Buildings;
 - 2 – 8 Left Bank Apartments;
 - 29 New Bailey Street;
 - 32 Quay Street;
 - The Bridge, 40 Dearmans Place;
 - Bradshaw House; and
 - Alcock House.
- 8.123 The full daylight and sunlight results along with NSL contours are located in **Appendix 8.3**. A summary of the results is provided below.
- 8.124 Of the total 1,202 neighbouring windows and 949 neighbouring rooms considered for the daylight (VSC and NSL) assessment across the seven properties outlined above, 676 windows (56%) (VSC) and 907 rooms (96%) (NSL) will comply with the recommended 2022 BRE Guidelines for daylight (VSC and NSL) and thus will experience a negligible magnitude of change as a result of the Proposed Scheme.
- 8.125 Of the 1,202 neighbouring windows assessed for VSC across the seven properties outlined above, 1,121 (93%) will experience a negligible or a small / medium adverse magnitude of change. Of the 949 neighbouring rooms assessed for NSL across the seven properties listed above, 949 (100%) will experience a negligible or a small / medium adverse magnitude of change.

- 8.126 Of the total 899 neighbouring rooms considered relevant for the sunlight (APSH) assessment across the seven properties outlined above, 869 rooms (97%) will comply with the recommended 2022 BRE Guidelines for winter sunlight and 875 rooms (97%) will comply with the recommended 2022 BRE Guidelines for total sunlight and will experience a negligible magnitude of change as a result of the Proposed Scheme.
- 8.127 Of the 899 neighbouring rooms assessed for APSH in winter across the seven properties listed above, 869 (97%) will experience a negligible change or a small / medium adverse magnitude of change and 887 (99%) of the 899 will experience a negligible change or a small / medium adverse magnitude of change for annual APSH.
- 8.128 A summary of the data (**Tables 8.14** and **8.15**) and detailed commentary is provided below for each of the key sensitive neighbouring properties.

Table 8.14: Existing baseline v Proposed Scheme – Daylight VSC / NSL assessment summary

Existing sensitive receptor	VSC								NSL							
	Total no. windows	BRE criteria met (≥27% VSC and/or ≤20% alteration)	%	Below 2022 BRE Guidelines				%	Total no. rooms	BRE criteria met (≤20% alteration)	%	Below 2022 BRE Guidelines				%
				21-<30% change	31-40% change	>40% change	Windows below BRE					21 -30% change	31-40% change	>40% change	Rooms below BRE	
The Century Buildings	5	5	100%	0	0	0	0	0%	2	2	100%	0	0	0	0	0%
2 –8 Left Bank Apartments	157	133	85%	20	4	0	24	15%	74	64	86%	9	1	0	10	14%
29 New Bailey Street	513	332	65%	126	55	0	181	35%	447	447	100%	0	0	0	0	0%
32 Quay Street	274	48	18%	3	142	81	226	82%	242	210	87%	32	0	0	32	13%
The Bridge, 40 Dearmans Place	101	7	7%	65	29	0	94	93%	58	58	100%	0	0	0	0	0%
Bradshaw House	120	120	100%	0	0	0	0	0%	110	110	100%	0	0	0	0	0%
Alcock House	32	31	97%	1	0	0	1	3%	16	16	100%	0	0	0	0	0%
Totals:	1,202	676	56%	215	230	81	526	44%	949	907	96%	41	1	0	42	4%

Table 8.15: Existing baseline v Proposed Scheme – Sunlight APSH assessment summary

Existing sensitive receptor	Annual APSH								Winter APSH							
	Total no. rooms	Rooms meeting BRE criteria	%	Below 2022 BRE Guidelines					Total no. rooms	Rooms meeting BRE criteria	%	Below 2022 BRE Guidelines				
				21 - 30% change	31-40% change	>40% change	Rooms below BRE	%				21 - 30% change	31-40% change	>40% change	Rooms below BRE	%
The Century Buildings	2	2	100%	0	0	0	0	0%	2	2	100%	0	0	0	0	0%
2 – 8 Left Bank Apartments	24	24	100%	0	0	0	0	0%	24	24	100%	0	0	0	0	0%
29 New Bailey Street	447	447	100%	0	0	0	0	0%	447	447	100%	0	0	0	0	0%
32 Quay Street	242	234	97%	0	0	8	8	3%	242	234	97%	0	0	8	8	3%
The Bridge, 40 Dearmans Place	58	42	72%	5	7	4	16	28%	58	38	66%	0	0	20	20	34%
Bradshaw House	110	110	100%	0	0	0	0	0%	110	110	100%	0	0	0	0	0%
Alcock House	16	16	100%	0	0	0	0	0%	16	14	88%	0	0	2	2	13%
Totals:	899	875	97%	5	7	12	24	3%	899	869	97%	0	0	30	30	3%

The Century Buildings

- 8.129 This property is located to the east of the Site along St. Mary's Parsonage and contains residential flats on the upper floors. A total of five windows serving two rooms have been assessed for daylight. Two rooms have been assessed for sunlight. These five windows are the only windows that face the Site and require assessment.
- 8.130 The VSC and NSL daylight technical analysis undertaken confirms that all five windows (100%) and the two rooms (100%) assessed will comply with the recommended 2022 BRE Guidelines for daylight (VSC and NSL) and thus will experience a negligible magnitude of change as a result of the Proposed Scheme.
- 8.131 The sensitivity of the receptor is high. In consideration of the above, including the full BRE compliance for VSC and NSL, the overall magnitude of change to daylight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be negligible.
- 8.132 The APSH results indicate that both (100%) of the two rooms tested would meet the 2022 BRE Guidelines for annual and winter sunlight (i.e. experience a change which is considered to be negligible).
- 8.133 The sensitivity of the receptor is high. In consideration of the above 100% compliance for sunlight, the overall magnitude of change with respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be negligible.

2 – 8 Left Bank Apartments

- 8.134 2 – 8 Left Bank is a mixed use block west of the Site with residential apartments located from the 1st floor upwards. A total of 157 windows serving 79 rooms have been assessed for daylight. 24 rooms have been assessed for sunlight.
- 8.135 157 (100%) of the 157 windows assessed would meet the 2022 BRE Guidelines for VSC and experience a negligible change. 71 (90%) of the 79 rooms assessed would meet the 2022 BRE Guidelines for NSL and experience a negligible change. Seven of the eight remaining rooms will experience alterations between 21% – 30% (small adverse magnitude). The one remaining room records a greater relative reduction of 36% (medium adverse magnitude). The room is in use as a Living / Kitchen / Dining (LKD) and experiences a low existing daylight distribution (NSL) of 34%. This low existing NSL value has in part resulted in the larger relative percentage change.
- 8.136 The sensitivity of the receptor is high. In consideration of the 100% VSC compliance, the high NSL compliance and the singular medium adverse magnitude of impact, the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be minor.
- 8.137 The APSH results indicate that all 24 (100%) rooms tested would meet the 2022 BRE Guidelines for annual and winter sunlight (i.e. experience a change which is considered to be negligible).
- 8.138 The sensitivity of the receptor is high. In consideration of the above 100% compliance for sunlight, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be negligible.

29 New Bailey Street

- 8.139 This is a residential block of apartments located to the north of the Site on the opposite side of the River Irwell. A total of 513 windows serving 447 rooms have been assessed for daylight. 447 rooms have been assessed for sunlight.
- 8.140 332 (65%) of the 513 windows assessed would meet the 2022 BRE Guidelines for VSC and experience a negligible change. Of the remaining 181 windows, 126 will experience a relative reduction of between 21% – 30% (small adverse magnitude) and 55 will experience reductions of between 31% – 40% (medium adverse magnitude).
- 8.141 One of the 181 windows has a low existing VSC of 8.6%. This low existing value has skewed the relative percentage change in VSC. 17 of the 181 windows will experience retained VSC values in the mid to high teens (15% – 19%). Such values have been considered as reasonable in recent inspectorate decisions in urban areas (such as that in which the Site is located). The remaining 163 windows retain a VSC value of 20% or greater. Such values have been considered good in recent inspectorate decisions in urban areas.

- 8.142 All 447 (100%) rooms tested would meet the 2022 BRE Guidelines for NSL and therefore experience a negligible change.
- 8.143 The sensitivity of the receptor is high. In consideration of the reasonable and good retained VSC values and the 100% NSL compliance, the overall magnitude of change to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be minor.
- 8.144 The APSH results indicate that for both annual and winter APSH all 447 (100%) rooms tested would meet the 2022 BRE Guidelines for sunlight amenity.
- 8.145 The sensitivity of the receptor is high. In consideration of the above 100% compliance for sunlight, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be negligible.

32 Quay Street

- 8.146 32 Quay Street is a residential block of apartments located to the north of the Site on the opposite side of the River Irwell. A total of 274 windows serving 242 rooms have been assessed for daylight. 242 rooms have been assessed for sunlight.
- 8.147 48 (18%) of the 274 windows assessed would meet the 2022 BRE Guidelines for VSC and experience a negligible change. Of the remaining 226 windows, three will experience a relative reduction of between 21% – 30% (small adverse magnitude). 142 windows will experience reductions of between 31% – 40% (medium adverse magnitude). The remaining 81 windows will experience reductions in excess of 40% (large adverse magnitude).
- 8.148 Four of the 226 windows will retain a VSC of in the low teens (13% – 14%). Each of the four rooms served by these windows are in use as bedrooms. Whilst the 2022 BRE Guidelines do not specifically comment on the sensitivity of bedrooms to changes in VSC, such rooms are commonly considered to have a lesser requirement for daylight overall. 85 of the remaining 222 windows will retain a VSC in the mid to high teens (15% – 19%). Such values have been considered as reasonable in recent inspectorate decisions in urban areas. The other remaining 137 windows will retain a VSC of 20% or greater. Such values have been considered good in recent inspectorate decisions in urban areas.
- 8.149 210 (87%) of the 242 rooms tested will meet the 2022 BRE Guidelines for NSL and therefore experience a negligible change. The remaining 32 rooms will experience alterations between 21% – 30%, which is considered to be a small adverse magnitude.
- 8.150 The sensitivity of the receptor is high. In consideration of the reasonable retained VSC values and the high NSL compliance, the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be medium to large. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be moderate.
- 8.151 The APSH results indicate that 234 (97%) of the 242 rooms tested would meet the 2022 BRE Guidelines for winter sunlight and 234 (97%) of the 242 rooms would meet the 2022 BRE Guidelines for annual sunlight (i.e. experience a change which is considered to be negligible).
- 8.152 Each of the eight rooms that fall below the 2022 BRE Guidelines criteria for winter sunlight will experience a relative reduction of greater than 40% (large adverse magnitude).
- 8.153 Also, each of the eight rooms that fall below the 2022 BRE Guidelines criteria for annual sunlight will experience a relative reduction greater than 40% (large adverse magnitude). Each of the eight rooms are believed to be bedrooms which are outlined in the 2022 BRE Guidelines as having a lesser requirement for sunlight.
- 8.154 The sensitivity of the receptor is high. In consideration of the high sunlight compliance and that all impacted rooms are less sensitive bedrooms, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be moderate.

The Bridge, 40 Dearman Place

- 8.155 The Bridge, 40 Dearman Place is a residential block of apartments located to the north of the Site on the opposite side of the River Irwell. A total of 101 windows serving 58 rooms have been assessed for daylight. 58 rooms have been assessed for sunlight.

- 8.156 7 (7%) of the 101 windows assessed would meet the 2022 BRE Guidelines for VSC and experience a negligible change. Of the remaining 94 windows, 65 will experience a relative reduction of between 21% – 30% (small adverse magnitude). 29 windows will experience reductions of between 30% – 40% (medium adverse magnitude).
- 8.157 It should be noted that the majority of the windows and rooms in this property sit beneath overhanging balconies which limit the ingress of daylight and sunlight. This matter is acknowledged by the 2022 BRE Guidelines in paragraph 2.2.13, which state that *‘Because the balcony cuts out light from the top part of the sky, even a modest obstruction opposite may result in a large relative impact on the VSC’*. Therefore, these alterations are likely in part due to the property’s inherent architectural composition.
- 8.158 All 58 (100%) rooms tested will meet the 2022 BRE Guidelines for NSL and therefore, experience a negligible change.
- 8.159 The sensitivity of the receptor is high. The overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be medium to large. Therefore, there is likely to be a direct, long-term, permanent adverse effect which is considered to be moderate.
- 8.160 The APSH results indicate that 38 (66%) of the 58 rooms tested would meet the 2022 BRE Guidelines for winter sunlight, while 42 (72%) of the 58 rooms would meet the 2022 BRE Guidelines for annual sunlight (i.e. experience a magnitude of change which is considered to be negligible).
- 8.161 Each of the 20 rooms that fall below the BRE criteria for winter sunlight will experience reductions in excess of 40% (large adverse). As internal layouts have not been obtained for this property, these room uses have been allocated as unknown. However, on the basis of the form of the building and the window sizes of the impacted rooms it is believed that all 20 are likely to be bedrooms, which are considered to have a lower requirement for sunlight.
- 8.162 Of the 16 rooms that fall below the BRE criteria for annual sunlight, five will experience a relative reduction of between 21% – 30% (small adverse magnitude) and seven will experience an alteration between 31% – 40% (medium adverse magnitude). The remaining four rooms will experience reductions in excess of 40% (large adverse). As internal layouts have not been obtained for this property, these room uses have been allocated as unknown. However, on the basis of the form of the building and the window sizes of the impacted rooms it is believed that all 16 are likely to be bedrooms, which are considered to have a lower requirement for sunlight.
- 8.163 The presence of balconies should also be acknowledged. Balconies do restrict the ability of sunlight to hit the centrepiece of windows (i.e. the point of APSH calculation). This is recognised by the 2022 BRE Guidelines in paragraph 3.2.11, which state *‘Balconies and overhangs above an existing window tend to block sunlight, especially in summer above south-facing windows. Even a modest obstruction opposite may result in a large relative impact.’*
- 8.164 The sensitivity of the receptor is high. In consideration of the above, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium as the property experiences an overall high compliance for sunlight and the majority of the impacted rooms are believed to be bedrooms. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be moderate.

Bradshaw House

- 8.165 Bradshaw House is a residential block of apartments located to the north of the Site on the opposite side of the River Irwell. A total of 120 windows serving 110 rooms have been assessed for daylight. 110 rooms have been assessed for sunlight.
- 8.166 The VSC and NSL daylight technical analysis undertaken confirms that all 120 windows (100%) and 110 rooms (100%) assessed will comply with the recommended 2022 BRE Guidelines for daylight (VSC and NSL) and thus will experience a negligible magnitude of change as a result of the Proposed Scheme.
- 8.167 The sensitivity of the receptor is high. In consideration of the above, including the full BRE compliance for VSC and NSL, the overall magnitude of change to daylight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be negligible.
- 8.168 The APSH results indicate that all 110 (100%) of the rooms tested would meet the 2022 BRE Guidelines for annual and winter sunlight (i.e. experience a change which is considered to be negligible).

- 8.169 The sensitivity of the receptor is high. In consideration of the above 100% compliance for sunlight, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be negligible.

Alcock House

- 8.170 Alcock House is a residential block of apartments located to the north of the Site on the opposite side of the River Irwell. A total of 32 windows serving 16 rooms have been assessed for daylight. 16 rooms have been assessed for sunlight.
- 8.171 31 (97%) of the 32 windows assessed would meet the 2022 BRE Guidelines for VSC and experience a negligible change. The one remaining window will experience a reduction of 21% – 30% (small adverse magnitude).
- 8.172 All 16 (100%) rooms tested would meet the 2022 BRE Guidelines for NSL and therefore experience a negligible change.
- 8.173 The sensitivity of the receptor is high. In consideration of the single small adverse magnitude VSC impact and 100% NSL compliance, the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be minor.
- 8.174 The APSH results indicate that 14 (88%) of the 16 rooms tested would meet the 2022 BRE Guidelines for winter sunlight, while 16 (100%) of 16 rooms would meet the 2022 BRE Guidelines for annual sunlight (i.e. experience a change which is considered to be negligible).
- 8.175 Each of the two rooms that fall below the 2022 BRE Guidelines criteria for winter sunlight, will experience a relative reduction greater than 40%.
- 8.176 The sensitivity of the receptor is high. In consideration of the above 100% compliance for annual sunlight and the high overall compliance for winter sunlight, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be minor.

Secondary mitigation or enhancement

- 8.177 No secondary mitigation or enhancement is proposed.

Residual effect

- 8.178 In the absence of secondary mitigation the residual effects are the same as that reported in the pre-mitigation scenario.
- 8.179 With regard to the daylight alterations to existing sensitive receptors, it is considered that the Proposed Scheme would result in a variety of effects, ranging from: negligible for two (29%) of seven receptors (The Century Buildings and Bradshaw House), minor adverse for three (32%) of the seven receptors (2 – 8 Left Bank Apartments, 29 New Bailey Street and Alcock House) and moderate for two (29%) of seven receptors (32 Quay Street and The Bridge, 40 Dearman Place).
- 8.180 With regard to the sunlight alterations to existing sensitive receptors, it is considered that the Proposed Scheme would result in a variety of effects, ranging from: negligible for four (56%) of seven receptors (The Century Buildings, 2 – 8 Left Bank Apartments, 29 New Bailey Street and Bradshaw House), minor for one (14%) of seven receptors (Alcock House) and moderate for two (40%) of seven receptors (32 Quay Street and The Bridge, 40 Dearman Place).
- 8.181 Nevertheless, many of the windows and rooms tested would satisfy the default values in the 2022 BRE Guidelines despite the Site's contextual constraints. Furthermore, the majority of the daylight effects that fall beyond the recommended BRE criteria broadly fall into one or more of the following categories:
- They would retain VSC levels of circa 20% and above (which is considered 'good' for an urban context);
 - They sit beneath overhanging balconies;
 - The NSL criterion for the associated room is satisfied; or
 - The windows / rooms serve bedrooms, which the BRE recognise as less important than other uses.
- 8.182 For sunlight, the vast majority of rooms meet the 2022 BRE Guidelines (97% both annually and in winter).

Significance

- 8.183 The effect is considered to be **Not Significant** for The Century Buildings, 2 – 8 Left Bank Apartments, 29 New Bailey Street, Bradshaw House and Alcock House.
- 8.184 The effect is considered to be **Significant** for 32 Quay Street and The Bridge, 40 Dearmans Place.

Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme

SHOG analysis

- 8.185 The SHOG assessment has been undertaken against four existing neighbouring amenity areas, as illustrated in **Figures 8.4** and **8.5** and drawings BRE/04-07 located in **Appendix 8.4**.
- 8.186 The results of the SHOG analysis show that three (75%) of the four sensitive receptors tested will meet the 2022 BRE Guidelines by either retaining at least 2 hours of sun in excess of 50% of their respective areas (i.e. Public Amenity Space, 32 Quay Street (A1), Motor Square (A3) and River Irwell (A4)). Therefore, the magnitude of change for these receptors is negligible based on the SHOG analysis.
- 8.187 The remaining receptor that does not meet the criteria is the Public Amenity Space at Clermont-Ferrand Square (A2). Public amenity space, Clermont-Ferrand Square (A2) is located to the north-east of the Site in front of the Lowry Hotel on the other side of the River Irwell.
- 8.188 In the existing baseline, 98% of the area receives at least 2 hours of direct sunlight on 21st March. This reduces to 22% with the Proposed Scheme in place, which equates to an alteration in excess of 40% (large adverse magnitude). However, this area's location makes it very sensitive to changes in massing on the Site.
- 8.189 A further detailed SHOG assessment has been undertaken for this area on June 21st to understand how much sunlight it will receive in the summer months when the sun is higher in the sky. The sunlight levels significantly increase in summer, with the area receiving over two hours of direct sunlight to 100% of its area on 21st June. The availability in the summer months is a key consideration as there is a higher expectation for sunlight and outside spaces are most likely to be fully utilised.

Overshadowing transient analysis

- 8.190 The full transient overshadowing assessment for the existing sensitive receptors is presented within **Appendix 8.5**.
- 8.191 The assessment covers three key dates in the year: 21st March 21st June and 21st December. The key date for consideration is 21st March, which is the focus of the commentary below.
- 8.192 As with the SHOG overshadowing test, four existing receptors / public amenity spaces were considered for the transient overshadowing assessment.
- 8.193 Due to the larger massing and increased density the Proposed Scheme will cause some additional transient overshadowing on the 21st March. The additional shadows of note created by the Proposed Scheme are listed as follows:
- Public Amenity Space, 32 Quay Street (A1): The shadow will pass over this area during the first half of the day as it does in the existing baseline conditions. However, the Proposed Scheme will cast a larger shadow over the area and whereas it will be overshadowed after 13:00 in the existing baseline conditions, the larger shadows will not completely leave the area until after 15:00 with the Proposed Scheme in place;
 - Clermont-Ferrand Square (A2): This area does not experience any overshadowing as a result of the buildings on-site in the existing baseline conditions. However, with the Proposed Scheme in place, this will create shadows that pass over the area between 12:00 and 15:00;
 - Motor Square (A3): The area will not experience any notable additional shadow throughout the day on 21st March; and
 - The River Irwell (A4): The Proposed Scheme will cast a larger shadow over the River Irwell moving from west to east between 9:00 and 16:00. However, the shadows pass quickly across the River Irwell throughout the day.
- 8.194 In relation to overshadowing, the sensitivity of the four amenity receptors assessed is high. The magnitude of change is considered to be negligible for three of these amenity spaces (i.e. 32 Quay Street (A1), Motor Square (A3) and the River Irwell (A4)).

Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

- 8.195 Clermont-Ferrand Square (A2) however, will experience a large magnitude of change. Despite this, the receptor (A2) will experience good levels of sunlight in the summer months when outdoor space is likely to be fully utilised. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be moderate.

Secondary mitigation or enhancement

- 8.196 No secondary mitigation or enhancement is proposed with respect to overshadowing.

Residual effect

- 8.197 In the absence of secondary mitigation the residual effects are the same as that reported in the pre-mitigation scenario.

Significance

- 8.198 The effect is considered to be **Not Significant** for Public Amenity Space, 32 Quay Street (A1), Motor Square (A3) and the River Irwell (A4).

- 8.199 The effect is considered to be **Significant** for Clermont-Ferrand Square (A2).

Limitations and Assumptions

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

- Access has not been obtained to the following properties listed in **Table 8.1**. Full or partial floor plans for neighbouring properties have been obtained from public records, where available:
 - The Century Buildings;
 - 2 – 8 Left Bank Apartments;
 - 29 New Bailey Street; and
 - 32 Quay Street.
- Where floor plan information and precise window locations could not be identified for the sensitive receptors, assumptions have been made based on the information available and external observation (e.g. site visits and online resources, including Google Maps and Bing Maps, etc.). No floor plans for The Bridge, 40 Dearman Place, Bradshaw House or Alcock House were obtained and only partial floor plans were obtained for The Century Buildings and therefore these properties have been modelled using reasonable assumptions;
- Building plan information for the Cumulative Projects outlined below was obtained from MCC's online planning portal:
 - Alberton House – Planning Ref - 134287/FO/2022 (MCC); and
 - 27-33 King Street West Planning Ref - 1350/FO/2022
- A 3D model of the existing baseline was created using a 3D photogrammetry model (AccuCities model received February 2022), along with site photography and information obtained via online mapping resources (e.g. Google and Bing Maps) and online local authority / estate agent records. The resultant 3D model has been used as the basis for all technical analysis;
- An AccuCities photogrammetry model has been used for the neighbouring context. This building and terrain model has a claimed accuracy estimated to within 15cm of real world coordinates in each axis. The AccuCities model is manually captured by remote photogrammetric surveyors, with no automatic processes used;
- An architectural 3D model of the Proposed Scheme was provided by Studio Egret West and inserted into the analysis model. The positioning of the Proposed Scheme model was verified prior to all technical analysis; and
- Where internal layouts have not been acquired, reasonable assumptions as to the internal layouts of the rooms behind the fenestration have been made to enable the NSL assessment in accordance with the 2022 BRE Guidelines. Unless the building form dictates otherwise, a standard 4.2m deep room for residential properties has been assumed depending upon the information received, based upon professional experience and typical residential room depths. Internal

layouts are only relevant for the NSL (No Sky Line / daylight distribution) assessment. The primary daylight (VSC) and sunlight (APSH) assessments are calculated at the window face and therefore do not require floor plans.

Summary

- 8.201 **Table 8.16** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter.
- 8.202 The table only provides a summary of the residual effects identified within the assessment and details of all primary, secondary and tertiary mitigation measures that have been taken into account are set out in detail within the Chapter and summarised within the Environmental Management Plan included within **Volume 3: Environmental Management Plan**.

Table 8.16: Summary of residual effects

Effect		Receptor	Residual effect	Is the effect significant?
Operational stage				
Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme	Daylight	The Century Buildings	Negligible adverse	No
		2 – 8 Left Bank Apartments	Minor adverse	No
		29 New Bailey Street	Minor adverse	No
		32 Quay Street	Moderate adverse	Yes
		The Bridge, 40 Dearmans Place	Moderate adverse	Yes
		Bradshaw House	Negligible adverse	No
		Alcock House	Minor adverse	No
	Sunlight	The Century Buildings	Negligible adverse	No
		2 – 8 Left Bank Apartments	Negligible adverse	No
		29 New Bailey Street	Negligible adverse	No
		32 Quay Street	Moderate adverse	Yes
		The Bridge, 40 Dearmans Place	Moderate adverse	Yes
		Bradshaw House	Negligible adverse	No
		Alcock House	Minor adverse	No
Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme	Public Amenity Space, 32 Quay Street		Negligible adverse	No
	Clermont-Ferrand Square		Moderate adverse	Yes
	Motor Square		Negligible adverse	No
	The River Irwell		Negligible adverse	No

References

¹ Ministry of Housing, Communities and Local Government and Department of Levelling Up, Housing and Communities (2024) National Planning Policy Framework.

² Ministry of Housing, Communities and Local Government and Department of Levelling Up, Housing and Communities (2024) Planning practice guidance.

³ <https://www.greatermanchester-ca.gov.uk/media/9578/places-for-everyone-joint-development-plan-document.pdf>

⁴ MCC (2024) Core Strategy 2012-2027.

⁵ <https://www.brebookshop.com/details.jsp?id=328056>

⁶ <https://www.rics.org/content/dam/ricsglobal/documents/standards/Daylighting-and-sunlighting.pdf>

⁷ Building Research Establishment (2022) Report 209: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice (4th Edition).

9. Wind Microclimate

Introduction

- 9.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Scheme in relation to wind microclimate.
- 9.2 The Chapter describes the scope of the assessment and assessment methodology and a summary of the baseline information that has informed the assessment.
- 9.3 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered to be significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendices 2.1** and **2.2**) and iterative scoping process where applicable.
- 9.4 This Chapter, and its associated **Figures 9.1 – 9.22** and CFD Wind Microclimate Report (**Appendix 9.1**), is intended to be read as part of the wider ES with particular reference to the introductory Chapters of this ES (**Chapters 1 – 5**).
- 9.5 In addition, this Chapter should be read in conjunction with **Chapter 12: Assessment of Cumulative Effects**.

Summary of Consultation

- 9.6 The project team has undertaken an EIA Scoping exercise (described further under the 'Scope of the Assessment' section below), which included consultation with MCC and other stakeholders. No consultation with MCC or other statutory agencies during the preparation of this Chapter beyond that undertaken as part of the EIA Scoping Report (**Appendix 2.1**) and Scoping Opinion (**Appendix 2.2**) has been completed.

Scope of the Assessment

- 9.7 An EIA Scoping Report was submitted to MCC on 9th April 2025, as presented as **Appendix 2.1**. The Scoping Opinion was received on 3rd June 2025 (**Appendix 2.2**). This section provides an update on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Unlikely / Not Significant

- 9.8 No effects were considered unlikely / not significant as part of the EIA Scoping Report (**Appendix 2.1**).

Effects Likely / Significant

- 9.9 Since EIA Scoping, further clarity on the specific receptors that are affected and that both comfort and distress-related impacts have been considered has been provided, with revised wording in **Table 9.1**.

9.10 **Table 9.1** outlines the effects considered likely / significant and that are reported within this Chapter.

Table 9.1: Effects likely / significant

Likely significant effect	Receptor(s)	Applicable stage(s)
Potential adverse wind conditions for proposed uses, including: Exceedance of the Industry standard Lawson Criteria for pedestrian comfort	Users of thoroughfares, entrances, waiting areas (bus stops) and recreational spaces within and around the Site, where the impact of wind gusts have the potential for the greatest impact on where pedestrian activities are most sensitive to wind and require the most benign conditions (including future residents and site users, pedestrians and cyclists).	Operation
Exceedance of the Industry standard Lawson Criteria for pedestrian distress	Users of thoroughfares, entrances, waiting areas (bus stops) and recreational spaces within and around the Site, where the impact of wind gusts have the potential for the greatest impact (including future residents and site users, pedestrians and cyclists).	Operation

9.11 During construction, built form within the Site will be demolished and construction of the Proposed Scheme will occur. In the first instance when the demolition of the existing built form occurs, there is considered to be limited opportunity for accelerated wind due to channelling or downdraughts.

9.12 As the built form (specifically the massing) of the Proposed Scheme increases during construction, there is a potential for accelerated wind conditions to occur. As the massing nears completion, the level of effect is likely to be similar to that being considered / assessed for the operational stage, albeit in instances mitigation measures required for appropriate wind conditions for the operational stage may not be fully implemented and wind levels may be temporarily greater than that determined for the completed Proposed Scheme. Nonetheless, given that the Site will still be under construction (and secured from general public usage), the receptors within the Site are considered to be of lower sensitivity than at operation. Therefore, the use of the operational stage as a 'proxy' is considered appropriate.

- 9.13 As noted in **Chapter 2: Approach to EIA** and **Chapter 4: Development Specification**, there is a potential for phased construction of the Blocks across the Site. Phasing studies would consider three different scenarios where each development is the first construction and its individual impact assessed. The downwash effects are shown to be minimal for all three Blocks in this assessment due to their cross-section and location. It is therefore considered that the assessment of operational effects would represent an approximation of the worst-case scenario during construction, irrespective of the phasing of the Blocks on-site. Therefore, for the purpose of the EIA, only the operational stage of the Proposed Scheme has been modelled and assessed.

Assessment Methodology

Legislative Framework, Policy and Guidance

- 9.14 There is no specific legislation dealing with wind microclimate.
- 9.15 The wind microclimate assessment has been undertaken within the context of relevant planning policies and guidance documents summarised below.
- NPPF (2024)¹
- 9.16 In December 2024, the Government published an updated version of the NPPF. There are no policies or statements that are directly related to the wind microclimate, although the promotion of high-quality built environments was emphasised in the NPPF. For instance, paragraph 135 states the following: '*[...] f) Create places that are safe, inclusive, and accessible and which promote health and well-being, with high standard of amenity for existing and future users*'.
- National Design Guidance (2021)²
- 9.17 The Ministry of Housing, Communities & Local Government, paragraph 71 states that '*Proposals for tall buildings (and other buildings with a significantly larger scale or bulk than their surroundings) require special consideration. This includes their location and siting; relationship to context; impact on local character, views and sight lines; composition - how they meet the ground and the sky; and environmental impacts, such as wind. These need to be resolved satisfactorily in relation to the context and local character*'.
- Places for Everyone Joint Development Plan 2024³
- 9.18 The Places for Everyone Joint Development Plan 2024 enables Greater Manchester to reinforce their ambition to meet local housing need, promote new approach to town centres, achieve carbon neutral goals and supports other wider strategies around air quality, microclimate, walking and cycling etc.
- 9.19 Policy JP-P1 Sustainable Places, states that:
- 'Greater Manchester will aim to become one of the most liveable city regions in the world, consisting of a series of beautiful, healthy and varied places, each having the following key attributes that all development, wherever appropriate, should be consistent with:*

[...] 15. *Comfortable and inviting, with indoor and outdoor environments:*

A. Offering a high level of amenity that minimises exposure to pollution; and B. Addressing microclimate issues such as sunlight, indoor air quality, overheating, shade, wind and shelter'.

9.20 Policy JP-C5 Streets For All, states that:

'Streets will be designed and managed to make a significant positive contribution to the quality of place and support high levels of walking, cycling and public transport... We will seek to ensure:

9.21 [...] 1. *h. Offering shelter from wind and rain, and shade from the sun;'*

- Guidance on Tall Buildings (2007)⁴

English Heritage and the Commission for Architecture and the Built Environment (CABE) produced a revised and updated version of their joint guidance on tall buildings. The final version was released in July 2007 and in section Criteria for evaluation, state that:

'... planning permission for tall buildings should ensure therefore that the following criteria are fully addressed: [...] The effect on the local environment, including microclimate'.

- Tall Buildings: Historic England Advice Note 4 (2022)⁵

9.22 The Historic England Advice Note 4: Tall Buildings states in Section 3.3:

'The following factors need to be considered to determine the impacts a tall building could have upon the historic environment:

[...]

Environmental: the influence on local micro-climates such as creation of wind tunnels, canyon effect, over-shadowing, glare, and air quality and effect on heritage assets in terms of the impact these micro-climatic changes could have upon their fabric, and how they are experienced; and

Cumulative: the combined impacts on heritage assets from existing, consented and proposed tall buildings'.

9.23 In Section 4.1, Checklist 1:

'The tall building policy should: [...] j. Address the following:

[...] Environmental impacts, such as sunlight, daylight, overshadowing and wind; ...'

9.24 In Section 4.5:

'Using an understanding of the historic environment to inform the approach to tall building design can be achieved by:

[...] 2. The impact on the local environment: people's experience of local character and the historic environment can be affected by factors such as wind and other microclimatic changes, overshadowing, and light pollution from the development of a tall building. In some cases, this has the potential to impact the physical fabric of heritage assets. It is important to test impacts on the local environment at design stage and present these through the application process to reduce the incidence of interventions being required to mitigate impacts post construction (which may in turn harm character and quality of a site, street or area)'.

9.25 In Section 4.6:

'Designing and planning for tall buildings can be enhanced by, and in some cases may require, the use of three-dimensional digital modelling. Such models support the development of options analysis evidence for tall building policies as they allow:

[...] Consideration of other environmental factors such as wind, daylight/ sunlight and pollution'.

- Lawson criteria, specifically the London Docklands Development Corporation (LDDC) variant⁶

9.26 The Lawson variant of the LDDC criteria has been used in this assessment. This is recognised by many other local authorities across London and the UK, including MCC, as a suitable benchmark for wind assessments.

Defining the Study Area

9.27 The Site is located in Manchester City Centre, surrounded by a variety of low-to-medium rise residential, commercial, industrial, and office buildings. Of particular note, immediately next to the Site to the north, is the River Irwell.

9.28 The baseline wind microclimate in the area is driven by prevailing southerly winds, but also with a contribution from the west. This is typical of the Manchester wind climate.

9.29 The study area considers the built environment of the Site, as indicated by **Figure 9.1** and its surrounding context extending up to a 400m radius, which is in line with the industry best practice, as acknowledged in established guidelines for planning submissions. (e.g. City of London Wind Microclimate Guidelines (2019)⁷).

9.30 Along with the wind conditions on-site, the off-site wind conditions within approximately 400m of the Site were considered to include sensitive public amenity areas (receptors) such as Motor Square and Clermont-Ferrand Square.

9.31 The study area is shown in **Figures 9.1 – 9.22**.

Background Studies to Inform the ES

9.32 **Table 9.2** summarises all studies / surveys / analysis / evaluations undertaken to inform the assessment presented within this Chapter.

Table 9.2: Studies / surveys / evaluations / analysis undertaken to inform the ES

Study / survey / analysis / evaluation	Overview	Date of completion
Wind microclimate testing	Initial wind microclimate assessments using Computational Fluid Dynamics (CFD) for: • Baseline – Existing Site with existing context surroundings; • Proposed Scheme (excluding façade detail) with existing context surroundings; and • Proposed Scheme (excluding façade detail) with existing context surroundings and Cumulative Projects within a 300m radius of the Site.	February – April 2025

Assessment Process

Overview

- 9.33 CFD was used to conduct the wind microclimate assessment for the Proposed Scheme. A full-scale 3D model of the Proposed Scheme and surrounding buildings up to a 400m radius from the Site boundary was produced to carry out the analysis. This is a standard radius for wind microclimate assessments and is considered sufficient to allow an assessment of likely significant effects. Building features below 0.5m have been excluded. This represents a conservative measure to model the wind conditions, particularly at the ground-level.
- 9.34 18 wind directions with 22.5° interval and two additional directions at 170° and 190° were considered for each scenario above. 30 years (1993 –2024) of hourly wind data from Manchester City Airport were used to generate the wind statistics (then corrected to the local conditions at the Site), which is considered to be the most representative meteorological data for the Site. Scaling factors to account for the surrounding terrain roughness were derived using ESDU 01008⁸. Further details of the parameters used in the modelling are provided in the CFD Wind Microclimate Assessment (**Appendix 9.1**).
- 9.35 Wind speed ratios (e.g., pedestrian level wind speeds as a ratio of a reference wind speed at 120m above ground) were identified at key locations within the Site (both at ground level and upper levels) where increased windiness is expected because of the proposed buildings' geometry and in areas of wind-sensitive activities such as public entrances, seating areas or pedestrian pathways (see full details below). These were identified based on a review of the plans provided alongside **Chapter 4: Development Specification (Figures 4.3 – 4.6 and 4.10 – 4.17)** and using Google street-view. The selected receptors are considered to be a representative sample of both existing and proposed receptors.
- 9.36 Results from the CFD modelling were interpreted using professional judgement. Wind conditions for the assessment scenarios were compared to the required levels for

intended use. The suitability of the expected wind conditions for various activities was assessed based on the industry standard Lawson LDDC criteria, which is set out in detail in the following section.

Assessed model scenarios

9.37 Three model scenarios have been simulated and assessed as shown below:

- Existing Site with existing context surroundings (Scenario 1);
- Proposed Scheme with existing context surroundings (Scenario 2); and
- Proposed Scheme with existing context surroundings plus Cumulative Projects within 300m (Scenario 3).

9.38 To note, no landscaping has been included within the modelling / assessment of the 'with' Proposed Scheme scenarios.

9.39 Cumulative Projects in the surrounding context, listed in **Chapter 12: Assessment of Cumulative Effects**, within a 300m radius of the Site were considered in Scenario 3. This is a standard radius for wind microclimate assessments and is considered to allow an assessment of likely cumulative effects.

9.40 The Cumulative Projects considered within the assessment were as follows:

- 134287/FO/2022 – Alberton House (Cumulative Project 1);
- 135028/FO/2022 – 27-33 King Street West (Cumulative Project 2);
- 131314/FO/2021 – Speakers House (Cumulative Project 4); and
- 129251/FO/2021 – Kendals & Fraser (Cumulative Project 31).

9.41 It is noted that 21/78277/FUL – Ralli Quays (Cumulative Project 3) is deep in construction and therefore is included in all scenarios.

9.42 The results of Scenario 3 are reported in **Chapter 12: Assessment of Cumulative Effects**.

9.43 On-site and off-site wind conditions were assessed for the above scenarios during:

- Summer (June to August) – characterised by calm wind conditions and frequent use of public amenities; and
- Winter (December to February) – the windiest season of the year.

Pedestrian wind comfort criteria

9.44 The well-established Lawson LDDC criteria were used to identify the wind comfort / distress ratings at all receptor locations. Lawson devised a scale for assessing the suitability of wind conditions in the urban environment based upon threshold values of wind speed and frequency of occurrence.

- 9.45 A range of pedestrian activities from sitting through to more transient activities such as crossing the road are defined. Each activity represents a wind speed and frequency of occurrence. If the wind conditions exceed the threshold, then the conditions are considered unacceptable for the stated activity. If the wind conditions are below the threshold, they are deemed tolerable (or suitable).
- 9.46 **Table 9.3** describes the Lawson LDDC comfort criteria, which can be visualised using a colour gradient from green to red representing the different grades and associated activities.

Table 9.3: Wind acceptability according to the LDDC Comfort Criteria

Key	Comfort category	Threshold	Description
	Sitting	5% and > 4m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or sit for long periods.
	Standing and Entrances	5% and > 6m/s	Gentle breezes acceptable for main building entrances, pickup / drop-off points and bus stops.
	Strolling	5% and > 8m/s	Breezes that would be appropriate for window shopping and strolling along a city / town centre street, plaza, or park.
	Business Walking	5% and > 10m/s	High speeds that can be tolerated if one / s only objective is to walk, run or cycle without lingering.
	Main Roads	> 5% and > 10m/s	Winds of this magnitude are considered a nuisance for most activities.

- 9.47 The comfort results are reported by relating the wind conditions in an area to the intended pedestrian use, notably:
- Thoroughfares – requiring, at worst, 'strolling' conditions;
 - Entrances – requiring, at worst, 'standing' conditions;
 - Seating areas – requiring 'sitting' wind conditions during the summer season;
 - Amenity spaces – requiring 'sitting / standing' conditions during the summer season; and
 - Private terraces / balconies – requiring 'sitting / standing' conditions during the summer season.

9.48 Additional consideration has been given to the following sensitive receptors in the surrounding area where the wind conditions are likely to be affected by the Proposed Scheme:

- Bus stops – requiring, at worst, 'standing' conditions; and
- Pedestrian crossings – requiring, at worst, 'strolling' conditions.

Wind distress

9.49 The Lawson Criteria also specify the threshold for wind distress level:

- 15 m/s is the average wind speed threshold for wind distress, especially for the vulnerable user group, including cyclists, the elderly, people with disabilities and the very young.
- Any location with an exceedance of the above threshold, for more than approximately 2 hours of the year will be considered as an intolerable wind distress location.

Reporting of the Environmental Effect and Significance Criteria

9.50 The assessment of likely significant environmental effects as a result of the Proposed Scheme has taken into account the operational stage. The following sections define the approach adopted within the assessment for the determination of sensitivity, magnitude of impact, the level of effect and significance.

Determining Sensitivity of Receptor

9.51 The sensitivity of affected receptors has been considered on a scale of **high**, **medium**, **low** or **negligible**.

9.52 The sensitivity of a receptor is based on the intended use and whether the location is for public or private use. **Table 9.4** provides a description of the receptor sensitivity scales.

Table 9.4: Description of sensitivity of receptors

Sensitivity	Corresponding intended use
High	Areas intended for long-term seating, e.g. benches, restaurants, bars and cafes, etc. which require conditions suitable for 'sitting' activities Entrances, bus stops, etc. where, at worst, wind conditions suitable for 'standing' activities are required. Areas with public use.
Medium	Areas that are suitable for short-term activities such as 'standing'. Areas for private use.
Low	Off-site areas that are expected to have short-stay directions, such as movement corridors and thoroughfares, i.e. suitable for 'Business walking'.

Sensitivity	Corresponding intended use
Negligible	Areas with no regular pedestrian access, such as the centre of the road.

Determining the Magnitude of Change

9.53 The magnitude of impact has been considered on a scale of **large, medium, small** or **negligible**.

9.54 The determination of the magnitude of change for wind microclimate is based on the comfort and distress ratings outlined in the Lawson criteria. **Table 9.5** provides a description of the definitions of the magnitude of change categories

Table 9.5: Description of the magnitude of change for existing receptors

Comparison with the baseline condition in terms of Lawson Criteria Ratings	Receptor still suitable for intended use	Receptor not suitable for intended use
Wind comfort result is windier by 2 comfort categories	Medium to Small	Large
Wind comfort result is windier by 1 comfort category	Small to Negligible	Large to Medium
Wind comfort results remain the same or calmer (wind conditions improved)	Negligible	Medium to Small
Wind distress results have changed	Negligible	Large

9.55 For the future receptors introduced by the Proposed Scheme, there is no baseline condition against which to compare. Hence, the 'magnitude of change' is benchmarked against the preferred comfort / distress grades for the intended uses based on Lawson criteria. **Table 9.6** lists a description of the definition of the magnitude of change for the future receptors.

Table 9.6: Description of the magnitude of change for future receptors

Comparison with the preferred ratings specified by the Lawson Criteria	Receptor still suitable for intended use	Receptor not suitable for intended use
Wind Comfort grades increase by 2 or more grades	N/A	Large / Medium
Wind Comfort grades increase by 1 grade	N/A	Large / Medium / Small
Wind Comfort grades achieve the preferred grade or better	Negligible	N/A
Wind Distress grades have changed	Negligible	Large

- 9.56 The range of magnitude of change categories is associated with the type of intended use (e.g. the comfort / distress grade difference can be regarded as a larger magnitude of change for more sensitive receptors and smaller for less sensitive ones).

Determining the Level of Effect

- 9.57 The level of effect has been informed by the magnitude of change due to the Proposed Scheme and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and **Table 9.7** has been a tool which has assisted with this process.
- 9.58 Whilst **Table 9.7** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement, where possible.

Table 9.7: Determining the level of effect

		Sensitivity			
		High	Medium	Low	Negligible
Magnitude of impact	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

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

- **Major effect:** Where the Proposed Scheme is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- **Moderate effect:** Where the Proposed Scheme is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
- **Minor effect:** Where the Proposed Scheme is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Scheme is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change and / or can recover from the change; and
- **Negligible:** Where the Proposed Scheme 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.

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

Determining Significance

9.61 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 where applicable.

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

Baseline Conditions

9.63 The baseline wind conditions have been obtained by assessing the existing Site within the existing context surroundings (Scenario 1). As such, conditions at only existing receptor locations are discussed below.

Baseline Receptor Locations

9.64 The model extent of the wind microclimate results is expected to be within the Site and its immediate surroundings (i.e. a local impact, for all receptors).

9.65 All pedestrians and cyclists on surrounding thoroughfares, entrances to the surrounding buildings and amenity spaces are highly sensitive receptors. Receptor locations in the baseline scenario are listed in **Table 9.8** and shown in **Figure 9.1**.

Table 9.8: Existing receptor locations

Receptor type (Season)	Receptor reference number
Off-site	
Thoroughfares (Winter)	G23 – G36
Entrances (Winter)	G1 – G20
Bus stop (Winter)	G30
Seating areas (Summer)	G21 and G22
Pedestrian crossings	G37 – G40

Overview of Baseline Conditions

- 9.66 Wind conditions for the baseline scenario (Scenario 1) are presented in **Figure 9.2** for the summer season, in **Figure 9.3** for the winter season and in **Figure 9.4** for the annual wind distress.
- 9.67 In summer, the results show that the wind conditions at street level are largely suitable for ‘sitting’ activities. Some areas, mainly to the south of the Site and around Albert Bridge, experience wind conditions suitable for ‘standing’ activities. The on-site and off-site results for winter are similar to that in summer, but with a larger area suitable for ‘standing’ activities. Localised ‘strolling’ areas are seen around Albert Bridge. There is no wind distress issue at any receptor location within or around the Site. Each specific category is addressed in turn below.

Off-site thoroughfares (Winter)

- 9.68 The wind conditions for the off-site thoroughfares are generally suitable for ‘sitting’ or ‘standing’ activities during the winter season.
- 9.69 Receptor locations G23, G24, G25, G26, G27, G28 and G29 are suitable for ‘standing’ activities.
- 9.70 Receptor locations G30, G31, G32, G33, G34, G35 and G36 are suitable for ‘sitting’ activities.

Off-site entrances (Winter)

- 9.71 Off-site entrance receptor locations G1 – G13, G16 – G18 are suitable for ‘sitting’ activities. Other entrance receptor locations (G14 and G15) are suitable for ‘standing’ activities.
- 9.72 Receptor locations G19 and G20 represent the inset entrances of Manchester Family Court and People’s History Museum respectively. Inherently these entrances are sheltered.

Off-site bus stop (Winter)

- 9.73 Wind conditions for receptor location G30 are suitable for ‘sitting’ activities.

Off-site seating areas (Summer)

- 9.74 Wind conditions for Motor Square (receptor location G21) and Clermont-Ferrand Square (receptor location G22) are suitable for 'sitting' use during the summer, when frequent pedestrian use is expected.

Off-site pedestrian crossings (Winter)

- 9.75 Wind conditions for receptor locations G37 and G38 are suitable for 'standing' activities whereas for locations G39 and G40 are suitable for 'sitting' activities.

Wind distress

- 9.76 There is no wind distress issue at any receptor locations at ground level within the existing conditions.

Future Baseline

- 9.77 In the absence of the Proposed Scheme, there would be no change to the wind microclimate prior to the introduction of consented developments, relative to baseline conditions.
- 9.78 Based on wind microclimate assessment for the Alberton House development⁹ (as the closest Cumulative Project to the Site) no potential wind safety or distress risks have been identified comparative to the existing conditions. This also applies with other local Cumulative Projects included. However, it is noted that there is ongoing regeneration around the Site that could have an influence on the wind conditions within and surrounding the Site, although the specifics of these changes are not fully understood without specific testing.
- 9.79 In addition, the UK Climate Projections (UKCP18) published by the Met Office presents a number of different predicted scenarios. The 'Climate Projects Report'¹⁰ published by UKCP18 presents the probable changes in wind speed for 2070 – 2099 in both the summer and winter seasons. With these predictions, the current trends in climate change are not likely to have any significant effects on the predicted wind microclimate conditions in and around the Proposed Scheme. It is therefore not necessary to provide a quantitative analysis of the increase in storm frequency and implications on the effect on the wind microclimate for the Proposed Scheme.

Primary and Tertiary Mitigation

Operational Stage

- 9.80 Primary mitigation is provided by the scale, massing and form of the Proposed Scheme as set out in **Chapter 4: Development Specification** and accompanying plans. As noted above, no landscaping has been included within the model for assessment purposes.
- 9.81 No additional tertiary mitigation is relevant to the wind microclimate assessment.

Assessment of Effects, Secondary Mitigation and Residual Effects

Operational Stage

Potential adverse wind conditions for proposed uses, including: Exceedance of the Industry Standard Lawson Criteria for Pedestrian Comfort

- 9.82 As outlined above, assessments using CFD were carried out with the Proposed Scheme in place with the existing surroundings (Scenario 2).
- 9.83 The Proposed Scheme introduces future receptors while all the existing receptors remain the same as the baseline (set out above and shown in **Figures 9.5 – 9.6**).

Receptor locations following the implementation of the Proposed Scheme (Scenario 2)

- 9.84 Receptor locations within (on-site) and around (off-site) the Proposed Scheme are listed in **Table 9.9** with their corresponding locations provided in **Figure 9.5** for all ground-level receptors and **Figure 9.6** for receptors at terrace levels. All of the off-site receptors remain the same as in the baseline, while on-site receptors are introduced by the Proposed Schemes.

Table 9.9: Existing and future receptor locations

Receptor type (Season)	Receptor reference number
On-site	
Entrances (Winter)	G41 – G50
Seating Areas (Summer)	G51 – G54
Terraces / Balconies (Summer)	T1 – T2
Cumulative receptors (Alberton House)	
Terraced Seating	G55
New entrance	G56
Off-site	
Thoroughfares (Winter)	G23 – G36
Entrances (Winter)	G1 – G20
Bus Stop (Winter)	G30
Seating Areas (Summer)	G21 and G22
Pedestrian Crossings (Winter)	G37 – G40

Overview of public realm

- 9.85 Wind conditions at ground-level public realm following the implementation of the Proposed Scheme within the existing surrounding context (Scenario 2) are presented in **Figure 9.7** for summer and in **Figure 9.8** for winter

- 9.86 In summary, during summer the wind conditions are still mostly suitable for 'sitting' activities, with slight increases of wind to conditions suitable for 'standing' activities Block B and Block C of the Proposed Scheme, relative to the baseline. During the winter increased areas surrounding each of the Blocks within the Proposed Scheme become suitable for 'standing' activities, while east of the Proposed Scheme is still suitable for 'sitting' activities. Wind conditions suitable for 'Strolling' were identified between Block B and Block C.
- 9.87 Each specific category is addressed in turn below. Detailed results can be found in the CFD Wind Microclimate Assessment (**Appendix 9.1**).

Off-site thoroughfares (Winter)

- 9.88 As can be seen in **Figure 9.8**, the wind conditions for off-site thoroughfares are suitable for 'sitting' or 'standing' activities during the winter season, which is suitable for the intended use.
- 9.89 Receptor locations G24, G25, G26, G28, G31 and G36 are suitable for 'standing' activities.
- 9.90 Receptor locations G23, G27, G29, G30, G32, G33, G34 and G35 are suitable for 'sitting' activities.
- 9.91 The sensitivity of the receptors is considered to be medium to low. The magnitude of change is considered to be small to negligible. Therefore, there is likely to be a direct, permanent, long-term adverse effect which is considered to be negligible (for receptor locations G23 – G29 and G31 – G36).

Off-site entrances (Winter)

- 9.92 As shown in **Figure 9.8**, receptor locations G1, G6, G8, G10, G16, G19, and G20 are suitable for 'standing' activities during the winter season, whereas receptor locations G2, G3, G4, G5, G7, G9, G11, G12, G13, G14, G15, G17, and G18 are suitable for 'sitting' activities.
- 9.93 Receptors G19 and G20 represent the inset entrances of Manchester Family Court and People's History Museum, respectively. Inherently these entrances are sheltered.
- 9.94 The sensitivity of the receptors is considered to be high. The magnitude of change is considered to be negligible to small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor locations G1 – G18, G19 and G20).

Off-site bus stops (Winter)

- 9.95 Receptor location G30 is suitable for 'standing' activities, as shown in **Figure 9.8**, which remains unchanged to the baseline during the winter season.
- 9.96 The sensitivity of this receptor is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor location G30).

Off-site seating areas (summer)

- 9.97 Motor Square (receptor G21) and Clermont-Ferrand Square (receptor G22) are suitable for 'sitting' activities during the summer season (**Figure 9.7**).
- 9.98 The sensitivity of this receptor is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor locations G21 and G22).

Off-site pedestrian crossings (Winter)

- 9.99 As shown in **Figure 9.8**, receptor locations G37, G38 and G40 are suitable for 'sitting' activities, whereas location G39 is suitable for 'standing' activities – which is the same as the baseline conditions.
- 9.100 The sensitivity of these receptors is considered to be medium. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor locations G37, G38, G39 and G40).

Cumulative receptors (Alberton House and 27 – 33 King Street West)

- 9.101 The future cumulative receptor at the consented Alberton House (G55) in this scenario is a seating area. The results shown in **Figures 9.16** and **9.17** indicate that this location is in 'sitting' conditions, which is suitable for the intended use.
- 9.102 The sensitivity of this receptor is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, effect which is considered to be negligible (for receptor location G55).
- 9.103 The future cumulative receptor for consented Alberton House (G56) in this scenario is an off-site entrance. The results shown in **Figures 9.16** and **9.17** indicate that this location has 'sitting' conditions, which is suitable for the intended use. The receptor G5 is not considered in the future Cumulative Scenario 3 (as this represents the entrance of the extant building and will be replaced / superseded by the new entrance of the proposed building).
- 9.104 The sensitivity of this receptor is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor location G56).
- 9.105 There is also a Western and a Southern entrance to the Cumulative Project at 27 – 33 King Street West (Reedham House) with outdoor seating areas along the south and west ground-level. These seating areas and entrances are all covered by an overhang and are inherently sheltered and considered to be suitable for the intended uses.
- 9.106 The sensitivity of this receptor is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

On-site entrances (Winter)

- 9.107 On-site entrances are introduced by the Proposed Scheme (i.e. receptor locations G41 – G50) which are found to be in ‘sitting’ or ‘standing’ conditions in winter based on the wind comfort results shown in **Figure 9.8**.
- 9.108 The sensitivity of the receptors is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor locations G41 – G50).

On-site seating areas (Summer)

- 9.109 Public seating areas, represented by Receptors G51 – G54, are proposed as part of the Proposed Scheme to the south-west of Block B / north and east of Block A. The results for summer in **Figure 9.7** indicate that the wind conditions for locations G51 – G54 are suitable for ‘sitting’ activities.
- 9.110 The sensitivity of the receptors is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor locations G51 – G54).

On-site terraces (Summer)

- 9.111 The Proposed Scheme includes terraces on Block C (receptors T1 and T2). To be conservative, it is assumed the terraces on Block C are for public use.
- 9.112 Receptors T1 and T2 are located on the roof of Block C. Results for the summer are presented in **Figures 9.9** and **9.10**, as any pedestrian use of those terraces is expected to be predominantly in summer.
- 9.113 For the terraces on Block C, in summer, receptor T1 experiences wind conditions suitable for ‘sitting’ and ‘standing’ activities and receptor T2 experiences wind conditions suitable for ‘sitting’ activities.
- 9.114 The sensitivity of the receptors is considered to be medium to high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible (for receptor locations T1 – T2).

Secondary mitigation or enhancement

- 9.115 The seasonal wind comfort results detailed above have indicated that no secondary mitigation is required.

Residual effect

- 9.116 In the absence of secondary mitigation the residual effects for exceedance of the Industry standard Lawson Criteria for pedestrian comfort are the same as that reported in the pre-mitigation scenario.

Significance

- 9.117 This effect is considered to be **Not Significant**.

Potential adverse wind conditions for proposed uses: Exceedance of the Industry standard Lawson Criteria for pedestrian distress

9.118 As noted above for pedestrian comfort, wind conditions at ground-level public realm following the implementation of the Proposed Scheme within the existing surrounding context (Scenario 2) are presented in **Figure 9.7** for summer and in **Figure 9.8** for winter. In addition, **Figures 9.9** and **9.10** show the wind conditions anticipated within the Proposed Scheme once completed. These show that there is no wind distress issue at any receptor location within or around the Site.

9.119 The sensitivity of all receptors is considered to range between low and high. The magnitude of change is negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Secondary mitigation or enhancement

9.120 The wind distress results detailed above have indicated that no secondary mitigation is required.

Residual effect

9.121 In the absence of secondary mitigation the residual effects for exceedance of the Industry standard Lawson Criteria for pedestrian distress are that same as that reported in the pre-mitigation scenario.

Significance

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

Limitations and Assumptions

9.123 To ensure transparency within the EIA process, the following limitations and assumptions have been identified.

- The Lawson Criteria for pedestrian comfort focuses on the average pedestrian's reaction to wind but does not factor in other environmental variables such as air temperature and relative humidity which also affect people's perception of comfort.

Summary

9.124 **Table 9.10** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter.

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

Table 9.10: Summary of residual effects

Effect	Receptor	Residual effect	Is the effect significant?
Operational stage			
Potential adverse wind conditions for proposed uses:	Users of thoroughfares, entrances, waiting areas (bus stops) and recreational spaces within and around the Site, where the impact of wind gusts have the potential for the greatest impact on where pedestrian activities are most sensitive to wind and require the most benign conditions (including future residents and site users, pedestrians and cyclists).	Negligible adverse	No
Exceedance of the Industry standard Lawson Criteria for pedestrian comfort	Receptor reference: G1 – G56, T1 – T2		
Exceedance of the Industry standard Lawson Criteria for pedestrian distress	Users of thoroughfares, entrances, waiting areas (bus stops) and recreational spaces within and around the Site, where the impact of wind gusts have the potential for the greatest impact on where pedestrian activities are most sensitive to wind and require the most benign conditions (including future residents and site users, pedestrians and cyclists).	Negligible adverse	No
	Receptor reference: G1 – G56, T1 – T2		

References

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- ² Ministry of Housing, Communities & Local Government (2021). National Design Guidance. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962113/National_design_guide.pdf.
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10. Socio-economics and Human Health

Introduction

- 10.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Scheme in relation to socio-economics and human health.
- 10.2 The Chapter describes the scope of the assessment and assessment methodology and a summary of the baseline information that has informed the assessment.
- 10.3 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered to be significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendices 2.1 and 2.2**) and iterative scoping process where applicable.
- 10.4 This Chapter is intended to be read as part of the wider ES with particular reference to the introductory Chapters of this ES (**Chapters 1 – 5**).
- 10.5 In addition, this Chapter should be read in conjunction with **Chapter 12: Assessment of Cumulative Effects**.

Summary of Consultation

- 10.6 The project team has undertaken an EIA Scoping exercise (described further under the 'Scope of the Assessment' section below), which included consultation with MCC and other stakeholders. No consultation with MCC or other statutory agencies during the preparation of this Chapter beyond that undertaken as part of the EIA Scoping Report (**Appendix 2.1**) and Scoping Opinion (**Appendix 2.2**) has been completed.

Scope of the Assessment

- 10.7 An EIA Scoping Report was submitted to MCC on 9th April 2025, as presented as **Appendix 2.1**. The Scoping Opinion was received on 3rd June 2025 (**Appendix 2.2**). This section provides an update on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Unlikely / Not Significant

- 10.8 The following effects were considered unlikely / not significant as part of the EIA Scoping Report (**Appendix 2.1**) and therefore have not been considered further within the EIA or reported in the ES:
- Additional demand for primary and secondary school places;
 - Crime and community safety;

- Human health-related effects, including;
 - Social and neighbourhood cohesion;
 - Access to active travel and sustainable travel options;
 - Access to healthy food.

10.9 Following the EIA Scoping process, the following additional effect is considered unlikely / not significant and the evidence to support this is outlined below.

Uplift in local household spend, increasing local expenditure, including on retail, household goods, food and drink, local transport, recreation and leisure and other expenditure likely to be spent locally

10.10 Applying the average weekly household expenditure for households regionally to the number of homes proposed (800) generates an estimated annual household expenditure of circa £20 million. This uplift in spending has the potential to support employment within local shops and services, broadly within the retail, leisure and hospitality sectors. The application of a turnover per FTE benchmark for retail, leisure and hospitality sectors to the uplift in annual expenditure indicates that this could support in the order of 115 FTE jobs. This constitutes less than 0.2% of employment in relevant sectors in Manchester. This level of employment could in turn support a Gross Value Added (GVA) uplift of £9m per annum^a, which also constitutes only 0.25% of the GVA of the relevant sectors in Manchester.

10.11 Therefore, the uplift in local household spend, increasing local expenditure, including on retail, household goods, food and drink, local transport, recreation and leisure and other expenditure likely to be spent locally are unlikely to be significant and has not been considered further within the EIA or reported in this ES.

Effects Likely / Significant

10.12 **Table 10.1** outlines the effects considered likely / significant and that are reported within this Chapter.

^a Estimated by applying the average GVA per FTE within Manchester's retail, leisure and hospitality sectors combined.

Table 10.1: Effects likely / significant

Likely significant effect	Receptor(s)	Applicable stage(s)
Temporary employment uplift during the construction stage which will support uplift in GVA	Individuals seeking construction employment and the local economy (through GVA)	Construction
Net change in operational employment (and change in GVA)	Individuals seeking employment and the local economy (through GVA)	Operation
Increase in the number of homes in the assessment area and contribution towards local housing need	Individuals seeking housing	Operation
Additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in population	Healthcare facilities and their patients	Operation
Additional demand for the use of the existing leisure facilities and open / amenity space within close proximity to the Site	Open space and recreational facilities and their users	Operation

Assessment Methodology

Legislative Framework, Policy and Guidance

10.13 There is no legislation relevant to the assessment reported in this Chapter.

10.14 The following policy documents have informed the assessment of effects within this Chapter:

- NPPF¹;
- Places for Everyone Plan (Greater Manchester)²;
- Manchester Core Strategy³;
- The St. Mary's Parsonage Strategic Regeneration Framework⁴; and
- Manchester Housing Strategy 2022 – 2032⁵.

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

- Homes and Communities Agency (HCA) Employment Density Guidance⁶; and

- HCA Additionality Guidance⁷.

Defining the Study Area

- 10.16 The relevant study area / assessment area can vary according to different receptors. However, broadly, socio-economic and human health impacts can be assessed with reference to a spectrum of spatial scales, ranging from the immediate local catchment through to the wider, sub-regional scale. The study area is also influenced by the availability of baseline data which may not always be available down to a local catchment area level.
- 10.17 In the case of the Proposed Scheme, for some receptors the MCC local authority area represents the appropriate geography over which to assess the following impacts:
- Individuals seeking employment and the local economy (through GVA) (for operation) – since employment and economic growth objectives are set at the district level; and
 - Individuals seeking housing – since housing targets are set at the district level.
- 10.18 For receptors relevant to the construction stage (individuals seeking construction employment) it is appropriate to consider a wider geography on the basis that construction labour is more likely to be drawn from a wider geography. In this instance Greater Manchester is the study area used.
- 10.19 For other receptors a smaller study area is required; for instance, with respect to the demand for social and community infrastructure (e.g. healthcare facilities and their patients and open space and recreational facilities and their users) within close proximity to the Proposed Scheme. These are typically based on a distance or journey time from the Proposed Scheme and are considered at a local or neighbourhood level. Given the urban location of the Site and its proximity to a range of amenities and infrastructure, an approximately 1-mile radius is taken to represent the neighbourhood level for the purposes of this assessment.
- 10.20 Wherever possible, the baseline characteristics of the study area have been benchmarked against comparator areas, such as the sub-regional (Greater Manchester), regional (North West) and national level.

Background Studies to Inform the ES

- 10.21 **Table 10.2** summarises all studies / surveys / analysis / evaluations undertaken to inform the assessment presented within this Chapter.

Table 10.2: Studies / surveys / evaluations / analysis undertaken to inform the ES

Study / survey / analysis / evaluation	Overview	Date of completion
High-level desk based socio-economic study	High level review of publicly accessible databases	February 2025

Assessment Process

- 10.22 The baseline assessment has drawn upon a range of published data sources to understand both the social and economic characteristics of the study area including (but not limited to) ONS Annual Population Survey, Business Register and Employment Survey, Annual Business Survey, the 2021 Census and NHS General Practice workforce data. It has established the baseline position with respect to various demographic, economic and social characteristics of the local assessment area and comparator geographies (where possible) at the local / neighbourhood (approximately 1-mile radius of the Site), district (Manchester), sub-regional (Greater Manchester), regional (North West) and national (England) level.
- 10.23 As there are no recognised definitive criteria for the assessment of socio-economic and human health effects, a structured approach to quantifying and assessing the scale and nature of potential effects (relative to baseline conditions) has been used, based on overarching guidance and professional experience. Official guidance and robust benchmarks (for example, HCA guidance on employment density and additionality) has been drawn upon to assess the likely effects where possible. In cases where effects cannot be quantified, a qualitative judgement has been made, drawing on professional experience.

Reporting of the Environmental Effect and Significance Criteria

- 10.24 The assessment of likely significant environmental effects as a result of the Proposed Scheme has taken into account the construction and operational stages. The following sections define the approach adopted within the assessment for the determination of sensitivity, magnitude of impact, the level of effect and significance.

Determining Sensitivity of Receptor

- 10.25 The sensitivity of affected receptors has been considered on a scale of **high**, **medium**, **low** or **negligible**.
- 10.26 **Table 10.3** sets out the scale of sensitivity that has been applied to the receptors identified and considered within the assessment with a broad description for each category. Professional judgement alongside quantitative analysis, where possible, is applied to assess the sensitivity of each receptor.

Table 10.3: Receptor sensitivity

Sensitivity	Definition
High	The receptor / resource has little ability to absorb, adapt or recover from change without fundamentally altering its present condition, or is of international or national importance.
Medium	The receptor / resource has moderate capacity to absorb, adapt or recover from change without significantly altering its present condition, or is of high importance.
Low	The receptor / resource is tolerant of / can adapt and recover from change without detriment to its condition, is of low or local importance.

Sensitivity	Definition
Negligible	Receptor of limited or no importance.

Determining the Magnitude of Impact

- 10.27 The magnitude of impact has been considered as the change experienced from the current baseline conditions at the sensitive receptor and has been considered on a scale of **large, medium, small** or **negligible**.
- 10.28 **Table 10.4** sets out the scale of magnitude framework that has been used in undertaking the assessment. Professional judgment is combined with quantitative analysis where relevant (e.g. percentage deviation from baseline position) to assess where an impact sits within this framework.

Table 10.4: Scale of magnitude of impact

Magnitude	Definition
Large	Total loss or major / substantial alteration to key element / features of the baseline conditions such that the character / composition / attributes will be fundamentally changed or will be highly likely to affect large numbers of people and / or businesses.
Medium	Loss or alteration to one or more key elements / features of the baseline conditions such that the character / composition / attributes of the baseline will be noticeably changed or will be likely to affect a reasonable number of people and / or businesses.
Small	A limited shift away from baseline conditions or will be likely to affect a small number of people / businesses. Change arising from the loss / alteration will be discernible / detectable. The underlying character / composition / attributes of the baseline condition will remain similar.
Negligible	Very little change from baseline conditions. Change barely distinguishable.

Determining the Level of Effect

- 10.29 The level of effect has been informed by the magnitude of impact due to the Proposed Scheme and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and **Table 10.5** has been a tool which has assisted with this process.
- 10.30 Whilst **Table 10.5** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement, where possible.

Table 10.5: Determining the level of effect

		Sensitivity			
		High	Medium	Low	Negligible
Magnitude of impact	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

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

- **Major effect:** Where the Proposed Scheme is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- **Moderate effect:** Where the Proposed Scheme is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
- **Minor effect:** Where the Proposed Scheme is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Proposed Scheme is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change and / or can recover from the change; and
- **Negligible:** Where the Proposed Scheme 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.

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

Determining Significance

10.33 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 where applicable.

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

Baseline Conditions

10.35 As noted in **Chapter 3: Site Context**, Albert Bridge House was occupied by HMRC until late 2022 and it is now vacant.

10.36 The baseline conditions are summarised in **Table 10.6** as they relate to each sensitive receptor outlined in **Table 10.1**.

Table 10.6: Baseline conditions

Receptor	Study area	Baseline
Individuals seeking construction employment and the local economy (through GVA) (construction stage)	Sub-regional level (Greater Manchester)	- The proportion of total employment accounted for by the construction sector in Greater Manchester (4.7%) is marginally lower than regional (5%) and national (4.8%) averages⁸. - Latest labour market indicators suggest that Greater Manchester's unemployment rate is higher (4.9%) than comparator areas (North West, 4.2%, England, 3.9%)⁹. Similarly, the proportion of the working age population that are claimants (i.e. the claimant rate) is higher in Greater Manchester (5.3%) compared with the North West (4.5%) and England (4.3%)¹⁰. Across Greater Manchester, there are currently (February 2025) almost 100,000 people claiming Universal Credit (UC) or Job Seeker's Allowance (JSA). - Productivity in the construction sector is in the order of £93,000 per FTE – this is higher than the regional average (circa £90,000) but lower than the national average (circa £109,000)^{Error! Bookmark not defined.}.
Individuals seeking employment and the local economy (through GVA) (operational stage)	District level (Manchester)	- Manchester's unemployment rate at 9.0% is significantly higher than comparator areas (as detailed in the row above). Similarly, the claimant rate (6.5%) within Manchester is higher than comparator areas and there are currently (February 2025) circa 27,000 people claiming either UC or JSA. - Manchester has a higher share of employment within sectors that broadly

Receptor	Study area	Baseline
		approximate to the office-based service economy (40%) (constituting broad industrial groups J – N: Information and communication; Financial and insurance activities; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities) than reported across Greater Manchester (31%), the North West (26%) and nationally (29%). • Manchester has a broadly similar proportion of employment in retail, leisure and hospitality sectors (defined as Retail, Accommodation & food services and Arts, entertainment, recreation & other services) (20%), which is slightly higher than the Greater Manchester average (19%) and is slightly lower than the national and regional averages (21%). • All sector productivity (as measured by GVA per FTE) is higher in Manchester (circa £98,000) compared to the national average (circa £94,000) and is also above the Greater Manchester (circa £83,000) and North West (circa £84,000) averages¹¹. • Productivity (as measured by GVA per FTE) in 'service activity' sectors (as previously defined above) is higher in Manchester (circa £114,000) than the national (circa £102,000), sub-regional (circa £81,000) and regional (circa £78,000) comparators. • Productivity in retail, leisure and hospitality sectors is higher in Manchester (circa £75,000) than the national (circa £57,000), sub-regional (circa £61,000) and regional (circa £57,000) comparators.
Individuals seeking housing	District level (Manchester)	• Manchester's population is circa 556,000 according to the most recent estimates and has grown by 37% since 2001¹². This represents a considerably faster growth rate in comparison to Greater Manchester (17%), the North West (12%) and the national (17%) averages. Projected population growth in Manchester to the

Receptor	Study area	Baseline
		end of the Local Plan period (2032) is broadly in line (5.6%) with the regional (5.2%) and Greater Manchester (5.9%) projections, but lower than the projected growth rate nationally (6.4%)¹³. • There were 1,630 homes completed in 2023/24 within Manchester¹⁴, constituting over a fifth of the total completions across Greater Manchester in this year. MCC has a 10 year housing target to deliver 36,000 homes by 2032¹⁵. • Having been adopted in 2024, the Places for Everyone (PfE) plan sets a housing delivery target for Manchester of 60,000 new homes to 2039. • The Manchester average house price to earnings ratio (7.3) is higher than the regional average (5.3) and the national average (6.7)¹⁶.
Healthcare facilities and their patients	Local / neighbourhood level (1 mile around the Site)	• Within 1 mile of the Site, there are six GP practices operating across the NHS Salford Clinical Commissioning Group (CCG) and NHS Manchester CCG areas. The six practices are Blackfriars, City Health Centre, Angel Medical Practice, The Doc's Surgery, Cornbrook Medical Centre and Vallance Medical. • The closest practice to the Site is Blackfriars (0.2 miles) which is currently operating at patient to FTE GP ratio of 5,077:1¹⁷. While recognising that different practices have varied operational and staffing requirements to suit the needs of their patient population, this ratio is significantly above a commonly accepted benchmark ratio used in healthcare planning and recommended by the HUDU (1,800 patients per FTE GP). • The City Health Centre, The Doc's Surgery, Angel Medical Practice, Cornbrook Medical Centre and Vallance Medical are all located within 1 mile of the Site. In combination with Blackfriars, there are circa 88,000 registered patients and just

Receptor	Study area	Baseline
		under 32 FTE GPs – operating at a ratio of circa 2,760 patients per GP^b. • This analysis includes the recently completed New Jackson Medical Centre, located at the Elizabeth Tower, and the first GP medical centre to open in the City Centre since 2009. This facility provides additional practice sites for Vallance Medical, Cornbrook Medical Centre and The Docs. The Docs now operates across two sites, both within 1 mile of the Site (Bloom Street and the New Jackson Medical Centre). Vallance Medical operates across two sites: one at New Jackson Street Medical Centre and the other in Ardwick, located more than 1 mile from the Site. Cornbrook Medical Centre operates across three sites: two of which (Booth Street and City Road) are located more than 1 mile from the Site. The data on patient population and GP staffing for each practice is not disaggregated between these sites. • The Greater Manchester Integrated Care Partnership indicates that the New Jackson Medical Centre will serve the needs of residents in this growing part of the city centre as well as expanding capacity and choice. • This analysis also includes the Angel Medical Centre – part of the Clarendon Surgery which operates across two sites: one within the study area and the other outside the study area. As above, the data on patient population and GP staffing is not disaggregated between these two sites. • There are eight dental practices located within 1 mile of the Site. • A 2021 report by Greater Manchester Healthwatch¹⁸ highlighted that the current capacity of NHS dentists is insufficient to meet demand and reported that there has been a 'huge increase' in the number of

^b Rounded figure.

Receptor	Study area	Baseline
		patients struggling to find NHS dentists in the city. According to the NHS Greater Manchester Integrated Care Board (ICB), in 2023 access to dentistry was increasing but has still not returned to pre-pandemic levels¹⁹. In 2023, Greater Manchester ICB introduced a dental access quality scheme, which aims to increase access for new patients by supporting practices to be open to new patients, keep their public availability updated and treat an agreed number of new patients. Greater Manchester ICB's intention is to retain the local scheme.²⁰
Open space and recreational facilities and their users	Local / neighbourhood level (1 mile around the Site)	- Albert Bridge Gardens lies in the northern part of the Site, fronting onto the River Irwell (approximately 0.1ha) subject to a renovation and partial re-landscaping scheme over 10 years ago. - There are a number of leisure facilities, including gyms / health clubs and sport centres, within 1 mile of the Site. - There are a number of open / amenity spaces within 1 mile of the Site, including Parsonage Gardens (0.24ha), Hardman Square (0.1ha), St. John's Gardens (0.5ha), Piccadilly Gardens (0.5ha), Castlefield Urban Heritage Park (0.81ha) and Trinity Park (0.81ha)²¹. - Besides areas formally identified as 'green space', there is a broad range of public amenity spaces within close proximity to the Site that enhance the experience of living and working within the area. To the Site's south, recent developments within St. John's and Spinningfields have brought forward new public spaces such as pocket parks, pedestrianisation projects and public squares (e.g. Lincoln Square). Further south, developments within the First Street and Great Jackson Street regeneration areas feature new public spaces / parks that enhance provision for residents as well as improving the connectivity between public spaces within

Receptor	Study area	Baseline
		this portion of the City Centre. Another notable project located close to the Site is the conversion of the Grade II-listed Castlefield Viaduct to create a 330m 'park in the sky' and Mayfield Park, near Piccadilly Train Station. The current Manchester Blue and Green Infrastructure Strategy (2022)²² is in place to respond to commitments made in the City's Local Plan and Climate Change Action Plan. It demonstrates the Council's commitment to Green Spaces, with plans to spend £12.5 million on a large-scale Capital Park Investment Programme between 2021 – 2025.

Future Baseline

- 10.37 When determining the future baseline, the EIA Regulations focus on the 'natural evolution' of the baseline in the absence of the Proposed Scheme. From a socio-economic and human health perspective, there are limited 'natural' aspects that would influence the change in the baseline and any changes would be as a direct consequence of human intervention.
- 10.38 Without development in this location or re-occupation of the existing buildings, it is not expected that there will be any impact on employment, local economy or healthcare / recreational / leisure facilities from activities within the Site.
- 10.39 Whilst it is likely that wider future changes will occur to the socio-economic and human health receptors presented above in the absence of the Proposed Scheme, the availability of forecasting data limits the extent to which these can be reported.
- 10.40 2018-based Sub National Population Projections²³ indicate that the population of Manchester is forecast to grow to around 579,000 by 2032 (the end of MCC's 10 year Housing Strategy period). This represents a growth rate of approximately 4% based on current levels. This rate of growth is forecast to be in line with the regional growth rate but lower than the Greater Manchester (4.6%) and national (5.4%) growth rates.
- 10.41 Owing to the population forecasts above, there are likely to be changes to the employment and local economy and enhancements to the capacities of healthcare / open space / leisure facilities.

Primary and Tertiary Mitigation

Construction Stage

- 10.42 There is no primary or tertiary mitigation which has been evaluated as part of the construction stage assessment.

Operational Stage

10.43 The following primary mitigation which has been evaluated as part of the operational stage assessment is outlined below:

- The Proposed Scheme has been informed by 'Secured by Design' principles and appropriate measures to enhance community safety and minimise the risk of anti-social behaviour and crime;
- The Proposed Scheme will deliver Sui Generis and E (a, b, c) retail / restaurant / café space in Block B and Block C as well as E (g) office floorspace in Block C;
- The Proposed Scheme will provide ground-level public amenity areas across the Site and upper level private amenity space for future residents within Block A and Block B and upper level amenity space for future employees / visitors in Block C; and
- The Proposed Scheme will deliver a mix of sizes of apartments for a diverse range of accommodation needs in Block A and Block B.

10.44 No tertiary mitigation has been evaluated as part of the operational stage assessment.

Assessment of Effects, Secondary Mitigation and Residual Effects

Construction Stage

Temporary employment uplift during the construction stage which will support uplift in GVA

10.45 The estimated construction value will support a temporary economic uplift during the construction period (estimated at 4 years). Albert Bridge House is currently vacant and therefore there will be no loss of employment during the construction stage.

10.46 The level of investment proposed has the potential to support an estimated circa 1,900 construction job years, equivalent to 475 full time equivalent (FTE) jobs per year for 4 years, based on the average turnover per FTE for the construction sector²⁴.

10.47 The number of construction workers is likely to fluctuate over the duration of the construction programme to reflect the stage of development reached and associated workforce requirements. Although regional and national construction firms will often use their own workers on development schemes, it is common for at least some contractors to be drawn from the immediate local area. Since the study area for this receptor is Greater Manchester, it would be reasonable to expect a large share of the workforce would be drawn from within this geography. As such, a leakage^c allowance of 10% (low)²⁵ has been applied.

10.48 The study area shows higher unemployment and claimant rates relative to comparator areas theoretically suggesting that construction jobs created by the Proposed Scheme may be less likely to displace existing construction activity. However, this needs to be balanced against the fact that not all study area residents looking for work will have

^c 'Leakage' is defined by the HCA Additionality Guide (4th edition) as '*The proportion of outputs that benefit those outside of the intervention's target area or group*'.

the requisite skills to take up construction sector employment. Therefore, on balance, a 'medium' displacement^d allowance of 50% has been applied. The total net direct employment within Greater Manchester is therefore estimated at circa 215 FTEs per annum^e.

- 10.49 These jobs will generate GVA of £19.9 million per annum over the construction period, estimated by applying the average GVA per FTE for the Greater Manchester construction sector (circa £93,000). This constitutes 0.4% of the total construction sector GVA in the study area.
- 10.50 Multiplier effects^f, as a result of spill-over spending through the supply chain (indirect impacts) and through knock-on consumer spending as a result of wages being derived or spent locally (induced impacts), will generate further employment during the construction stage. Applying the HCA Additionality Guidance sub-regional multiplier for regeneration and physical infrastructure projects (1.33) suggests that the estimated total direct, indirect and induced employment impact could be in the order of 285 FTEs^g. This constitutes 0.4% of the total construction sector employment in the study area.
- 10.51 The sensitivity of the receptor (individuals seeking construction employment and the local economy) is considered to be medium. This assessment reflects a balance between the current rate of unemployment (high), construction sector underrepresentation and relatively strong construction sector productivity performance within the study area (see **Table 10.5**). The magnitude of impact is considered to be small. Therefore, there is likely to be a direct, temporary, medium-term, beneficial effect which is considered to be minor.

Secondary mitigation or enhancement

- 10.52 The implementation of a local labour agreement offers the potential to enhance the recruitment of construction labour from within the study area. Any agreement could require the appointed contractor(s) to work with local education and training centres, and industry bodies, to provide apprenticeships and training opportunities.

Residual effect

- 10.53 With the implementation of the secondary mitigation noted above, this will be beneficial to individuals seeking construction employment and to the local economy (as measured through GVA). However, it is considered that this is not sufficient to alter the assessment of magnitude of impact from small to medium. Therefore, the residual effects for the receptor (individuals seeking construction employment and the local economy) are the same as that reported in the pre-mitigation scenario.

^d 'Displacement' is defined by the HCA Additionality Guide (4th edition) as '*The proportion of intervention outputs/outcomes accounted for by reduced outputs/outcomes elsewhere in the target area*'.

^e Figure rounded.

^f 'Multipliers' are defined by the HCA Additionality Guide (4th edition) as '*Further economic activity (jobs, expenditure or income) associated with additional local income and local supplier purchases*'.

^g Figure rounded.

Significance

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

Operational Stage

Net change in operational employment (and change in GVA)

10.55 Albert Bridge House contains 15,024sqm (Net Internal Area (NIA)) of office accommodation. The St. Mary's Parsonage Strategic Regeneration Framework²⁶ highlights that the accommodation '*does not meet the requirements of modern large scale occupiers in an increasingly competitive commercial office market*'. In addition, Albert Bridge House has been vacated and the former occupier has relocated to an alternative site (at Three New Bailey). Therefore, for the purposes of this assessment, it is assumed that no existing jobs will be displaced from the Site and that new, direct employment provided on the Site will be additional.

10.56 **Table 10.7** shows the operational employment calculations.

Table 10.7: Proposed commercial floorspace and employment calculations

Use	NIA	Employment density ²⁷	Jobs (gross FTE)	Notes
E (a, b, c) Retail / restaurant / café	448 ^h	20	22	15 – 20m ² per job range applies for retail, restaurant and café uses specified in the HCA Employment Density Guidance. Upper end of range applied as a worst-case.
E (g) Office	22,778	11.6	1,964	Average of relevant office use sub-sectors, including: Corporate, Professional Services, Public Sector, TMT and Finance & Insurance specified in the HCA Employment Density Guidance.
Total	23,266		1,986	

Note: All figures are rounded

10.57 Through the application of relevant employment densities to the proposed floorspace **Table 10.7** indicates that the Proposed Scheme could provide accommodation for 1,986 gross direct FTE jobs. This assumes that the Proposed Scheme would be 100% occupied. Replacing older, mid-20th century office accommodation with modern, flexible premises is likely to support higher occupancy levels. Whilst full occupancy is

^h The figures have been derived from the **Accommodation Schedule** that accompanies the Application.

unlikely to be achieved immediately upon completion, this represents a feasible upper limit of gross on-site employment generation.

- 10.58 A 'low' leakage allowance is applied at 10% owing to the study area's high representation of employment within office-based service activities. The likelihood of employment generated displacing existing activity and causing greater labour market competition within the study area is reasonably high. For the purposes of this assessment, it is assumed that 50% of activity will be displaced ('medium' displacement). The total net direct employment is therefore estimated at 894 FTEs (comprising 884 FTE jobs relating to the office use and 10 FTE relating to the retail useⁱ).
- 10.59 These jobs will generate GVA of circa £102m per annum, estimated by applying the average GVA per FTE for the relevant sectors in Manchester (circa £114,000 per FTE for office-based service activities and circa £75,000 per FTE for retail)^j. This level of GVA constitutes approximately 0.3% of the GVA for relevant sectors in the study area (MCC).
- 10.60 Multiplier effects as a result of spill-over spending through the supply chain (indirect impacts) and through knock-on consumer spending as a result of wages being derived or spent locally (induced impacts) will generate further employment. Applying the HCA Additionality Guidance composite multiplier for office uses (1.44) and for retailing uses (1.38) suggests that the estimated total direct, indirect and induced employment could be in the order of 1,285 FTEs. This level of employment constitutes approximately 0.7% of the employment for relevant sectors (noted above) in the study area (MCC).
- 10.61 The sensitivity of the receptor (individuals seeking employment and the local economy) is considered to be medium. This assessment reflects a balance between the current rate of unemployment (high), a strong representation of employment within service activity sectors and relatively strong productivity performance within service activity sectors across the study area (see **Table 10.6**). Taking into account both changes in employment and GVA, the magnitude of impact is considered to be small. Therefore, there is likely to be a direct, long-term, permanent, beneficial effect which is considered to be minor.

Secondary mitigation or enhancement

- 10.62 No secondary mitigation or enhancement is required.

ⁱ Note: figures do not sum due to rounding.

^j For office, relevant sectors include Broad Industrial Groups J: Information and communication, K: Financial and insurance activities, M: Professional, scientific and technical activities, and N: Administrative and support service activities. For retail, relevant sectors include Broad Industrial Groups I: Accommodation and food services, R: Arts, entertainment and recreation and 2 digit Standard Industrial Classification 47: Retail trade, except of motor vehicles and motorcycles.

Residual effect

10.63 In the absence of secondary mitigation, the residual effects for the net change in operational employment and supported GVA are the same as that reported in the pre-mitigation scenario.

Significance

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

Increase in the number of homes in the assessment area and contribution towards local housing need

10.65 The provision of 800 new homes by the Proposed Scheme represents 2.2% of the MCC's 10 year housing target of 36,000 homes by 2032²⁸ and 1.3% of Manchester's housing delivery target of 60,000 to 2039 as set out in the adopted Greater Manchester PfE plan. It also accords with the strategic ambitions at both MCC and GMCA levels to boost brownfield site housing delivery and build 80% of new homes on brownfield sites by 2032.

10.66 The sensitivity of the receptor (individuals seeking housing) is considered to be medium given the existing housing need (see **Table 10.6**). The magnitude of impact is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial effect which is considered to be minor.

Secondary mitigation or enhancement

10.67 No secondary mitigation or enhancement is required.

Residual effect

10.68 In the absence of secondary mitigation the residual effects for the increase in the number of homes are the same as that reported in the pre-mitigation scenario.

Significance

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

Additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in population

10.70 The residential mix of the Proposed Scheme is shown in **Table 10.8**. This indicates that the delivery of the Proposed Scheme could increase the resident population by 2,407 residents. This is considered to be an upper estimate of the population yield since this assumes full occupancy. This increase in resident population will increase demand for local healthcare facilities including GP and dental services.

Table 10.8: Residential mix and potential population yield

	1B1P	1B2P	2B3P	2B4P	3B4P	3B5P	Total
Total units	104	161	231	224	7	72	800
Potential population yield	104	322	693	896	32	360	2,407

- 10.71 For the purposes of this assessment, it is assumed that all new residents will not already be registered at local GP and dental practices. Whilst this is unlikely to be the case in practice, this represents a reasonable 'worst-case' scenario for the assessment.
- 10.72 Applying the commonly used benchmark ratio of 1,800 patients per FTE GP, the increase in population would require approximately 1.3 FTE GPs. As outlined above, GP practices within the study area (within 1 mile of the Site) are operating at above this benchmark ratio. The additional population would increase the ratio by a small margin to circa 2,830 patients per FTE GP^k and would therefore increase an existing shortfall in the provision of GPs.
- 10.73 This quantitative approach does not account for the variety of operational and staffing requirements that practices employ to suit the needs of their patient population, meaning that it is feasible that certain practices operate sustainably at levels above and below the benchmark ratio of patients per GP. Additionally, this approach does not account for the likely demographic profile of additional demand generated by the Proposed Scheme. Given its City Centre location and the existing demographic profile of the local area (for example, only 5% of the Deansgate ward's population is over the age of 50²⁹), it is reasonable to assume that the demand for healthcare services from future residents of the Proposed Scheme would be generally lower than for a more elderly patient population.
- 10.74 Due to data availability constraints, it is not possible to quantitatively assess the impact on dental provision. However, given wider capacity challenges both locally and nationally for the provision of dental services, it is reasonable to assume that the increase in resident population could increase an existing shortfall in provision.
- 10.75 The sensitivity of the receptor (healthcare facilities and their patients) is considered to be medium given the existing capacity issues (see **Table 10.6**). Factoring in both quantitative and qualitative considerations, the magnitude of impact is considered to be small. Therefore, applying professional judgement, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Secondary mitigation or enhancement

- 10.76 No secondary mitigation or enhancement is required.

Residual effect

- 10.77 In the absence of secondary mitigation, the residual effects for additional demand for healthcare facilities (GP services and dentists) are the same as that reported in the pre-mitigation scenario.

Significance

- 10.78 This effect is considered to be **Not Significant**.

Additional demand for the use of the existing leisure facilities and open / amenity areas within close proximity to the Site

- 10.79 The majority of the existing public realm within the Site is taken up by a publicly accessible pay-and-display car park, Manchester Bridge Car Park (albeit part of this is

^k Figures rounded.

fenced off). A small area of public realm, Albert Bridge Gardens, lies along the northern edge of the Site and is set down at a lower level along the River Irwell, which does not allow for passive surveillance and encourages antisocial behaviour. There is also the Trinity Bridge open space along the north-eastern boundary, footways along the A34 Bridge Street and St. Mary's Parsonage. The remainder of the Site is not publicly accessible.

- 10.80 The Proposed Scheme will incorporate generous hard and soft landscaping. It will also include extensive public realm at ground level (Level 00) that will improve permeability for pedestrians and improve accessibility to surrounding open and amenity spaces for the general public. Ground floor active frontages will animate the public realm.
- 10.81 Additionally, the Proposed Scheme incorporates communal amenity areas at Levels 00, 01 and 36 (Block A) and at Levels 00, 01 and 48 (Block B), providing access to amenity space for future residents. Amenity spaces connected to office uses in Block C (Levels B1, 00, 01 and 18) will also provide space for use by future employees / visitors.
- 10.82 Whilst it would be reasonable to assume that the local open space and recreational facilities may see an increase in usage as a result of the Proposed Scheme, there is considered to be adequate provision within the Site's immediate surroundings to accommodate this, including Parsonage Gardens, Hardman Square and St. John's Gardens. Similarly, given the Site's City Centre location, there are a range of sports and leisure facilities (including multiple swimming and gym facilities) located within close walking distance of the Site (under 1 mile) which is also considered to be adequate to accommodate any increase in usage resulting from the Proposed Scheme.
- 10.83 Furthermore, the provision of new and improved public realm within the Site at ground level, increased permeability and amenity spaces will generate benefits for local residents / employees both on-site and off-site and contribute to improved health and wellbeing outcomes. Since these benefits will mostly be felt exclusively to future site users rather than the existing resident population this is assessed as being a small magnitude of impact.
- 10.84 The sensitivity of the receptor (open space and recreational facilities and their users) is considered to be low given the existing open space / recreational resources available in the area (see **Table 10.6**). The magnitude of impact is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial effect which is considered to be minor.

Secondary mitigation or enhancement

- 10.85 No secondary mitigation or enhancement is required.
- 10.86 The public realm / landscaping within the Proposed Scheme will be subject to an ongoing landscape management plan (refer to details in **Chapter 7: Townscape and Visual**).

Residual effect

- 10.87 In the absence of secondary mitigation the residual effects for additional demand for the use of the existing leisure facilities and open / amenity areas are the same as that reported in the pre-mitigation scenario.

Significance

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

Limitations and Assumptions

10.89 To ensure transparency within the EIA process, the following limitations and assumptions have been identified.

- The assessment of effects has been undertaken against the most recent, publicly available data; the progress of emerging data was tracked during the preparation of the Chapter throughout to ensure an up-to-date assessment is presented;
- The spatial levels have been assessed where data is available and / or where it is considered most informative based on professional judgement. Where data has not been available at the identified levels, alternative spatial data deemed relevant and appropriate has been used; and
- The assessment has been based on information received from a number of parties including the Applicant and it is assumed that the information is accurate. The assessment assumes that the Proposed Scheme would be delivered as per the plans that accompany the Application.

Summary

10.90 **Table 10.9** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter.

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

Table 10.9: Summary of residual effects

Effect	Receptor	Residual effect	Is the effect significant?
Construction stage			
Temporary employment uplift during the construction stage which will support uplift in GVA	Individuals seeking construction employment and the local economy (through GVA)	Minor beneficial	No
Operational stage			
Net change in operational employment (and change in GVA)	Individuals seeking employment and the local economy (through GVA)	Minor beneficial	No

Effect	Receptor	Residual effect	Is the effect significant?
Increase in the number of homes in the assessment area and contribution towards local housing need	Individuals seeking housing	Minor beneficial	No
Additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in population	Healthcare facilities and their patients	Minor adverse	No
Additional demand for the use of the existing leisure facilities and open / amenity areas within close proximity to the Site	Open space and recreational facilities and their users	Minor beneficial	No

References

- ¹ Ministry of Housing Communities and Local Government and Department for Levelling Up, Housing and Communities. National Planning Policy Framework (2024).
- ² Greater Manchester Combined Authority. Places For Everyone Joint Development Plan (2024)
- ³ Manchester City Council. Core Strategy (2012).
- ⁴ KPF (2020) St. Mary's Parsonage Strategic Regeneration Framework.
- ⁵ Manchester City Council (2022) Manchester Housing Strategy 2022-2032.
- ⁶ Homes and Communities Agency. Employment Density Guidance (Third Edition) (2015).
- ⁷ Homes and Communities Agency. Additionality Guide (Fourth Edition) (2014).
- ⁸ ONS Business Register and Employment Survey (2023).
- ⁹ ONS Annual Population Survey (2024).
- ¹⁰ ONS Claimant Count, February 2025.
- ¹¹ ONS Regional Gross Value Added (balanced) by industry (2022).
- ¹² ONS Population estimates - local authority based by single year of age (2023).
- ¹³ ONS Sub-National Population Projections (2018-based).
- ¹⁴ DLUHC. Table 253: permanent dwellings started and completed, by tenure and district (2024).
- ¹⁵ Manchester City Council (2022) Manchester Housing Strategy 2022-2032.
- ¹⁶ ONS Ratio of median house price to median gross annual workplace-based earning by local authority district (2024).
- ¹⁷ NHS General Practice Workforce, September 2024 (2024).
- ¹⁸ Healthwatch in Greater Manchester NHS Dentistry Supplemental Report (2021).
- ¹⁹ Greater Manchester Integrated Care Board (2023) Dentistry across Greater Manchester.
- ²⁰ National Audit Office (2024) Investigation into the NHS dental recovery plan.
- ²¹ Land, Environment, Economics and Policy Institute, University of Exeter, Outdoor Recreation Valuation Tool Version 2.0 (2018).
- ²² Manchester City Council (2022) Manchester Blue and Green Infrastructure Strategy.
- ²³ ONS Sub-National Population Projections (2018-based).
- ²⁴ Using ONS Business Register and Employment Sector (2022) and ONS Annual Business Survey (2022) data at the regional (North West) level.
- ²⁵ Homes and Communities Agency Additionality Guide (Fourth Edition) (2014).
- ²⁶ KPF (2020) St. Mary's Parsonage Strategic Regeneration Framework.
- ²⁷ Homes and Communities Agency Employment Density Guide (2015).
- ²⁸ Manchester City Council (2022) Manchester Housing Strategy 2022-2032.
- ²⁹ ONS Population Estimates (2021) Small area by single year of age.

11. Climate Change

Introduction

- 11.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Scheme in relation to climate change in terms of the release of greenhouse gas (GHG) emissions during construction and operation.
- 11.2 The Chapter describes the scope of the assessment and assessment methodology and a summary of the baseline information that has informed the assessment.
- 11.3 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered to be significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendices 2.1 and 2.2**) and iterative scoping process where applicable.
- 11.4 This Chapter 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 the Application documents listed in **Table 11.2**.
- 11.5 The terms 'carbon', 'carbon dioxide' (CO₂), 'carbon dioxide equivalent' (CO₂e) and 'greenhouse gases' (GHGs) are used interchangeably reflecting the varied terminology of referenced documents.

Summary of Consultation

- 11.6 The project team has undertaken an EIA Scoping exercise (described further under the 'Scope of the Assessment' section below), which included consultation with MCC and other stakeholders. No consultation with MCC or other statutory agencies during the preparation of this Chapter beyond that undertaken as part of the EIA Scoping Report (**Appendix 2.1**) and Scoping Opinion (**Appendix 2.2**) has been completed.

Scope of the Assessment

- 11.7 An EIA Scoping Report was submitted to MCC on 9th April 2025, as presented as **Appendix 2.1**. The Scoping Opinion was received on 3rd June 2025 (**Appendix 2.2**). This section provides an update on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Unlikely / Not Significant

- 11.8 The following effects were considered unlikely / not significant as part of the EIA Scoping Report (**Appendix 2.1**) and therefore have not been considered further within the EIA or reported in the ES:
- GHG emissions from operational traffic;

- Increased flood risk as a result of climate change;
- Increased summer temperatures as a result of climate change during construction;
- Changes to seasonal temperatures and rainfall as a result of climate change on ground conditions during operation;
- Changes to seasonal temperatures and rainfall as a result of climate change on-site habitats and species; and
- Increased summer temperatures as a result of climate change and risk of overheating within proposed Blocks during operation.

Effects Likely / Significant

- 11.9 Since EIA Scoping, the effect titles have been updated to be 'net GHG effect' to align with the approach adopted for the assessment reported in this Chapter below. This effect incorporates 'upfront embodied carbon of the proposed buildings' and 'in-use energy GHG emissions of the proposed buildings' identified in the EIA Scoping Report (**Appendix 2.1**).
- 11.10 **Table 11.1** outlines the effects considered likely / significant and that are reported within this Chapter.

Table 11.1: Effects likely / significant

Likely significant effect	Receptor(s)	Applicable stage(s)
Net GHG effect	Global climate system	Construction and operation

Assessment Methodology

Legislative Framework, Policy and Guidance

- 11.11 The following legislation and policy have informed the assessment of effects within this Chapter:
- The NPPF¹ explains (paragraph 7) that the purpose of the planning system is to contribute to sustainable development including the provision of new homes, commercial development, and supporting infrastructure in a sustainable manner. It explains (paragraph 8) that new development should support environmental objectives including supporting the transition to a low carbon economy, reducing GHG emissions through factors such as location, orientation and design (paragraph 164);
 - The Climate Change Act 2008² set the basis for the UK's approach to tackling climate change, established the Committee on Climate Change, committed the UK to an 80% reduction in GHG emissions by 2050 compared to 1990 levels, and required the Government to set legally-binding 'carbon budgets' to act as stepping-stones towards this 2050 target. The Act was amended in 2019³ to commit the UK to 'net zero' (i.e. a 100% GHG emissions reduction) by 2050;

- The Places for Everyone ('Pfe') Joint Development Plan 2022 – 2039 (2024)⁴ is the strategic spatial plan setting out the planning policy framework for nine Greater Manchester boroughs including Manchester. Policy JP-S2 Carbon and Energy sets an expectation that new development will, unless it can be demonstrated that it is not practicable or financially viable, be net zero carbon which applies from adoption to regulated operational carbon emissions. From 2025, new development should also calculate and minimise carbon emissions from unregulated operational emissions, and from 2028 also cover emissions in construction;
- The Addendum to Manchester Core Strategy 2024⁵ confirms the replacement of previous Core Strategy policies regarding energy and carbon performance with Places for Everyone Policy JP-S2 Carbon and Energy summarised above;
- MCC's Guide to Development in Manchester Supplementary Planning Document and Guidance⁶ sets out the Council's expectation that new development achieves a BREEAM rating of 'Very Good'; and
- The Manchester Climate Change Framework 2020 – 25: 2022 Update⁷ reports Manchester's aim to be a zero carbon city region by 2038, and a carbon budget of 15 million tCO₂ that has been set for the period 2018 – 2100.

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

- IEMA (now ISEP) EIA Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022)⁸ (the 'IEMA GHG Guidance').

Defining the Study Area

11.13 The Site forms the principal study area for the assessment. However, the Proposed Scheme will result in GHG emissions from a wide range of activities and sources off-site, including the manufacture and transport of materials during construction, the transport of workers, and the transport and treatment of construction waste. Once operational, the Proposed Scheme will also result in GHG emissions from the off-site generation (e.g. at a power station) of consumed electricity. The locations at which these GHG emissions occur cannot be known at this stage but given that GHG emissions have a global effect defining the study area is not critical.

Background Studies to Inform the ES

11.14 **Table 11.2** summarises all studies / surveys / analysis / evaluations undertaken to inform the assessment presented within this Chapter.

Table 11.2: Studies / surveys / evaluations / analysis undertaken to inform the ES

Study / survey / analysis / evaluation	Overview	Date of completion
Sustainability, BREEAM New Construction V6.1, Office, Pre-assessment Report (Hoare Lea)	Sets out the proposed route to BREEAM 'Outstanding' certification for the office space	April 2025

Study / survey / analysis / evaluation	Overview	Date of completion
Sustainability, BREEAM New Construction V6.1, Retail, Pre-assessment Report (Hoare Lea)	Sets out the proposed route to BREEAM 'Excellent' certification for the retail space	April 2025
Sustainability, Stage 2 Report, Energy Strategy (Hoare Lea)	Sets out the proposed energy strategy	April 2025
Sustainability, Stage 2 Report, Whole Life Carbon Assessment (Hoare Lea)	Reports the whole life carbon performance of the proposed office and residential Blocks	May 2025

Assessment Process

- 11.15 The IEMA GHG Guidance advises (p15) that assessments should seek to quantify the difference in whole life GHG emissions between a proposed project and the baseline scenario (for example no development). At the time of writing, however, results of the modelling studies undertaken by Hoare Lea in relation to the embodied (i.e. construction) carbon and operational energy and carbon performance of the Proposed Scheme, as would be required for such a quantification, are not available.
- 11.16 A qualitative approach to the consideration of GHG emissions has therefore been taken, an approach that is recognised by the IEMA GHG Guidance (p22) as acceptable where appropriate data is unavailable, or where mitigation measures are agreed early in the design phase which is also the case for the Proposed Scheme. Indeed the IEMA GHG Guidance further recognises (p24) that the crux of whether a project's GHG emissions are Significant or Not Significant is not whether it emits GHG emissions, nor even the magnitude of GHG emissions alone but whether the project contributes to reducing GHG emissions in line with a trajectory towards net zero by 2050, as informed by the professional judgement of an appropriately qualified practitioner, drawing on available guidance, policy and scientific evidence.
- 11.17 The approach taken to the assessment of GHG emissions from the Proposed Scheme is therefore a qualitative evaluation of the various measures that are proposed to mitigate GHG emissions during its construction and operation (whether primary, secondary or tertiary mitigation) in terms of whether they represent good to best practice for a project of its type, and the likely magnitude, level and significance of residual GHG effect, based on the contribution of these mitigation measures to Manchester and the UK's net zero 2050 trajectory. The applied assessment methodology can be summarised as follows:
- Review legislation and national, Greater Manchester and MCC policy and guidance relating to GHG emissions, energy and climate change mitigation;
 - Establish baseline GHG emissions at the Site, MCC administrative area, North West England and UK geographic levels;

- Establish future baseline GHG emissions in the form of Manchester and UK carbon budgets;
- Evaluate primary and tertiary measures that are proposed to mitigate GHG emissions during the construction and operation of the Proposed Scheme and whether these represent at least good practice for a project of its type;
- Qualitatively evaluate the likely magnitude of residual GHG emissions during construction and operation of the Proposed Scheme and its net GHG effect (i.e. construction and operational GHG emissions in-combination);
- Qualitatively evaluate the contribution (or otherwise) of the Proposed Scheme and its construction and operational stage GHG mitigation measures to Manchester's and the UK's net zero trajectories; and
- Establish whether any secondary mitigation is required to reduce adverse effects or enhance beneficial effects; and
- Conclude on the level and significance of the Proposed Scheme's net GHG effect.

Reporting of the Environmental Effect and Significance Criteria

11.18 The assessment of likely significant environmental effects as a result of the Proposed Scheme has taken into account the construction and operational stages. The following sections define the approach adopted within the assessment for the determination of sensitivity, magnitude of change, the level of effect and significance.

Determining Sensitivity of Receptor

11.19 The sensitivity of affected receptors has been considered on a scale of **high, medium, low or negligible**.

11.20 The receptor for GHG emissions is the global climate system, which is an interactive system comprising five components: the atmosphere, the hydrosphere, the cryosphere, the land surface and the biosphere⁹. The system is highly sensitivity to additional GHG emissions given the severe consequences of global climate change, the cumulative contributions of all GHG emission sources, and the significant climate change effects already being felt¹⁰. On this basis, the global climate system is considered to be a receptor of high sensitivity to additional GHG emissions.

Determining the Magnitude of Change

11.21 The magnitude of the net GHG effect has been considered as the net change in GHG emissions and savings resulting from the construction and operation of the Proposed Scheme relative to baseline emissions at various geographical scales and future UK carbon budgets, and on a scale of **large, medium, small or negligible**.

11.22 There are currently no agreed thresholds for determining the magnitude of change of GHG emissions in EIA. This assessment has therefore applied the percentage change thresholds presented in **Table 11.3** which have been developed by Turley, together with professional judgement.

Table 11.3: Determining the magnitude of change

Magnitude of change	Description of change
Large	A large increase / decrease in GHG emissions (e.g. >10%) relative to baseline local / national emissions and / or future carbon budgets and sector decarbonisation pathways
Medium	A moderate increase / decrease in GHG emissions (e.g. 5% to <10%) relative to baseline local / national emissions and / or future carbon budgets and sector decarbonisation pathways
Small	A small increase / decrease in GHG emissions (e.g. 1% to <5%) relative to baseline local / national emissions and / or future carbon budgets and sector decarbonisation pathways
Negligible	A negligible increase / decrease in GHG emissions (e.g. <1%) relative to baseline local / national emissions and / or future carbon budgets and sector decarbonisation pathways

Determining the Level of Effect

- 11.23 The level of effect has been informed by the magnitude of change due to the Proposed Scheme and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and **Table 11.4** has been a tool which has assisted with this process.
- 11.24 Whilst **Table 11.4** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement, where possible.

Table 11.4: Determining the level of effect

		Sensitivity			
		High	Medium	Low	Negligible
Magnitude of change	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

- 11.25 Drawing from the IEMA GHG Guidance, the following terms have been used to define the level of the net effects identified:

- **Major adverse:** where mitigation measures of the project are not in line with a science-based 1.5°C aligned transition to net zero for that project type, and net GHG emissions equate to a large increase (e.g. $\geq 10\%$) relative to baseline local / national emissions, future carbon budgets or sector decarbonisation pathway. A project with major adverse effects locks in emissions and does not make a meaningful contribution to a net zero trajectory;
- **Moderate adverse:** where mitigation measures of the project are partially in line with a science-based 1.5°C aligned transition to net zero for that project type, and net GHG emissions equate to a medium increase (e.g. 5% to 10%) relative to baseline local / national emissions, future carbon budgets or sector decarbonisation pathway. A project with moderate adverse effects complies with some up-to-date policy and good practice but is locking in some emissions and makes only a partial contribution to a net zero trajectory;
- **Minor adverse:** where mitigation measures of the project are in line with a science-based 1.5°C aligned transition to net zero for that project type, and net GHG emissions equate to a small increase (e.g. $< 5\%$) relative to baseline local / national emissions, future carbon budgets or sector decarbonisation pathway. A project with minor adverse effects complies with up-to-date policy and good practice reduction measures and makes a contribution to a net zero trajectory;
- **Negligible:** mitigation measures of the project are fully in line with a science-based 1.5°C aligned transition to net zero for that project type, with minimal residual emissions (e.g. net zero). A project with negligible effects complies with up-to-date policy and best practice and plays a full part in achieving the rate of net zero transition required by nationally set policy; and
- **Beneficial:** the project's net GHG impacts are below zero and result in a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the baseline. A project with beneficial effects substantially exceeds net zero requirements with a positive climate impact.

11.26 The duration of GHG effect has been considered as either short-term (i.e. 0 to 5 years), medium-term (i.e. 5 to 15 years) or long-term (i.e. more than 15 years). Once released to the atmosphere, carbon dioxide (CO₂), the principal GHG, is long-lived (between 300 and 1,000 years)¹¹, and as a result the GHG effect is considered to be long-term.

Determining Significance

- 11.27 For each effect, a statement has been made as to whether the level of effect is '**Significant**' or '**Not Significant**'. In line with the IEMA GHG Guidance, major adverse, moderate adverse and beneficial effects are considered to be '**Significant**', whilst minor adverse and negligible effects are considered to be '**Not Significant**'.
- 11.28 Significance has only been concluded for residual effects (i.e. following the consideration of any secondary mitigation).

Baseline Conditions

- 11.29 Baseline GHG emissions for the most recent period (2022 calendar year) have been obtained from the UK local authority and regional greenhouse gas emissions statistics¹² for the MCC administrative area, North West England and UK.
- 11.30 Regarding baseline GHG emissions from the Site, this currently comprises the existing Albert Bridge House consisting of three buildings of 3, 6 and 18 storeys in height with associated plant, substation and basement levels. The circa 19,432 sqm Gross Internal Area (GIA) building was occupied until its vacation in late 2022. As a result only limited GHG emissions are considered likely to occur from the Site currently, for example relating to site security. For the purposes of this assessment, baseline GHG emissions from the Site are assumed to be zero.
- 11.31 Baseline GHG emissions for the MCC administrative area, North West England, and the UK are presented in **Table 11.5**, together with assumed baseline GHG emissions relating to the Site.

Table 11.5: Baseline conditions

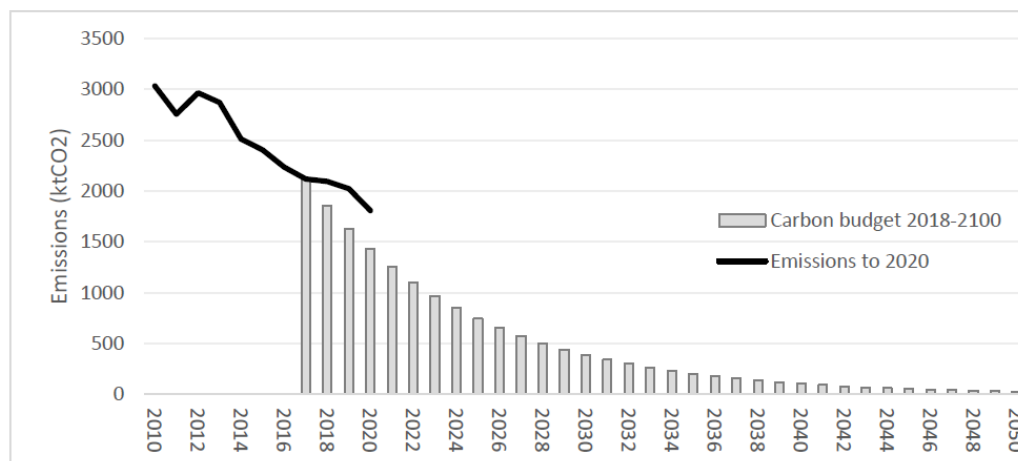
Geographical area	GHG emissions (tonnes of CO ₂ equivalent, tCO ₂ e)
Site	0*
MCC	2,141,357
North West England	4,216,449
UK	375,929,282

* *assumed*

Future Baseline

- 11.32 Carbon budgets are effectively a future baseline of GHG emissions necessary to achieve net zero. **Extract 11.1** presents Manchester's carbon budget (vertical bars) and actual emissions to 2020 (descending line), with the gap between the two indicating that emission reductions are not currently on track to achieve the city's carbon budget.

Extract 11.1: Manchester Carbon Budget and Actual Emissions [Manchester Climate Change Framework 2020 – 25: 2022 Update]



11.33 Regarding UK carbon budgets, it is the duty of the Secretary of State to set for each succeeding period of five years (beginning with the period 2008 to 2012) an amount for the net UK carbon account (the 'carbon budget') and to ensure the net quantity of emissions does not exceed the carbon budget. Therefore, it is reasonable to use UK carbon budgets targets as an indicator of future national baseline GHG emissions, as presented in **Table 11.6**.

Table 11.6: UK carbon budgets

Period	GHG emissions (kilotonnes CO ₂ e)
2023 – 2027	1,950,000
2028 – 2032	1,725,000
2033 – 2037	965,000
2038 onwards	Not yet set

Primary and Tertiary Mitigation

Construction Stage

11.34 The following primary and tertiary mitigation measures that are proposed for the construction of the Proposed Scheme and have been evaluated as part of the construction GHG assessment are summarised below:

- The commercial space is targeting BREEAM 'Outstanding' certification for which a minimum score of 85% is required together with various minimum requirements. A range of BREEAM credits that will mitigate construction-stage GHG emissions are targeted as part of the anticipated score of 89.98%, as follows:
 - **Wst 01 Construction waste management** aims to reduce construction waste by encouraging reuse, recovery and best practice waste

management practices to minimise waste going to landfill. 4 of 6 available credits are targeted in relation to undertaking a pre-demolition audit, achieving construction resource efficiency of between $\leq 7.5\text{m}^3$ and $\leq 6.5\text{m}^3$ waste generation per 100m^2 GIA floorspace, and diverting resources from landfill. A potential additional credit is also identified relating to achieving construction resource efficiency of between $\leq 3.4\text{m}^3$ and $\leq 3.2\text{m}^3$ waste generation per 100m^2 GIA floorspace;

- **Man 02 Lifecycle cost and service life planning** aims to promote the business case for sustainable buildings and to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation. All 4 available credits are targeted in relation to undertaking an elemental Life Cycle Costs (LCC) analysis, undertaking a component-level LCC options appraisal, and reporting the Proposed Scheme's capital costs;
 - **Mat 01 Environmental impacts from construction products.** Building LCA aims to reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building: A minimum 6 of 10 available credits are targeted in relation to undertaking a lifecycle analysis (LCA) and options appraisal for the building's superstructure, substructure, hard landscaping, and buildings services design options, and aligning these LCA and above LCC assessments. 2 potential additional credits are also identified in relation to appraising additional superstructure design options; and
 - **Mat 02 Environmental impacts from construction product Environmental Product Declarations (EPDs)** aims to encourage the availability of robust and comparable data on the impacts of construction products through the provision of EPDs. 1 of 1 available credits are targeted.
- The retail space is targeting BREEAM 'Excellent' certification for which a minimum score of 70% is required together with various minimum requirements. The same BREEAM credits are targeted as those set out above for the office space that will mitigate construction-stage GHG emissions and contribute to the anticipated score of 74.03%. The single exception is that 5 of the 10 available Mat 01 credits are targeted;
 - The Whole Life Carbon Assessment of the proposed office and residential Blocks concludes that total embodied carbon emissions across RICS lifecycle modules¹³ A1 – A5 (i.e. construction products and construction), B1 – B5 (i.e. in use), and C1 – C4 (i.e. end of life), excluding sequestration, are estimated to be $946\text{ kgCO}_2\text{e/m}^2$, significantly below the RIBA business as usual (BAU) target¹⁴ of $1,200\text{ kgCO}_2\text{e/m}^2$ and slightly higher than the target set for the Proposed Scheme by the Applicant of $850\text{ kgCO}_2\text{e/m}^2$. However this result includes a contingency in line with the latest RICS methodology, and when this contingency is excluded the

whole life carbon emissions reduce to 782 kgCO₂e/m², below the project-specific target; and

- Additional targets set by the Applicant that will further mitigate construction stage GHG emissions include preparing a Circular Economy strategy for the development to minimise waste and maximise the value of resources by keeping products and materials in use for as long as possible.

Operational Stage

11.35 The following primary and tertiary mitigation measures that are proposed for the energy strategy of the Proposed Scheme and have been evaluated as part of the operational GHG assessment are summarised below

- A 'fabric first' (or 'energy hierarchy') approach by which building fabric performance including thermal performance (u values), air permeability and thermal bridging is optimised as the first "be lean" stage to reduce energy demand and associated GHG emissions from the outset;
- Efficient building services are proposed as the second "be clean" stage of the energy hierarchy to ensure that energy demand remaining after the first "be lean" stage is met efficiently. While there are no existing or planned district energy networks within a feasible vicinity of the Site that would enable a connection to the Proposed Scheme, the energy system will be designed to enable future connection to an off-site district heating network should such an opportunity presents itself;
- The next "be green" stage of the energy hierarchy comprises the proposed use of Air Source Heat Pumps (ASHP) to provide space heating and hot water for the residential and amenity areas, with hot water to be provided by direct electric water heaters. Solar photovoltaic (PV) array will also be provided on available roofspace;
- A carbon offset payment is proposed for remaining operational energy emissions following the above mitigation measures, as sought by Places for Everyone Policy JP-S2; and
- Additional targets set by the Applicant that will further mitigate operational GHG emissions including achieving NABERS 5* where feasible for the office space to measure and rate the actual operational energy and identify areas for further savings and improvements¹⁵.

Assessment of Effects, Secondary Mitigation and Residual Effects

Net GHG Effect

Construction stage

11.36 Following implementation of the various construction stage mitigation measures set out above, a small magnitude of change (i.e. <5%) in GHG emissions at most is considered likely relative to baseline emissions at the MCC level, reducing to negligible

(i.e. <1%) at the North West England and UK levels, and also in relation to future Manchester and UK carbon budgets.

Operational stage

- 11.37 Following implementation of the various operational stage mitigation measures set out above, a negligible magnitude of change (i.e. <1% increase) in GHG emissions is considered likely relative to baseline emissions at the MCC, North West England and UK levels, and also in relation to future Manchester and UK carbon budgets.

Construction and operational stages in-combination

- 11.38 When considering the net GHG effect of the Proposed Scheme across its construction and operational stages, a small magnitude of change (i.e. <5% increase) in GHG emissions at most is considered likely relative to baseline emissions at the MCC, reducing to negligible at North West England and UK levels and also in relation to future Manchester and UK carbon budgets.

Contribution of the Proposed Scheme to Manchester and UK Net Zero Trajectories

- 11.39 The final stage in determining the level and significance of the Proposed Scheme's net GHG effect requires the evaluation of its contribution to the Manchester and the UK's net zero trajectories.

Construction

- 11.40 The Proposed Scheme and associated mitigation measures meet the relevant construction-stage requirements of Places for Everyone Policy JP-S2 Carbon and Energy, which seeks to deliver a carbon neutral Greater Manchester by 2038. This includes measures to assess and reduce demolition and construction waste, divert waste away from landfill, and apply lifecycle cost and carbon assessment tools to ensure the long-term effects of the Proposed Scheme are considered and reduced. Many of these measures are proposed to contribute to the Applicant's BREEAM certification targets of 'Outstanding' for the office space and 'Excellent' for the retail space, significantly beyond MCC's policy requirement for BREEAM 'Very Good' certification.
- 11.41 The Whole Life Carbon Assessment for the office and residential blocks forecasts emissions well below the RIBA business as usual (BAU) value, and below the Applicant's target for the Proposed Scheme once the RICS contingency factor is removed.
- 11.42 These construction-stage mitigation measures and resulting GHG performance are therefore considered to align with up-to-date policy and good to best practice for a project of its type and hence contribute appropriately to Manchester's and the UK's net zero trajectories.

Operation

- 11.43 An 'all electric' energy strategy is proposed including heating via air source heat pumps, despite low carbon heating not being mandatory for new residential or commercial development in advance of the Future Homes Standard and Future Buildings Standard¹⁶ coming into effect. This approach will ensure that operational energy GHG emissions from the Proposed Scheme reduce year on year as the national electricity grid continues to decarbonise and avoids locking the development into high carbon fuels such as gas.

- 11.44 The Clean Power 2030 Action Plan: A new era of clean electricity¹⁷ sets out the Government target to reduce the carbon intensity of average UK electricity generation from 171 gCO₂e/kWh in 2023 to well below 50g CO₂e/kWh in 2030. UK electricity generation emissions in 2023 were already 78.4% below those in 1990¹⁸, demonstrating the long-term direction in grid decarbonisation.
- 11.45 The carbon offset payment for remaining operational energy emissions, as sought by the Places for Everyone policy from 2025, will ensure negligible net operational GHG emissions, whilst the Applicant's commitment to target NABERS 5* for the office space if feasible would provide additional mitigation regarding actual operational energy use and GHG emissions.
- 11.46 These operational-stage mitigation measures and resulting GHG performance are therefore considered to also align with up-to-date policy and good to best practice for a project of its type and hence contribute appropriately to Manchester's and the UK's net zero trajectories.

Level of net GHG effect

- 11.47 The Manchester Climate Change Framework 2020 – 25: 2022 Update advises that new buildings need to be constructed to high and rising standards of low carbon performance covering both embodied and operational carbon and energy to ensure they do not add to the future cost of decarbonisation. Further Framework recommendations also align with the Proposed Scheme including that new buildings take a whole-life carbon approach, generate a percentage of their energy use on-site from renewable energy technology, and apply carbon offset levies where net zero carbon cannot be achieved on-site.
- 11.48 Combining the construction and operational stage GHG mitigation measures set out above and resulting GHG emissions performance, therefore, it is considered that the Proposed Scheme complies with up-to-date policy and good practice for a project of its type and will make an appropriate contribution to Manchester's and the UK's net zero trajectories.
- 11.49 The sensitivity of the global climate system is high. The net magnitude of change is small. Therefore, there is likely to be a direct, permanent, long-term effect which is considered to be minor adverse.

Secondary mitigation or enhancement

- 11.50 No secondary mitigation or enhancement have been identified.

Residual effect

- 11.51 In the absence of secondary mitigation, the residual effect for net GHG emissions is the same as that for the pre-mitigation scenario.

Significance

- 11.52 This effect is considered to be **Not Significant**.

Limitations and Assumptions

11.53 Other than construction and operational carbon and energy modelling results for the Proposed Scheme not being available at the time of writing, no significant limitations or assumptions have been encountered in relation to establishing baseline conditions, assessing potential effects, mitigation measures, or residual effects and their significance. The qualitative and mitigation-focused approach that has been taken to the consideration of GHG emissions accords with the IEMA GHG Guidance.

Summary

- 11.54 **Table 11.7** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter.
- 11.55 The table only provides a summary of the residual effects identified within the assessment and details of all primary, secondary and tertiary mitigation measures that have been taken into account are set out in detail within the Chapter and summarised within the Environmental Management Plan included within **Volume 3: Environmental Management Plan**.

Table 11.7: Summary of residual effects

Effect	Receptor	Residual effect	Is the effect significant?
Net GHG effect	Global climate system	Minor adverse	No

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- ¹³ RICS (2024). Whole life carbon assessment for the built environment, 2nd edition, Version 3. Available at: https://www.rics.org/content/dam/ricsglobal/documents/standards/Whole_life_carbon_assessment_PS_Sept23.pdf. [Accessed 14/05/2025]
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12. Assessment of Cumulative Effects

Introduction

12.1 Cumulative effects comprise the combined effects of reasonably foreseeable human induced changes within a specific geographical area and over a certain period of time and can be both direct and indirect.

12.2 This Chapter reports the assessment of cumulative effects in line with the EIA Regulations¹, including Regulation 4 (2) which states:

‘The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors—

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC(1) and Directive 2009/147/EC(2);

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape;

(e) the interaction between the factors referred to in sub-paragraphs (a) to (d) [emphasis added]’.

12.3 In addition, Schedule 4, Paragraph 5(e) of the EIA Regulations states the need to consider the following:

‘...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’.

12.4 The PPG² refers to the parts of the EIA Regulations noted above which require cumulative effects to be assessed and reported as part of an ES.

12.5 Therefore, to accord with the EIA Regulations and PPG, in terms of providing an assessment of cumulative effects, the following types of cumulative effects are reported in this Chapter:

- **Effect interactions:** The interactions and combination of the environmental effects of the Proposed Scheme affecting the same receptor, either within the Site or in the surrounding area (i.e. where technical study areas defined in **Technical Chapters 6 – 11** overlap); and
- **In-combination effects:** The interaction and combination of the environmental effects of the Proposed Scheme in conjunction with / alongside environmental

effects from other existing^a or approved projects ('Cumulative Projects'), affecting the same receptor.

Summary of Consultation

- 12.6 An EIA Scoping Report was submitted to MCC on 9th April 2025 (**Appendix 2.1**), which outlined the approach and methodology to be adopted for the assessment of cumulative effects within the EIA process. The approach and methodology used broadly follow that set out in the EIA Scoping Report and this was confirmed as appropriate in the Scoping Opinion received on 3rd June 2025 (**Appendix 2.2**). However, updates have been made following further technical analysis and evaluation (e.g. expansion of aspects accounted into account in the evaluation of effect interactions (see Step 2: Qualitative appraisal below), which are outlined below.
- 12.7 In addition, the EIA Scoping Report set out a list of projects to be considered as part of the assessment of in-combination effects (termed 'Cumulative Projects'). These are agreed as part of the Scoping Opinion (**Appendix 2.2**).
- 12.8 No further consultation with MCC or other statutory agencies has been undertaken / completed during the preparation of this Chapter beyond that undertaken as part of the EIA Scoping process.

Approach and Methodology

Overview

- 12.9 There is no widely accepted current methodology or best practice for the assessment of cumulative effects for projects. It is acknowledged that guidance for Nationally Significant Infrastructure Projects (NSIPs) on in-combination effects has been issued by the Planning Inspectorate³. However, as this is focused on NSIPs, it is not necessarily applicable to all projects / sectors.
- 12.10 Given this, the methodology adopted for the purposes of the assessment reported in this Chapter has drawn from the principles of the Planning Inspectorate guidance, the types of receptors assessed and the nature of the Proposed Scheme alongside professional judgement, based on previous experience and knowledge at Turley. The approach adopted is considered to be proportionate and robust.
- 12.11 The assessment of effect interactions has been qualitative in nature. For the assessment of in-combination effects, a qualitative approach has largely been adopted. However, for some technical topics, data has been available (e.g. where modelling has been undertaken for daylight, sunlight and overshadowing and wind microclimate), facilitating a quantitative analysis of cumulative effects. This is presented below where undertaken.

^a Noting that 'existing' projects may form part of the baseline and where this is the case, these projects have not been considered as part of the assessment of cumulative effects.

- 12.12 In some cases where information has not been available as part of the assessments, assumptions have been made based on professional judgement and these are clearly stated alongside any uncertainty as part of the assessment below.

Effect Interactions

- 12.13 The assessment of effect interactions has followed a two-stage process:

- Stage 1: Identification of potential effect interactions; and
- Stage 2: Qualitative appraisal.

Stage 1: Identification of potential effect interactions

- 12.14 The appraisal of effect interactions has considered the changes from baseline conditions (see **Chapter 2: Approach to EIA**) at 'common sensitive receptors' due to overlapping effects from the Proposed Scheme. 'Common sensitive receptors' for effect interactions are those receptors that have been assessed within two or more of the technical assessments within this ES.

- 12.15 In order to identify where a common sensitive receptor may be present, the receptors assessed through **Technical Chapters 6 – 11** have been categorised into the 'receptor categories' outlined in Regulation 4, Paragraph 2 and expanded on in Schedule 4, Paragraph 4 of the EIA Regulations. These receptor categories are as follows:

- *'Population and human health;*
- *Biodiversity (for example fauna and flora) (with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC);*
- *Land (for example land take);*
- *Soil (for example organic matter, erosion, compact, sealing);*
- *Water (for example hydromorphological changes, quantity and quality);*
- *Air;*
- *Climate (for example greenhouse gas emissions, impacts relevant to adaptation);*
- *Material assets;*
- *Cultural heritage, including architectural and archaeological aspects; and*
- *Landscape'.*

- 12.16 The relevant residual effects for the construction and operational stages have then been collated into matrices (**Tables 12.2 and 12.3**) so that it can be identified where more than one effect occurs on the receptor categories listed above and hence where there was a potential for effect interactions to occur. If no effects for a receptor category were identified, then it has not been included in **Tables 12.2 and 12.3**.

- 12.17 Only residual effects have been considered within the appraisal of effect interactions (i.e. following the implementation of mitigation or enhancement). The threshold for inclusion within the matrices has been set at a 'minor' level of residual effect, as this is considered to address the potential for a number of effects that are not necessarily considered to be 'Significant' in isolation to become 'Significant' when they are considered collectively on a common sensitive receptor.
- 12.18 As noted in **Chapter 2: Approach to EIA**, ascribing a 'negligible' level of effect indicates that the residual effect is unlikely to cause a noticeable change at a receptor and / or the receptor is not considered sensitive to a change. Given this, negligible residual effects when considered collectively are unlikely to give rise to effect interactions and have been discounted. Where effects have been identified as unlikely / not significant, these have also been excluded from further analysis.
- 12.19 Where there was a range in the level of residual effect concluded in **Technical Chapters 6 – 11** (i.e. it has ranged across the receptors assessed), this has been presented in **Tables 12.2 and 12.3**.
- 12.20 Where potential effect interactions have not been identified through the application of the matrices (e.g. no specific common receptor(s) have been identified), then these effects / receptor categories are not taken forward to Step 2 as it is concluded that there are no effect interactions.
- 12.21 Where potential effect interactions have been identified, the relevant effects / receptor categories have been taken forward to Step 2 (see below).

Step 2: Qualitative appraisal

- 12.22 Where the potential for effect interactions was identified, a qualitative appraisal has been undertaken for the identified receptor categories.
- 12.23 To inform the qualitative appraisal, the specific receptor(s) (and their attributes, such as location, etc.) that 'contribute' to a potential effect interaction have been identified. Where no specific common receptor(s) has been identified, then there are no effect interactions and such effects / receptor categories are discounted from further analysis.
- 12.24 Where specific common receptor(s) were identified, the appraisal considered (where applicable):
- Magnitude of change (or impact) of each residual effect, including probability / likelihood of occurrence, complexity, frequency and reversibility;
 - Sensitivity (or value, importance, etc.) of the receptor / receiving environment to change, including adaptability, tolerance to change or recoverability from a change;
 - Duration of the effects individually and collectively utilising the short / medium / long-term criteria (as set out in **Chapter 2: Approach to EIA**) and reversibility of the effect;

- If the effects are temporary and / or permanent;
 - If the effects are experienced / occur concurrently or sequentially; and / or
 - The geographical / spatial extent of the individual effects.
- 12.25 An overall qualitative appraisal has used the information contained within this ES (including **Technical Chapters 6 – 11** and supporting appendices in **Volume 2**, where appropriate) alongside professional judgement.
- 12.26 Where possible, a conclusion on effect interactions has been provided, discussing the likelihood of the effect interactions being '**Significant**' or '**Not Significant**'.
- 12.27 The above is reported in the 'Assessment of Effect Interactions' section of this Chapter.

In-Combination Effects

- 12.28 The assessment of in-combination effects has followed a stepped approach:
- Step 1: Identification of projects for consideration; and
 - Step 2: Assessment of in-combination effects.
- 12.29 'Common sensitive receptors' for in-combination effects are those that are affected / impacted by the Proposed Scheme alongside the identified Cumulative Projects.
- 12.30 It is noted that the scope and methodology for the assessment of other projects within other Application plans / documents may differ from the below due to specific technical requirements, best practice guidance, etc. However, the approach set below is specific to the requirements of the EIA Regulations.

Step 1: Identification of projects for consideration

- 12.31 Step 1 was completed as part of the EIA Scoping Report (**Appendix 2.1**), with a list of Cumulative Projects identified for consideration. The submission of the EIA Scoping Report (i.e. in April 2025) represents the 'cut off' date used to ensure that there has been sufficient time for information about the Cumulative Projects to feed into the modelling and assessment reported in this ES.
- 12.32 A 1km search area was used to identify Cumulative Projects as outlined in the EIA Scoping Report (**Appendix 2.1**) as this acknowledges the maximum extent of receptors and the nature of the effects reported in this ES alongside the highly urbanised nature of the Site and its surrounds.
- 12.33 The list of Cumulative Projects (no. 32) is set out in **Table 12.1** and their locations are shown in **Figure 12.1**.

Table 12.1: Cumulative Projects identified for in-combination assessment

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
1	134287/FO/2022 (MCC) Alberton House	Demolition of existing building and erection of a 19 storey (ground including mezzanine, plus 18) building above basement level to form a mixed use office development with ancillary office amenity including gym for use by office occupiers, (Use Class E(g(i)) flexible commercial floorspace at ground floor and mezzanine (Use Class E (a), (b), (c) and/ or drinking establishment Sui Generis), flexible office floorspace (Use Class E(g(i)) at Levels 1-16, and two floors of wellness centre (Sui Generis) at Levels 17 and 18 including ancillary food and beverage (Use Class E (a), (b), (g(i)) and/ or drinking establishment Sui Generis), cycle parking, landscaping, highways and other associated works.	Adjacent	Approved	Yes
2	135028/FO/2022 (MCC) 27-33 King Street West	Erection of 14 storey building and the refurbishment of the existing buildings at 3 Smithy Lane and Carriage Works on Garden Lane / St Mary's Parsonage with ground floor extension to form office accommodation (Class E) with front of house and commercial floorspace at ground floor (Class E) with associated landscaping and other works following demolition of existing buildings at 27-29 King Street West and 31-33 King Street West and link bridge from Carriage Works on Garden Lane / St Mary's Parsonage to 3 St Mary's Parsonage	20m east	Approved	No
3	21/78277/FUL (SCC) Ralli Quays	Demolition of existing buildings and the erection of a 12-storey office building (Use Class E(g)) and a 16-storey hotel building (Use Class C1) with associated ancillary facilities, servicing, means of access, landscaping and public realm.	130m west	Under construction	No
4	131314/FO/2021 (MCC)	Erection of a 17-storey building comprising office use (Use Class E(g)(i)) and flexible ground floor commercial units (Use Classes E(a), (b), (c) and sui generis 'drinking establishment'), new electricity sub-station, basement cycle parking	290m north-east	Approved	Yes

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
	Speakers House, 39 Deansgate	and rooftop plant enclosure, together with access, servicing and associated works following demolition of the existing building			
5	132088/FO/2021 (MCC) Renaissance Hotel	Erection of a part ground and 26 storey, part ground and 13 storey building to form 300 no. residential apartments (Class C3) and ground floor retail/ leisure floorspace (Class E/ Sui Generis (drinking establishments), together with private amenity space for residents (gym, cinema room and external terraces), new public realm to include riverside walkway and leisure/ food and beverage space (Class E/ Sui Generis (drinking establishments/ drinking establishments with food provision/ hot food takeaways), new landscaping, parking (36 spaces level -1), 300 cycle parking spaces, servicing, supporting infrastructure and associated works.	320m north-east	Under construction	Yes
6	134640/FO/2022 (MCC) Premier House, Renaissance Hotel	Erection of 5-storey building comprising new office space (Use Class E) (floors 1-4) with ground floor reception area and commercial units x 4 (retail/ food and beverage floorspace (Class E/ Sui Generis Drinking Establishment Use), supporting infrastructure and ancillary facilities including changing and shower facilities, refuse store, plant areas, cycle store and other ancillary facilities within lower ground floor, new rooftop amenity space for use of occupiers of floors 1-4, new roof top plant, new public realm and landscaping, new escape stair to car park below and amendments to existing servicing arrangements including new service yard entrance, following demolition of the existing structure with the exception of structural elements that tie in with the Renaissance Hotel	320m north-east	Under construction	No
7	PA/2024/1691 (SCC) New Bailey, Plot A1	Erection of an 18-storey apartment building comprising 153 no. 1 to 3 bed residential apartments with associated amenity space and landscaping works.	360m south-west	Awaiting decision	No

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
8	138273/FO/2023 (MCC) Colloco	Demolition of the existing buildings and structures and the erection of a 16-storey office building (Use Class E(g)), with flexible ground floor uses (Use Class E), rooftop amenity space and works to facilitate public realm improvements.	370m south-west	Approved	No
9	21/78212/OUTEIA (SCC) Middlewood Locks, Plots A, B, C, D and p	Outline planning application, including access to, but not within the site, for mixed use development comprising a maximum of 93,000sqm office floorspace (Use Class E(g)), a maximum of 1,000 dwellings (Use Class C3), a maximum of 23,706sqm of commercial floorspace (Use Classes C1, E (a, b, e and f) and drinking establishments (Sui Generis)), multi-storey car park, infrastructure and other associated works.	380m west	Under construction	No
10	21/74465/HYBEIA (SCC) Greengate	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; 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.	500m north	Under construction	Yes
11	23/82208/FULEIA (SCC) Enclave, Gorton Street	Demolition of existing lean-to building adjacent to railway arches 6-8 and erection of a 42-storey building, including basement and rooftop plant levels, comprising 568 co-living units with associated amenity, management and back of house space, plant rooms, accessible roof terraces, with ancillary facilities	525m north	Approved	Yes

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
		comprising amenity space, sporting facilities and waste storage in arches 1-3, and associated landscaping and engineering works			
12	23/81487/FUL (SCC) Trinity 2	Demolition of all existing on-site buildings and structures and the development of a Class C3 residential building comprising 250 dwellings, including Class E ground floor unit, together with associated landscaping, highways and other works.	600m north	Under construction	No
13	PA/2024/1152 (SCC) Oldfield Basin	Full planning application for the construction of a residential development (Class C3) comprising 90 dwellings across an apartment block and townhouses with associated access, parking and public realm.	680m west	Approved	No
14	139715/FO/2024 (MCC) Viadux Phase 2	Full Planning Permission for the phased construction of 2 buildings to include: a tall mixed-use building to include residential (Use Class C3) and hotel with associated bars and restaurant (Use Class C1) (Plot 2a), a second tall building with residential accommodation (Use Class C3) with flexible commercial units (Use Class E) (Plot 2b), landscaping and public realm, servicing, drainage and access arrangements, highways alterations, and other associated works.	700m south	Awaiting decision	Yes
15	133172/FO/2022 (MCC) Albion Street	Erection of a 26 storey residential tower for 72 apartments (Use Class C3) with associated car parking, cycle parking, servicing, and associated landscaping works.	730m south-east	Awaiting decision	Yes
16	125804/FO/2019 (MCC) 325-327 Deansgate	Demolition of existing buildings and structures on-site and erection of 22-storey building comprising apart-hotel (Use Class C1) with flexible commercial uses at ground floor and within existing viaduct arches (Use Class A1, A2, A3, A4, D2), access, landscaping and other associated works.	710m south	Under construction	Yes

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
17	137792/FO/2023 (MCC) New Victoria Phase 2	Erection of a 12 storey building (inc. (Ground + Mezzanine) + 11 storeys, basement and roof terrace and plant), comprising office accommodation, a ground floor retail unit, roof terraces, plant, cycle parking, hard and soft landscaping, access and servicing and other associated works.	790m north	Approved	No
18	132429/FO/2021 (MCC) Trinity Islands	Erection of four towers ranging from 39, 48, 55 and 60 storeys to form a mixed use development comprising 1950 residential apartments (Use Class C3a) and commercial uses (Use Classes E and Sui Generis: Drinking Establishment) (361 sqm) within the podium level together with public realm, car and cycle parking, access arrangements and highway works, and other associated works.	820m south-west	Under construction	Yes
19	PA/2024/0962 (SCC) Regent Retail Park	Outline Planning Application (with all matters reserved except for Access to, but not within, the Application Site) for a Mixed-Use Development Comprising a maximum of 10,000 sq. m new Commercial and Community Floorspace (Use Classes E and F.2) and up to a maximum of 3,300 new Residential Dwellings (Use Class C3) and a new Public Park and associated infrastructure and works.	840m south-west	Awaiting decision	Yes
20	23/82372/FUL (SCC) Upper Wharf Street	Application for Full Planning Permission for the erection of two residential buildings (11 and 7 storeys) providing 204 residential apartments (Use Class C3), together with a linear park, secure cycle storage, bin storage, car parking, landscaping and associated works.	850m south-west	Awaiting decision	No
21	137794/FO/2023 (MCC) 12 & 14-16 Piccadilly	Erection of a 34 storey building (land at no. 14-16 Piccadilly) and conversion of adjacent building (no.12 Piccadilly) (basement to fourth floor) to create an aparthotel, including a ground floor cafe (Use Class E (b)), first floor exhibition hall (Use Class F1) and a rooftop bar and restaurant (Use Class E (b)), and associated works.	850m west	Approved	Yes

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
22	137941/FO/2023 (MCC) Former Boddingtons Brewery	Erection of two buildings part 29, 25 and 20 storeys and 12 storeys to create a mixed-use development comprising 505 residential apartments (Use Class C3a) with commercial uses (Use Class E) provided at the ground floor level, together with public realm including courtyard pocket, cycle parking, accessible parking spaces, access arrangements, and other associated works.	850m north	Approved	Yes
23	128002/FO/2020 (MCC) One City Road	Full Planning Application for demolition of existing structures on site, erection of one 11-storey plus basement office building (Use Class E) and one 14-storey plus basement office building with ground floor commercial unit (Use Class E), landscaping, highways works, and associated works.	870m south-east	Under construction	No
24	22/80643/FULEIA (SCC) Springfield Lane	Full planning permission for the redevelopment of the site for a mixed use development comprising 183 residential units (Use Class C3) within three linked blocks (3-18 storeys) and supporting commercial floorspace (Use Class E), with the associated demolition of all the existing buildings; access; parking; and landscaping.	870m north	Approved	Yes
25	124544/FO/2019 (MCC) 43 – 47 Piccadilly	Erection of 12/13 storey building above basement following demolition of rear of 47 Piccadilly (Back Piccadilly warehouse façade and 3 storey Town House to Piccadilly retained) to create a new 129 bed hotel (Use Class C1) and associated restaurant (Use Class A3 and A4 (1st floor)) above a retail unit (flexible within Use Classes A1 (Shop), A2 (Financial) and Professional Services, A3 (Café and Restaurant), A4 (Drinking Establishment, A5 (Hot Food Take Away, B1 (Office) and D2 (Assembly and Leisure) to the ground floor and basement, ancillary facilities within ground floor and the refurbishment of the 3 storey townhouse at 47 Piccadilly.	900m north-east	Awaiting decision	No

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
26	138805/FO/2023 (MCC) Hotspur Press	Partial demolition of the former Hotspur Press Complex (Medlock Mill) and redevelopment of the site to provide Purpose Built Student Accommodation (Sui Generis Use Class) above ground floor commercial or community uses (Use Classes F(e), F2(a)(b) and E(b)), within a part 4/5-storey and part 37-storey building plus roof parapet level above basement level, associated ancillary internal and external amenity space, public realm (including a new public square), hard and soft landscaping and associated highway works.	920m south-east	Awaiting decision	Yes
27	129273/FO/2021 (MCC) Park Place	Demolition of existing structures and the construction of two residential buildings of 56 storeys (plus basement and roof plant) (use class C3), with ground floor commercial uses (use class E), car parking, cycle provision, landscaping, access and other associated works	~1km south	Approved	Yes
28	132199/FO/2021 (MCC) Plot F, Great Jackson Street	Full planning permission for the demolition of existing structures and the erection of two 51-storey residential buildings (Use Class C3) across two phases, including residential amenity facilities, basement car parking, landscaping and public realm, servicing and access arrangements, highways alterations, and associated works.	~1km south	Approved	Yes
29	137227/FO/2023 (MCC) Plot D, Great Jackson Street	Full planning permission for the demolition of existing structures and the erection of one residential building to a height of 71 storeys comprising 642 homes (Use Class C3) with food and drink uses (Use Class E) and / or drinking establishment (Sui Generis); and one office building (Use Class E); with basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, highways alterations and associated works.	~1km south	Awaiting decision	Yes
30	137226/FO/2023 (MCC)	Full planning permission for the demolition of existing structures and the phased construction of four residential buildings (two at 47 storeys and two at 51	~1km south	Awaiting decision	Yes

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
	Plot C and Plot E, Great Jackson Street	storeys) to provide 1,746 homes (Use Class C3), flexible commercial, leisure, food and drink uses (all Use Class E) and / or drinking establishment (Sui Generis), basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, highways alterations and associated works.			
31	29251/FO/2021 (MCC) Kendals and Fraser redevelopment	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 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.	~30m east	Approved	Yes
32	135565/FO/2022 (MCC) Great Northern Warehouse Redevelopment	Demolition of the central atrium, car park ramps, and other elements, retention of casino (Sui Generis), bowling alley and existing food and drink unit (Use Class E) alongside to allow refurbishment, restoration and re-use of the Great Northern Car Park to provide office accommodation, retail and/or food and drink uses (Use Class E) and ancillary areas; and Refurbishment, restoration, partial demolition and erection of a 3-storey extension to Deansgate Terrace (northern section) and Goods Yard Entrance to form office, retail and / or food and drink use (Use Class E) and drinking establishments / hot food takeaway (Sui Generis), with associated public realm works comprising the reconfiguration of Great	360m south-east	Awaiting decision	Yes

ID	Planning reference	Description	Distance and direction from the Site	Status	Was EIA undertaken?
		Northern Square and the introduction of additional public realm with associated hard and soft landscaping, highways works, access and servicing facilities, rooftop plant and other associated works; and Partial demolition of the existing leisure box to erect three residential buildings (ground plus 16, 27 and 34 storeys) to provide 746 residential apartments (Use Class C3), reconfiguration of existing car parking together with the creation of office, retail and / or food and drink use (Use Class E), or Sui Generis (drinking establishments / hot food takeaway) at ground floor and level 3, hard and soft landscaping, together with highways works, access and servicing facilities, rooftop plant and other associated works; and, External alterations and restoration of Deansgate Terrace (southern section) to provide office, retail or food and drink use (Use Class E) or Sui Generis (drinking establishments / hot food takeaway / live music venue), along with delivery of associated public realm, highways works, plant, and associated works			

Step 2: Assessment of in-combination effects

- 12.34 While a number of Cumulative Projects have been identified, it does not necessarily follow that there will be in-combination effects with the Proposed Scheme as there needs to be an effect on the same receptor at the same time.
- 12.35 To identify this, the assessment stage has included a review of the available environmental information that supported the applications for development consent for the Cumulative Projects. This was to understand the exact receptors identified and therefore any commonality with the receptors assessed in **Technical Chapters 6 – 11** alongside the extent of any in-combination effects. Where suitable information has not been available, either professional judgement has been used to determine the cumulative effects or limitations set out (see 'Assumptions and Limitations' below).
- 12.36 Consideration has been given to whether there is a concurrent construction or operational stage with the Proposed Scheme from the available documentation. Where there are Cumulative Projects under construction and where considered appropriate, it has been assumed that there is the potential for in-combination effects during construction and operation as a 'worst-case'.
- 12.37 The assessment of in-combination effects is specific to the technical topics due to the nature of the technical assessments, the data utilised, etc. However, the evaluation undertaken at the receptor level has considered the following for all technical topics:
- Magnitude of change identified in the relevant technical assessments;
 - Sensitivity (or value, importance, etc.) of the receptor / receiving environment to change; and / or
 - Duration and reversibility of effect.
- 12.38 Through a combination of the evaluation and mitigation presented in this ES and the available documentation for the Cumulative Projects, conclusions have been drawn as to the likelihood for in-combination effects, their nature (i.e. adverse or beneficial), whether they are greater, the same or lesser than the effects identified at the project-level (i.e. as reported in this ES) and whether they are likely to be '**Significant**' or '**Not Significant**'. Where relevant, consideration has also been given to how the Proposed Scheme contributes to the overall in-combination effects.
- 12.39 The assessment of in-combination effects has considered each relevant Cumulative Project with the Proposed Scheme and / or the collective in-combination effect arising from all Cumulative Projects with the Proposed Scheme, where appropriate.
- 12.40 The in-combination assessment has focussed on the technical topics / effects 'scoped in' (i.e. reported in **Technical Chapters 6 – 11**). However, climate change has not been considered as a technical topic within the in-combination effect assessment. This is on the basis that all global cumulative greenhouse gas emission (GHG) sources are relevant to climate change and are taken into account in defining the receptor (i.e. the global climate system) as being of 'high' sensitivity to further emissions (as set out in **Chapter 11: Climate Change**). For this reason, and as recognised by IEMA guidance⁴

and in light of relevant case law, the effects of GHG emissions from specific Cumulative Projects should not be individually assessed as there is no basis for selecting any particular (or more than one) Cumulative Project that has GHG emissions for assessment over any other. Furthermore, the contextualisation of GHG emissions / reductions incorporates the cumulative contributions of other GHG sources, whether in terms of baseline emissions or future carbon budgets. Where the contextualisation is geographically related, then the consideration of cumulative contributions to that context is within that boundary.

- 12.41 There may be effects at the project-level (both for the Proposed Scheme and Cumulative Projects), which require due consideration and management but these effects have not needed to be reconsidered as part of the assessment of in-combination effects.
- 12.42 The above is reported in the 'Assessment of In-Combination Effects' section of this Chapter.

Assessment of Effect Interactions

- 12.43 The matrices for the construction and operational stages are provided in **Tables 12.2** and **12.3**, respectively. These are followed by a qualitative appraisal of the potential effect interactions related to the receptor categories identified.
- 12.44 Where the residual effects are '**Significant**' in **Technical Chapters 6 – 11**, these are shown in **Tables 12.2** and **12.3** in **bold**.

Construction Stage

- 12.45 The matrix for the construction stage is provided in **Table 12.2**.

Table 12.2: Effect interactions matrix for the construction stage

Technical chapter / Effect		Receptor categories	
		Population and human health	Climate
Chapter 6: Noise and Vibration			
Noise emissions from general construction activity		Minor adverse / Moderate adverse	
Vibration transfer from general construction activity		Minor adverse / Moderate adverse	
Chapter 7: Townscape and Visual – n/a ^b			
Chapter 8: Daylight, Sunlight and Overshadowing ^c			
Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme	Daylight ^d	Minor adverse / Moderate adverse	
	Sunlight ^e	Minor adverse / Moderate adverse	

^b All construction stage effects were ‘scoped out’ for townscape and visual.

^c For **Chapter 8: Daylight, Sunlight and Overshadowing** the assessment of operational stage effects is considered to be representative of ‘worst-case’ construction stage effects.

^d Residual effects on The Century Buildings and Bradshaw House were concluded to be negligible adverse and therefore these receptors are not included in **Table 12.2**.

^e Residual effects on The Century Buildings, 2 – 8 Left Bank Apartments, 29 New Bailey Street and Bradshaw House were concluded to be negligible adverse and therefore these receptors are not included in **Table 12.2**.

Technical chapter / Effect	Receptor categories	
	Population and human health	Climate
Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme ^f	Moderate adverse	
Chapter 9: Wind Microclimate – n/a ^g		
Chapter 10: Socio-economics and Human Health		
Temporary employment uplift during the construction stage which will support uplift in GVA	Minor beneficial	
Chapter 11: Climate Change ^h		
Net GHG effect		Minor adverse
Potential effect interaction?	Yes	No

^f Residual effects on Public Amenity Space, 32 Quay Street, Motor Square and River Irwell were concluded to be negligible adverse and therefore these receptors are not included in **Table 12.2**.

^g For **Chapter 9: Wind Microclimate** the assessment of operational stage effects is considered to be representative of 'worst-case' construction stage effects. All residual effects were concluded to be negligible adverse and therefore these effects are not included in **Table 12.2**.

^h The 'net' effect across both the construction and operational stages is reported in **Table 12.2**.

12.46 From **Table 12.2**, potential effect interactions were identified for the population and human health receptor category. The appraisal of these potential effect interactions during the construction stage is presented below.

Population and human health

12.47 The residual effects relevant to population and human health that are considered within **Table 12.2** comprise:

- Noise emissions from general construction activity and vibration transfer from general construction activity (**Chapter 6: Noise and Vibration**);
- Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme and alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme (**Chapter 8: Daylight, Sunlight and Overshadowing**); and
- Temporary employment uplift during the construction stage which will support uplift in GVA (**Chapter 10: Socio-economics and Human Health**).

12.48 Given the urban context of the Site and surrounds (i.e. a concentrated number of receptors in a confined geographical area), the environmental effects considered and the broadness of the receptors that fall within the population and human health receptor category, an effect interaction during construction is not uncommon or unexpected.

12.49 During construction, the common sensitive receptors comprise existing residents, employees / visitors and individuals / groups travelling through the Site and surrounding area (e.g. pedestrians). It is also noted that there are receptors that indirectly relate to the population and human health receptor category, including individuals seeking employment and the local economy (considered in **Chapter 10: Socio-economics and Human Health**).

12.50 These receptors are broadly either 'static' (i.e. residents) or 'transient' (i.e. travelling through the Site and surrounding area), although the two groups are not mutually exclusive as specific receptors can switch between each category (i.e. a resident leaving their dwelling and travelling through the area).

12.51 The effects identified in **Table 12.2** are a mixture of beneficial and adverse in nature. However, they do not 'cancel' each other out as they are experienced differently.

12.52 The effects related to noise, vibration, daylight, sunlight and overshadowing are adverse in nature. The associated residual levels of effect as reported in **Table 12.2** range from minor adverse (Not Significant) to moderate adverse (Significant), depending on the effect and receptor considered.

12.53 There is the possibility for static receptors to experience a combination of effects related to construction noise and vibration alongside the loss of daylight and sunlight amenity concurrently. For example, at specific residential properties on the northern side of the River Irwell (e.g. 32 Quay Street). There is also the potential for static receptors to become transient receptors and experience these effect interactions and

then overshadowing effects sequentially (and vice versa). For instance, an employee leaving their place of work on the northern side of the River Irwell (e.g. Riverside, Worsley Street) and using / traversing Clermont-Ferrand Square.

- 12.54 Interacting with the above adverse effects is the beneficial effect relating to the generation of employment and uplift in GVA, which is minor beneficial (Not Significant). When considering the receptors (i.e. individuals seeking construction employment and the local economy), given their geographical / spatial extent it is unlikely that those receptors experiencing the adverse effects set out above would experience a noticeable effect interaction with this beneficial effect.
- 12.55 Overall, there is an effect interaction on both static and transient receptors, though these are generally limited to those receptors in proximity to the Site. The occurrence of effect interactions will be linked to the phasing of construction, the types of activities, the exposure of the receptors to the works (due to proximity, etc.) as well as timing of the effects (i.e. whether the effects occur mostly in earlier construction or later on) and the sensitivity of receptors. Effect interactions during construction are likely to occur temporarily, albeit this can be on a short or medium-term basis depending on the effect / receptor. Due to the number of effects and how they may interact, effect interactions are likely to be greater than the effects individually. Given the levels and significance of effects that relate to population and human health receptor category, the effect interactions are perceived to be **Significant** (as some of the contributing effects are **Significant** individually).

Operational Stage

- 12.56 The matrix for the operational stage is provided in **Table 12.3**.

Table 12.3: Effect interactions matrix for the operational stage

Technical chapter / Effect	Receptor categories		
	Population and human health	Climate	Landscape
Chapter 6: Noise and Vibrationⁱ			
Existing road and commercial premises noise on the Proposed Scheme	Minor adverse		
Chapter 7: Townscape and Visual			
Impact on open space within the Site			Moderate beneficial
Impact on townscape character within the ZTV and in close proximity to the Site			Minor to moderate adverse
Impact on existing building height within the Site			Minor to moderate beneficial
Impact on the residential visual receptors within the ZTV in close proximity to the Site	Minor adverse		
Impact on receptors using public open space within the ZTV in close proximity to the Site	Minor adverse		
Impact on receptors using the strategic recreation route within the ZTV in close proximity to the Site	Minor adverse		
Chapter 8: Daylight, Sunlight and Overshadowing			

ⁱ Introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues) was concluded to be negligible adverse and therefore this effect is not included in **Table 12.3**.

Technical chapter / Effect		Receptor categories		
		Population and human health	Climate	Landscape
Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme	Daylight ^j	Minor adverse / Moderate adverse		
	Sunlight ^k	Minor adverse / Moderate adverse		
Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme ^l		Moderate adverse		
Chapter 9: Wind Microclimate – n/a^m				
Chapter 10: Socio-economics and Human Health				
Net change in operational employment (and change in GVA)		Minor beneficial		
Increase in the number of homes in the assessment area and contribution towards local housing need		Minor beneficial		
Additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in population		Minor adverse		
Additional demand for the use of the existing leisure facilities and open / amenity areas within close proximity to the Site		Minor beneficial		

^j Residual effects on The Century Buildings and Bradshaw House were concluded to be negligible adverse and therefore these receptors are not included in **Table 12.3**.

^k Residual effects on The Century Buildings, 2 – 8 Left Bank Apartments, 29 New Bailey Street and Bradshaw House were concluded to be negligible adverse and therefore these receptors are not included in **Table 12.3**.

^l Residual effects on Public Amenity Space, 32 Quay Street, Motor Square and River Irwell were concluded to be negligible adverse and therefore these receptors are not included in **Table 12.3**.

^m All residual effects were concluded to be negligible adverse and therefore these effects are not included in **Table 12.3**.

Technical chapter / Effect	Receptor categories		
	Population and human health	Climate	Landscape
Chapter 11: Climate Changeⁿ			
Net GHG effect		Minor adverse	
Effect Interaction	Yes	No	Yes

ⁿ The 'net' effect across both the construction and operational stages is reported in **Table 12.3**.

12.57 From **Table 12.3**, potential effect interactions were identified for the population and human health and landscape receptor categories. The appraisal of these potential effect interactions during the operational stage is presented below.

Population and human health

12.58 The residual effects relevant to population and human health that are considered within **Table 12.3** comprise:

- Existing road and commercial premises noise on the Proposed Scheme (**Chapter 6: Noise and Vibration**);
- Impact on the residential visual receptors within the ZTV in close proximity to the Site, impact on receptors using public open space within the ZTV in close proximity to the Site and impact on receptors using the strategic recreation route within the ZTV in close proximity to the Site (**Chapter 7: Townscape and Visual**);
- Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme and alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme (**Chapter 8: Daylight, Sunlight and Overshadowing**); and
- Net change in operational employment (and change in GVA), increase in the number of homes in the assessment area and contribution towards local housing need, additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in population and additional demand for the use of the existing leisure facilities and open / amenity areas within close proximity to the Site (**Chapter 10: Socio-economics and Human Health**).

12.59 Given the urban context of the Site and surrounds (i.e. a concentrated number of receptors in a confined geographical area), the environmental effects considered and the broadness of the receptors that fall within the population and human health receptor category, an effect interaction during operation is not uncommon or unexpected.

12.60 The receptors associated with the above operational stage effects identified as contributing to a potential effect interaction comprise residents, employees / visitors and individuals / groups travelling through the Site and surrounding area (e.g. pedestrians). It is also noted that there are receptors that indirectly relate to the population and human health receptor category, including individuals seeking employment and the local economy, individuals seeking housing and healthcare facilities and their patients as well as open space and recreational facilities and their users (considered in **Chapter 10: Socio-economics and Human Health**).

12.61 These receptors are broadly either 'static' or 'transient', although the two groups are not mutually exclusive as specific receptors can fall within each category (as noted above under the construction stage assessment).

- 12.62 The effects identified in **Table 12.3** are a mixture of beneficial and adverse in nature. As noted above for construction, they do not 'cancel' each other out as they are experienced differently.
- 12.63 A number of the effects related to noise and vibration, townscape and visual and daylight, sunlight and overshadowing as well as socio-economics and human health are adverse in nature. The associated residual levels of effect, as reported in **Table 12.3**, range from minor adverse (Not Significant) to moderate adverse (Significant), depending on the effect and receptor considered.
- 12.64 There is the possibility for static receptors to experience a combination of these effects concurrently. For example, changes in views and reductions in daylight / sunlight amenity at specific residential properties to the north-east of the Site (e.g. on St. Mary's Parsonage). There is also the potential for static receptors to become transient receptors and experience further effect interactions concurrently / sequentially. For instance, a resident leaving their dwelling (where they experience a reduction in daylight / sunlight amenity) and then traversing Clermont-Ferrand Square (where they experience a change in visual amenity and overshadowing).
- 12.65 Receptors may also experience adverse effects related to increased demand on healthcare facilities (associated with capacity), albeit given the geographical / spatial extent of this effect, it is unlikely to be experienced at the same time as the above adverse effects.
- 12.66 Interacting with the above effects are the beneficial effects related to employment generation, provision of new housing and additional demand for the use of existing leisure facilities and open / amenity areas. However, given the geographical / spatial extent of these receptors, it is considered unlikely that those receptors experiencing the adverse effects set out above would experience a noticeable effect interaction with these beneficial effects.
- 12.67 Overall, there are effect interactions on both static and transient receptors, though these are generally limited to those receptors in proximity to the Site. The occurrence of effect interactions will be linked to the types of effects occurring, the proximity of the receptors and their sensitivity. Effect interactions during the operational stage are considered to be long-term and permanent. Due to the number of effects and how they may interact, effect interactions are likely to be greater than the effects individually on a limited number of receptors local to the Site. Given the level and significance of the effects that contribute to an effect interaction on population and human health receptors, the effect interactions are perceived to be **Significant** (as the contributing effects are Significant individually).

Landscape

- 12.68 The residual effects relevant to landscape that are considered within **Table 12.3** comprise:
- Impact on open space within the Site, impact on townscape character within the ZTV and in close proximity to the Site and impact on existing building height within the Site (**Chapter 7: Townscape and Visual**).

- 12.69 Following analysis of the above effects, the common sensitive receptor is townscape character (and components that contribute to this).
- 12.70 The effects identified in **Table 12.3** are a mixture of adverse (Not Significant) and beneficial (Not Significant). The effects would be experienced concurrently and with a relatively constrained geographical area, local to the Site. The contributing effects are also long-term and permanent.
- 12.71 Whilst there is an effect interaction, the Proposed Scheme forms part of the heavily urbanised and changing and evolving context within Manchester City Centre, with buildings of height in proximity and all effects are localised to the Site. Therefore, the effect interaction experienced is considered to be no greater than the effects considered individually and perceived to be **Not Significant**.

Assessment of In-Combination Effects

- 12.72 The assessment of in-combination effects has been set out in order of **Technical Chapters 6 – 11** below.

Noise and Vibration

- 12.73 Cumulative Projects 1, 2, 3, 8 and 31 have been considered further with respect to noise and vibration. Other Cumulative Projects are considered too distant to combine with the effects identified for the Proposed Scheme on the receptors assessed in **Chapter 6: Noise and Vibration**.
- 12.74 The evaluation of construction stage in-combination effects is presented in **Table 12.4**.

Table 12.4: Construction stage in-combination effects for noise and vibration

Cumulative Project ref.	Identified common receptor(s)	In-combination assessment
1	The Century Buildings, Cardinal House, 3 St. Mary's Parsonage and 28 St. Mary's Parsonage (sensitive receptors R7, R8, R10 and R11 of Chapter 6: Noise and Vibration)	Available documents for Cumulative Project 1 considered construction noise and vibration at four common sensitive receptors, The Century Buildings, Cardinal House, 3 St. Mary's Parsonage and 28 St. Mary's Parsonage (sensitive receptors R7, R8, R10 and R11 of Chapter 6: Noise and Vibration). Construction noise was not quantitatively assessed for Cumulative Project 1 within the submitted planning documentation, with a commitment made to implement a CEMP to be agreed with MCC. By inference a construction noise working limit of approximately 75dB $L_{Aeq,T}$ could be applied to Cumulative Project 1 at the common sensitive receptors. The Proposed Scheme has been assessed to potentially contribute similar orders of magnitude for the demolition through to superstructure and cladding stages (subject to future phasing). Therefore,

Cumulative Project ref.	Identified common receptor(s)	In-combination assessment
		there could be a significant effect if the construction stages of both Cumulative Project 1 and the Proposed Scheme occur concurrently at the identified common sensitive receptors. CEMPs will be implemented for both to manage the construction programmes and worst-case working locations to minimise overlap and reduce the likelihood of a significant effect. Therefore, the in-combination effect at these receptors is likely to be the same as that identified at the project-level (up to moderate adverse in Chapter 6: Noise and Vibration) and Not Significant / Significant (depending on the receptor). A similar situation could develop for construction vibration between Cumulative Project 1 and the Proposed Scheme, if the vibration intense phases of foundations (e.g. driven piling) occur concurrently. CEMPs will be implemented for both to manage the construction programmes and the worst-case working locations to minimise overlap and reduce the likelihood of a significant effect. Therefore, the in-combination effect is likely to be the same as that identified at the project-level (up to moderate adverse in Chapter 6: Noise and Vibration) and is Significant / Not Significant (depending on the receptor).
2	The Century Buildings, Alberton House, 3 St. Mary's Parsonage and 19A Back Bridge Street (sensitive receptors R7, R9, R10 and R12 of Chapter 6: Noise and Vibration)	Construction noise and vibration was not assessed for Cumulative Project 2 within the submitted planning documentation. However, there is the potential for cumulative construction noise and vibration considering the proximity of the common sensitive receptors. Cumulative Project 2 is a similar worst-case distance from the common sensitive receptors of The Century Buildings, Alberton House, 3 St. Mary's Parsonage and 19A Back Bridge Street (sensitive receptors R7, R9, R10 and R12 of Chapter 6: Noise and Vibration) and is likely to require a similar construction approach. Therefore, for the purpose of assessment, predicted noise levels could increase by approximately 3dB with vibration levels primarily due to piling unlikely to increase but likely to be sustained for longer periods at the worst-case locations. If worst-case working periods overlap between the Proposed Scheme and Cumulative Project 2, there is potential for a significant construction noise effect at

Cumulative Project ref.	Identified common receptor(s)	In-combination assessment
		The Century Buildings and Alberton House (sensitive receptors R7 and R9 of Chapter 6: Noise and Vibration). CEMPs will be implemented for both to manage the construction programmes and the worst-case working locations to minimise overlap and reduce the likelihood of a significant effect. However, the in-combination effect is likely to be greater than that identified at the project-level (up to moderate adverse in Chapter 6: Noise and Vibration) and is Significant. Similarly there could be a significant construction vibration effect at The Century Buildings, Alberton House, 3 St. Mary's Parsonage and 19A Back Bridge Street (sensitive receptors R7, R9, R10 and R12 of Chapter 6: Noise and Vibration) from piling. CEMPs will be implemented for both to manage the construction programmes and the worst-case working locations to minimise overlap and reduce the likelihood of a significant effect. However, the in-combination effect is likely to be greater than that identified at the project-level (up to moderate adverse in Chapter 6: Noise and Vibration) and is Significant / Not Significant (depending on the receptor).
3	Left Bank (Homes) (sensitive receptor R19 of the Proposed Scheme, see Chapter 6: Noise and Vibration)	There is the potential for cumulative construction noise and vibration considering the proximity of Cumulative Project 3 to Left Bank (Homes) (sensitive receptor R19 of the Proposed Scheme, see Chapter 6: Noise and Vibration). For the effect of cumulative construction noise, the nearest common sensitive receptor would be the northern facing façade of Left Bank (Homes). Assuming a noise limit of 75dB $L_{Aeq,T}$ would apply for Cumulative Project 3 during construction works and the contribution from the Proposed Scheme (considering distance and additional screening and angle of view attenuation) is estimated to be in the order of 65dB $L_{Aeq,T}$ if they occur concurrently. Therefore, the in-combination effect is likely to be the same as that identified at the project-level (moderate adverse in Chapter 6: Noise and Vibration) and is Significant. The construction vibration assessment for the Proposed Scheme (refer to Chapter 6: Noise and Vibration) predicted a potential worst-case

Cumulative Project ref.	Identified common receptor(s)	In-combination assessment
		contribution at Left Bank (Homes) of $1-3\text{mm.s}^{-1}$ should driven piling techniques be adopted. The piling technique for the Proposed Scheme is not confirmed at this stage and is also unknown for Cumulative Project 3. Based on the worst-case analysis involving driven piling techniques, the effect is potentially significant if piling works of Cumulative Project 3 and the Proposed Scheme overlap. Overall, the in-combination effect is likely to be the same as that identified at the project-level (moderate adverse in Chapter 6: Noise and Vibration) and is Significant.
8	Left Bank (Homes) (sensitive receptor R19 of the Proposed Scheme, see Chapter 6: Noise and Vibration)	Construction noise was not assessed for Cumulative Project 8 within the submitted planning documentation. However, there is the potential for cumulative construction noise considering the proximity of the common sensitive receptors. Cumulative Project 8 is nearer to Left Bank (sensitive receptor R19 of Chapter 6: Noise and Vibration) than the Proposed Scheme. The Left Bank development stretches the majority of the length between the A34 Bridge Street and New Quay Street. The Proposed Scheme has been assessed at the nearest location, the eastern end of the Left Bank development. Cumulative Project 8 is closer to the western end, which is much further away. Therefore, the in-combination effect is likely to be the same as that identified at the project-level (moderate adverse in Chapter 6: Noise and Vibration) and is Significant. Similarly, construction vibration was not assessed for Cumulative Project 8 within the submitted planning documentation. However, considering it in the same manner as construction noise, it is unlikely that cumulative construction vibration will be greater. Therefore, the in-combination effect is likely to be the same as that identified at the project-level (moderate adverse in Chapter 6: Noise and Vibration) and is Significant.
31	The Century Buildings (sensitive receptor R7 of Chapter 6: Noise and Vibration)	Cumulative Project 31 considered the effects of construction noise and vibration at a common sensitive receptor The Century Buildings (sensitive receptor R7 of Chapter 6: Noise and Vibration). Construction noise was not quantitatively assessed for Cumulative Project 31, with a commitment made to implementing a CEMP. By inference a construction

Cumulative Project ref.	Identified common receptor(s)	In-combination assessment
		noise working limit of approximately 75dB $L_{Aeq,T}$ could be applied to Cumulative Project 31 construction working at The Century Buildings. The Proposed Scheme has been assessed at this stage to potentially contribute in the order of 64dB $L_{Aeq,T}$ during the foundations stage (accounting for distance, screening and angle of view attenuation). Therefore, there is not expected to be an increase above the working limit for construction noise from the Proposed Scheme. Therefore, the in-combination effect is likely to be the same as that identified at the project-level (moderate adverse in Chapter 6: Noise and Vibration) and is Significant. Construction vibration was not quantitatively assessed for Cumulative Project 31, although, an estimated 1-2mm.s⁻¹ PPV was stated to potentially apply as a worst-case at The Century Buildings if obstacles in the ground were encountered during the piling phase. At all other times, the vibration was stated as likely to be lower. The construction vibration assessment for the Proposed Scheme (Chapter 6: Noise and Vibration) predicted a potential worst-case contribution at The Century Buildings of 1-3mm.s⁻¹ should driven piling techniques be adopted. The piling technique for the Proposed Scheme is not confirmed at this stage. Based on the worst-case analysis, the effect is potentially significant if the piling works of Cumulative Project 31 and the Proposed Scheme overlap. Overall, the in-combination effect is likely to be the same as that identified at the project-level (minor adverse in Chapter 6: Noise and Vibration) and is Not Significant.

12.75 During the operational stage, the following effects were assessed:

- Introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues); and
- Existing road and commercial premises noise on the Proposed Scheme.

12.76 Given these effects focus on specific impacts arising from the operational Proposed Scheme on late night entertainment premises or the receptors comprise future occupants of the Proposed Scheme, there are no in-combination effects.

Townscape and Visual

- 12.77 Cumulative Projects 1 – 32 have been considered further with respect to townscape and visual. However, through further analysis it was determined that cumulative effects were likely to occur only with Cumulative Projects 1, 2, 5 and 31. There are no common receptors with Cumulative Projects 3, 4, 6 – 30 and 32 (and some are deep in construction so already feature in the baseline conditions).
- 12.78 Construction stage effects were ‘scoped out’ for townscape and visual. Therefore, the focus is on the operational stage only. The evaluation of operational stage in-combination effects is presented in **Table 12.5**.

Table 12.5: Operational stage in-combination effects for townscape and visual

Cumulative Project ref.	Identified common receptor (s)	In-combination assessment
1	Townscape character and visual receptors (e.g. local residents, users of public open space and the strategic recreational route)	Cumulative Project 1 is located immediately adjacent to the north-east of the Site. There is anticipated to be intervisibility between elements of Cumulative Project 1 and the Site. Similarly, there are anticipated to be a number of locations where the Site is visible in the same view with this development. The cumulative effects of the developments in-combination are anticipated to be direct, permanent, long-term and are considered to be moderate adverse and Not Significant . The maximum level of effect does not exceed the effects identified at the project-level (up to moderate adverse and Not Significant).
2	Townscape character and visual receptors (e.g. local residents, users of public open space and the strategic recreational route)	Cumulative Project 2 is located in close proximity to the north-east of the Site. There is anticipated to be intervisibility between elements of Cumulative Project 2 and the Site. Similarly, there are anticipated to be a number of locations where the Site is visible in the same view with this development. The cumulative effects of the developments in-combination are anticipated to be direct, permanent, long-term and are considered to be moderate adverse and Not Significant . The maximum level of effect does not exceed the effects identified at the project-level (up to moderate adverse and Not Significant).
5	Townscape character and visual receptors (e.g. local residents, users	There is anticipated to be a degree of intervisibility between elements of Cumulative Project 5 and the Site. Similarly, there are anticipated to be locations where the Site is visible in the same view with this development. The cumulative effects of the

Cumulative Project ref.	Identified common receptor (s)	In-combination assessment
	of public open space and the strategic recreational route)	developments in-combination are anticipated to be direct, permanent, long-term and are considered to be negligible to minor adverse on a small number of receptors and Not Significant . The maximum level of effect does not exceed the effects identified at the project-level (up to moderate adverse and Not Significant).
31	Townscape character and visual receptors (e.g. local residents, users of public open space and the strategic recreational route)	There is anticipated to be a degree of intervisibility between elements of Cumulative Project 31 and the Site. Similarly, there are anticipated to be locations where the Site is visible in the same view with this development. The cumulative effects of the developments in-combination are anticipated to be direct, permanent, long-term and are considered to be negligible to minor adverse on a small number of receptors and Not Significant . The maximum level of effect does not exceed the effects identified at the project-level (up to moderate adverse and Not Significant).
1, 2, 5 and 31	Townscape character and visual receptors (e.g. local residents, users of public open space and the strategic recreational route)	Cumulatively it is assumed that Cumulative Projects 1, 2, 5 and 31 will seek to retain a large percentage of any existing vegetation structure and townscape features within and on the boundaries of each site. However, it is anticipated that the loss of trees and vegetation due to construction will be fully mitigated with the implementation of new tree and shrub planting throughout the sites. Mitigation proposed as part of each development is anticipated to maintain key elements of the townscape character at the Site level. There is considered to be a degree of intervisibility between and locations where the Site is visible in the same view with Cumulative Projects 1, 2, 5 and 31. The cumulative effects of the developments in-combination are anticipated to be direct, permanent, long-term and are considered to range from negligible and minor to moderate adverse and Not Significant . The maximum level of effect does not exceed the effects identified at the project-level (up to moderate adverse and Not Significant).

Daylight, Sunlight and Overshadowing

12.79 Cumulative Projects 1 and 2 have been considered with respect to daylight, sunlight and overshadowing. Other Cumulative Projects are considered too distant to combine with the effects identified for the Proposed Scheme on the receptors assessed in **Chapter 8: Daylight, Sunlight and Overshadowing**.

12.80 The in-combination assessment considers the combined effect of these Cumulative Projects and the Proposed Scheme on existing sensitive receptors. However, where adverse effects have been identified in-combination these may result from the Cumulative Projects and the Proposed Scheme to varying degrees (i.e. only a proportion of the in-combination adverse effects identified may be relevant to / derived from the Proposed Scheme). Given this, two assessment scenarios have been considered, as follows:

- Existing baseline conditions vs Proposed Scheme and relevant Cumulative Projects (the 'Cumulative (In-combination) Scenario'), which assumes that the pertinent neighbouring consented developments are built at the same time as the Proposed Scheme (i.e. the worst-case in terms of combined effects); and
- Existing baseline + relevant Cumulative Projects vs Proposed Scheme (the 'Future Consented Baseline Scenario'), which assumes the implementation of the pertinent neighbouring consented developments occurs ahead of the Proposed Scheme. This scenario thereby evaluates how the Proposed Scheme would impact the neighbouring sensitive properties with the Cumulative Projects in place.

12.81 It is considered that the operational assessment will be a suitable 'worst-case' approximation of construction stage effects as reported in **Chapter 8: Daylight, Sunlight and Overshadowing**. Therefore, only the operational stage has been modelled in the scenarios outlined above. The evaluation of these operational stage scenarios is presented below under each relevant effect.

Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme (Cumulative (In-combination) Scenario)

12.82 The Cumulative (In-combination) Scenario daylight and sunlight analysis is presented in **Table 12.6**. Further details are provided in **Appendix 12.1**.

Table 12.6: Cumulative (In-combination) Scenario daylight and sunlight effects

Cumulative Project ref.	Identified common receptor (s)	Cumulative (In-combination) Scenario assessment
1 and 2	The Century Buildings	The results show full BRE compliance for VSC and NSL and therefore the overall magnitude of change to daylight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible.

Cumulative Project ref.	Identified common receptor (s)	Cumulative (In-combination) Scenario assessment
		This is the same as that identified at the project-level (negligible adverse). The results show 100% compliance for sunlight and therefore the overall magnitude of change with respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse).
2 – 8 Left Bank Apartments		The results show 100% VSC compliance, a high NSL compliance and a singular medium adverse impact and therefore the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse). The results show a 100% compliance for sunlight and therefore the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse).
29 New Bailey Street		The results show a reasonable and good retained VSC values and a 100% NSL compliance and therefore the overall magnitude of change to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse). The results show a 100% compliance for sunlight and therefore the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse).

Cumulative Project ref.	Identified common receptor (s)	Cumulative (In-combination) Scenario assessment
	32 Quay Street	The results show a reasonable retained VSC values and a high NSL compliance and therefore the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium to large. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as that identified at the project-level (moderate adverse). The results show an overall high sunlight compliance and given that the majority of impacted rooms are less sensitive bedrooms and the reasonable retained APSH, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as that identified at the project-level (moderate adverse).
	The Bridge, 40 Dearmans Place	Based on the results, the overall magnitude of change with respect to daylight amenity within this neighbouring building is considered to be medium to large. It should be noted that the majority of the windows and rooms in this property sit beneath overhanging balconies which limit the ingress of daylight and sunlight. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be major. This is greater than that identified at the project-level (moderate adverse). Based on the results, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium. However, property experiences an overall high compliance for sunlight and the majority of the impacted rooms are believed to be bedrooms. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as that identified at the project-level (moderate adverse).
	Bradshaw House	The results show a small adverse magnitude VSC impact and 100% NSL compliance and therefore the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct,

Cumulative Project ref.	Identified common receptor (s)	Cumulative (In-combination) Scenario assessment
		permanent, long-term adverse in-combination effect which is considered to be minor. This is greater than that identified at the project-level (negligible adverse). The results show 100% compliance for annual sunlight and a high overall compliance for winter sunlight and therefore the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is greater than that identified at the project-level (negligible adverse).
	Alcock House	The results show a single small adverse magnitude VSC impact and 100% NSL compliance and therefore the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse). The results show 100% compliance for annual sunlight and a high overall compliance for winter sunlight and therefore the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse).

- 12.83 In summary, with regard to the daylight alterations to existing sensitive receptors, it is considered that the in-combination effects range from: negligible for one of seven receptors (The Century Buildings), minor adverse for four of the seven receptors (2 – 8 Left Bank Apartments, 29 New Bailey Street, Bradshaw House and Alcock House), moderate for one of the seven receptors (32 Quay Street) and major for the remaining receptor (The Bridge, 40 Dearmans Place).
- 12.84 With regard to the sunlight alterations to existing sensitive receptors, it is considered that the in-combination effects range from: negligible for three of seven receptors (The Century Buildings, 2 – 8 Left Bank Apartments and 29 New Bailey Street), minor for two of the seven receptors (Bradshaw House and Alcock House) and moderate for the remaining two receptors (32 Quay Street and The Bridge, 40 Dearmans Place).

12.85 Nevertheless, many of the windows and rooms tested would satisfy the default values in the 2022 BRE Guidelines despite the Site's contextual constraints. Furthermore, the majority of the daylight effects that fall beyond the recommended BRE criteria broadly fall into one or more of the following categories:

- They would retain VSC levels of circa 20% and above (which is considered 'good' for an urban context);
- They sit beneath overhanging balconies;
- The NSL criteria for the associated room are satisfied; or
- The windows / rooms serve bedrooms, which the BRE recognise as less important than other uses.

12.86 For sunlight, the vast majority of rooms meet the BRE Guidelines (95% in winter and 92% annually).

12.87 Given the above:

- The in-combination effect is considered to be **Not Significant** for The Century Buildings, 2 – 8 Left Bank Apartments, 29 New Bailey Street, Bradshaw House and Alcock House. This is the same as identified at the project-level; and
- The in-combination effect is considered to be **Significant** for 32 Quay Street and The Bridge, 40 Dearmans Place. This is the same as identified at the project-level.

Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme (Cumulative (In-combination) Scenario)

12.88 The Cumulative (In-combination) Scenario SHOG analysis and transient overshadowing analysis are summarised in **Table 12.7**. Further details are provided in **Appendix 12.1**.

Table 12.7: Cumulative (In-combination) Scenario overshadowing assessment

Cumulative Project ref.	Identified common receptor (s)	Cumulative (In-combination) Scenario assessment
1 and 2	Public Amenity Space, 32 Quay Street, Motor Square and River Irwell	The results of the SHOG analysis show that these sensitive receptors will meet the 2022 BRE Guidelines. The overshadowing transient analysis showed the same results as that identified for the Proposed Scheme in isolation. The magnitude of change is considered to be negligible for these amenity spaces. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse).

Cumulative Project ref.	Identified common receptor (s)	Cumulative (In-combination) Scenario assessment
	Clermont-Ferrand Square	The results of the SHOG analysis show that this receptor will not meet the 2022 BRE Guidelines, with an alteration in excess of 40% (large adverse magnitude). However, this area's location makes it very sensitive to changes in massing on the Site. The sunlight levels significantly increase in summer (when there is a higher expectation for sunlight and outside spaces are most likely to be fully utilised) with the area receiving over two hours of direct sunlight to 100% of its area on 21 st June. The overshadowing transient analysis showed the same results as that identified for the Proposed Scheme in isolation. The magnitude of change is considered to be large, although this receptor will experience good levels of sunlight in the summer months when outdoor space is likely to be fully utilised. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as identified at the project-level (negligible adverse).

12.89 Given the above:

- The in-combination effect is considered to be **Not Significant** for Public Amenity Space, 32 Quay Street (A1), Public Amenity Space, Motor Square (A3) and the River Irwell (A4). This is the same as identified at the project-level; and
- The in-combination effect is considered to be **Significant** for Clermont-Ferrand Square (A2). This is the same as identified at the project-level.

Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme (Future Consented Baseline Scenario)

12.90 The Future Consented Baseline Scenario daylight and sunlight analysis is presented in **Table 12.8**. Further details are provided in **Appendix 12.1**.

Table 12.8: Future Consented Baseline Scenario daylight and sunlight effects

Cumulative Project ref.	Identified common receptor (s)	Future Consented Baseline Scenario assessment
1 and 2	The Century Buildings	The results show the full BRE compliance for VSC and NSL and therefore the overall magnitude of change to daylight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-

Cumulative Project ref.	Identified common receptor (s)	Future Consented Baseline Scenario assessment
		combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse). The results show 100% compliance for sunlight and therefore the overall magnitude of change with respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse).
2 – 8 Left Bank Apartments		The results show 100% VSC compliance, a high NSL compliance and a singular medium adverse impact and therefore the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse). The results show a 100% compliance for sunlight and therefore the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse).
29 New Bailey Street		The results show a reasonable and good retained VSC values and a 100% NSL compliance and therefore the overall magnitude of change to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse). The results show 100% compliance for sunlight and therefore the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible. This is the same as that identified at the project-level (negligible adverse).

Cumulative Project ref.	Identified common receptor (s)	Future Consented Baseline Scenario assessment
	32 Quay Street	Given the reasonable retained VSC values and the high NSL compliance, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium to large. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as that identified at the project-level (moderate adverse). Given the overall high sunlight compliance and that fact that the majority of impacted rooms are less sensitive bedrooms, and the reasonable retained APSH, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as that identified at the project-level (moderate adverse).
	The Bridge, 40 Dearmans Place	Based on the results, the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be medium to large. It should be noted that the majority of the windows and rooms in this property sit beneath overhanging balconies which limit the ingress of daylight and sunlight. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as that identified at the project-level (moderate adverse). Given the results, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be medium. However, property experiences an overall high compliance for sunlight and the majority of the impacted rooms are believed to be bedrooms. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be moderate. This is the same as that identified at the project-level (moderate adverse).
	Bradshaw House	The results show full BRE compliance for VSC and NSL and therefore the overall magnitude of change to daylight amenity within this neighbouring building is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be negligible.

Cumulative Project ref.	Identified common receptor (s)	Future Consented Baseline Scenario assessment
		This is the same as that identified at the project-level (negligible adverse). Given the above 100% compliance for annual sunlight and the high overall compliance for winter sunlight, the overall magnitude of change in respect to sunlight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is greater than that identified at the project-level (negligible adverse).
	Alcock House	Given the single small adverse magnitude VSC impact and 100% NSL compliance, the overall magnitude of change in respect to daylight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse). Given the above 100% compliance for annual sunlight and the high overall compliance for winter sunlight, the overall magnitude of change with respect to sunlight amenity within this neighbouring building is considered to be small. Therefore, there is likely to be a direct, permanent, long-term adverse in-combination effect which is considered to be minor. This is the same as that identified at the project-level (minor adverse).

- 12.91 With regard to the daylight alterations to existing sensitive receptors, it is considered that the in-combination effects range from: negligible for two of the seven receptors (The Century Buildings and Bradshaw House), minor adverse for three of the seven receptors (2 – 8 Left Bank Apartments, 29 New Bailey Street and Alcock House) and moderate for two of seven receptors (32 Quay Street and The Bridge, 40 Dearmans Place).
- 12.92 With regard to the sunlight alterations to existing sensitive receptors, it is considered that the in-combination effects range from: negligible for three of the seven receptors (The Century Buildings, 2-8 Left Bank Apartments and 29 New Bailey Street), minor for two of the seven receptors (Bradshaw House and Alcock House) and moderate for two of the seven receptors (32 Quay Street and The Bridge, 40 Dearmans Place).
- 12.93 Nevertheless, many of the windows and rooms tested would satisfy the default values in the 2022 BRE Guidelines despite the Site's contextual constraints. Furthermore, the

majority of the daylight effects that fall beyond the recommended BRE criteria broadly fall into one or more of the following categories:

- They would retain VSC levels of circa 20% and above (which is considered 'good' for an urban context);
- They sit beneath overhanging balconies;
- The NSL criteria for the associated room are satisfied; or
- The windows / rooms serve bedrooms, which the BRE recognise as less important than other uses.

12.94 For sunlight, the vast majority of rooms meet the BRE Guidelines (92% annually and 95% in winter).

12.95 Given the above:

- The in-combination effect in the Future Consented Baseline Scenario is considered to be **Not Significant** for The Century Buildings, 2 – 8 Left Bank Apartments, 29 New Bailey Street, Bradshaw House and Alcock House. This is the same as identified at the project-level; and
- The in-combination effect in the Future Consented Baseline Scenario is considered to be **Significant** for 32 Quay Street and The Bridge, 40 Dearmans Place. This is the same as identified at the project-level.

Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme (Future Consented Baseline Scenario)

12.96 The Future Consented Baseline Scenario SHOG analysis and transient overshadowing analysis are summarised in **Table 12.9**. Further details are provided in **Appendix 12.1**.

Table 12.9: Future Consented Baseline Scenario overshadowing assessment

Cumulative Project Ref	Identified common receptor (s)	Future Consented Baseline Scenario assessment
1 and 2	Public Amenity Space, 32 Quay Street, Motor Square and River Irwell	The results of the SHOG analysis show that these sensitive receptors will meet the 2022 BRE Guidelines. The overshadowing transient analysis identified the same results for Public Amenity Space, 32 Quay Street and Motor Square but additional shadowing at the River Irwell to that identified for the Proposed Scheme in isolation. However, overall in-combination the magnitude of change is considered to be negligible for these amenity spaces. Therefore, there is likely to be a direct, permanent, long-term, adverse in-combination effect which is considered to be negligible. This is the

Cumulative Project Ref	Identified common receptor (s)	Future Consented Baseline Scenario assessment
		same as identified at the project-level (negligible adverse).
	Clermont-Ferrand Square	The results of the SHOG analysis show that this receptor will not meet the 2022 BRE Guidelines, with an alteration in excess of 40% (large adverse magnitude). However, this area's location makes it very sensitive to changes in massing on the Site. The sunlight levels significantly increase in summer (when there is a higher expectation for sunlight and outside spaces are most likely to be fully utilised) with the area receiving over two hours of direct sunlight to 100% of its area on 21 st June. The overshadowing transient analysis showed the same results as that identified for the Proposed Scheme in isolation. The magnitude of change is considered to be large, although this receptor will experience good levels of sunlight in the summer months when outdoor space is likely to be fully utilised. Therefore, there is likely to be a direct, permanent, long-term, adverse in-combination effect which is considered to be moderate. This is the same as identified at the project-level (moderate adverse).

12.97 Given the above:

- The in-combination effect in the Future Consented Baseline Scenario is considered to be **Not Significant** for Public Amenity Space, 32 Quay Street (A1), Public Amenity Space, Motor Square (A3) and the River Irwell (A4). This is the same identified at the project-level; and
- The in-combination effect in the Future Consented Baseline Scenario is considered to be **Significant** for Clermont-Ferrand Square (A2). This is the same as identified at the project-level.

Wind Microclimate

12.98 Cumulative Projects 1, 2, 4 and 31 have been considered with respect to wind microclimate. Due to scale, proximity and orientation to the Site and the potential for interactions, no common sensitive receptors / in-combination effects have been identified with Cumulative Projects 5 – 30 and 32. Cumulative Project 3 is deep in construction so it has been considered as part of the baseline for the purposes of the in-combination wind microclimate assessment.

12.99 The 3D model used to assess the Lawson safety and comfort wind conditions is shown in **Appendix 9.1** and **Figures 9.1 – 9.25**. Wind conditions in the in-combination scenario according to the Lawson comfort criteria for winter and summer as well as Lawson

Safety criteria are shown in **Appendix 9.1** and **Figures 9.19, 9.20** and **9.23**. These show that the wind conditions on-site and off-site are similar to those identified for the Proposed Scheme in isolation (Scenario 3, as noted in **Chapter 9: Wind Microclimate**), summarised as follows:

- Exceedance of the industry standard Lawson Criteria for pedestrian comfort: Negligible adverse for receptors G1 – G56 and T1 – T2; and
- Exceedance of the industry standard Lawson Criteria for pedestrian distress: Negligible adverse for receptors G1 – G56 and T1 – T2.

12.100 Given the above, the in-combination effects are the same as that identified at the project-level (negligible adverse) and **Not Significant**.

Socio-Economics and Human Health

12.101 Cumulative Projects 1 – 32 have been considered with respect to socio-economics and human health.

12.102 The evaluation of construction and operational stage in-combination effects is presented in **Table 12.10**.

Table 12.10: Construction and operational stage in-combination assessment for socio-economics and human health

Cumulative Project Ref.	Identified common receptor (s)	In-combination assessment
1 – 32	Individuals seeking construction employment and the local economy (through GVA)	It is expected that the build-out of all 32 Cumulative Projects would lead to a large labour requirement and it is possible that this could represent challenges in relation to the availability of construction labour within the study area. In such an event, it is anticipated that construction labour would need to be drawn from a wider catchment, extending to a regional (North West) scale. Therefore, the in-combination effect is greater than that identified at the project-level (minor beneficial in Chapter 10: Socio-Economics and Human Health) and would potentially be Significant .
1 – 6, 8 – 10, 12, 14, 16 – 19, 21 – 27 and 29 – 32	Individuals seeking employment and the local economy (through GVA)	The Cumulative Projects with commercial floorspace could collectively accommodate a large number of employment opportunities, broadly within office-based service sector employment. When accounting for additionality factors (in line with the assessment methodology outlined in Chapter 10: Socio-Economics and Human Health) it is assessed that the level of employment uplift (circa 10%

Cumulative Project Ref.	Identified common receptor (s)	In-combination assessment
		of total employment within relevant sectors in the study area) and associated GVA could correspond to a large magnitude of change. Therefore, the in-combination effect is greater than that identified at the project-level (minor beneficial in Chapter 10: Socio-Economics and Human Health) and would be potentially Significant .
5, 7, 9 – 16, 18 – 20, 22, 24, 26 – 30 and 32	Individuals seeking housing	Application documents indicate that all Cumulative Projects will collectively deliver just under 16,000 additional homes. Constituting around half of the City Council housing strategy delivery target to 2032, and with most, if not all, delivered on city centre brownfield sites, this represents a large magnitude of change. Therefore, the in-combination effect is greater than that identified at the project-level (minor beneficial in Chapter 10: Socio-Economics and Human Health) and would be potentially Significant .
5, 7, 9 – 16, 18 – 20, 22, 24, 26 – 30 and 32	Healthcare facilities and their patients	The collective housing delivery of Cumulative Projects with residential floorspace / units will lead to an uplift in local population. The application of an average household size for Manchester (2.44) to the additional households provides an estimation of the scale of population increase. This will generate additional demand for local healthcare facilities. Given the existing scale of under-provision in relation to both GPs and dentists within the study area, the additional resident population is likely to exacerbate an existing shortfall. For the purposes of this assessment, a worst-case scenario is assumed that all new residents will not already be registered with local GPs and dentists in the study area; and no secondary mitigation is assumed as part of the Cumulative Projects. Therefore, under a worst-case scenario, the magnitude of change is assessed as being high. Therefore, the in-combination effect is greater than that identified at the project-level (minor adverse in Chapter 10: Socio-Economics and Human Health) and would be potentially Significant .

Cumulative Project Ref.	Identified common receptor (s)	In-combination assessment
5, 7, 9 – 16, 18 – 20, 22, 24, 26 – 30 and 32	Open space and recreational facilities and their users	The Cumulative Projects with residential floorspace / units will deliver additional homes and workspace which will generate additional demand for local open space, leisure and recreational facilities. It is assumed that the Cumulative Project (many of which include a variety of public realm improvements and private amenity space) will mitigate the increased demand derived from residents and workers. Therefore, the magnitude of change is assessed as small. Therefore, the in-combination effect is the same as that identified at the project-level (minor beneficial in Chapter 10: Socio-Economics and Human Health) and would be Not Significant .

Assumptions and Limitations

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

- Where mitigation has been referenced / set out in reporting for Cumulative Projects, this is relied upon within the assessment reported in this Chapter as it is assumed that the measures specified will be implemented. It is also assumed that where there is a similar impact to that from the Proposed Scheme, appropriate mitigation will be implemented as part of the Cumulative Project and this will be and / or has been secured / required by the determining authority; and
- As part of the assessment reported above, to ensure a consistency of approach and to inform an appropriate comparison of Cumulative Projects alongside the Proposed Scheme, high-level details have been taken from desktop reviews, where required, and then integrated within the assessment framework established in **Technical Chapters 6 – 11** to evaluate the level and significance of potential cumulative effects. For instance, in many cases the approach to treating additional factors within the consideration of socio-economic and human health will not necessarily have been presented within the documents the team has had access to, nor will it have been treated consistently across all Cumulative Projects. Although there are limitations to this approach, it is an approach that balances assessment consistency with proportionality.

Summary

12.104 An assessment of cumulative effects has been completed considering both effect interactions and in-combination cumulative effects. A summary of the outputs of the assessment for each type of cumulative effect is set out below.

Assessment of Effect Interactions

12.105 Effect interactions considers multiple effects generated by the Proposed Scheme impacting upon a common sensitive receptor.

12.106 The assessment identified the following for the construction stage:

- Population and human health – effect interactions likely to be greater than the effects individually and perceived as **Significant**.

12.107 The assessment identified the following for the operational stage:

- Population and human health – effect interactions likely to be greater than the effects individually and perceived as **Significant**; and
- Landscape – effect interactions likely to be no greater than the effects individually and **Not Significant**.

Assessment of In-combination Effects

12.108 The assessment of in-combination effects considered 32 Cumulative Projects on a technical topic-by-topic basis.

12.109 A summary of the evaluation of in-combination effects with the Cumulative Projects is provided in **Table 12.11**, which outlines:

- Whether in-combination effects were less than that at the project-level - denoted by <;
- Whether in-combination effects were the same as that at the project-level - denoted by =; and
- Whether in-combination effects were greater than that at the project-level - denoted by >.

12.110 An overarching commentary is provided alongside the above symbols.

Table 12.11: Summary of in-combination assessment

Technical topic	Summary
Noise and vibration	= / > In-combination noise and vibration effects are a mix; some would be the same as that at the project-level and would be Not Significant / Significant , while others are greater and would be potentially Significant .

Technical topic	Summary	
Townscape and visual	=	In-combination townscape and visual effects would not exceed the maximum level of effect identified at the project-level and be Not Significant .
Daylight, Sunlight and Overshadowing	= / >	In-combination daylight, sunlight and overshadowing effects are a mix; some would be the same as that at the project-level and would be Not Significant / Significant , while others would be greater than at the project-level though would remain Not Significant .
Wind microclimate	=	In-combination wind microclimate effects are the same as that at the project-level and would be Not Significant .
Socio-economics and human health	= / >	In-combination socio-economics and human health effects are a mix; some would be the same as that at the project-level and would be Not Significant , while others would be greater than at the project-level and would be potentially Significant .

References

¹ Her Majesty's Stationery Office (2017) The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 SI 2017/517 (as amended by The Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2018, SI 2018/695). Available at:

<http://www.legislation.gov.uk/ukxi/2017/571/contents> and

<https://www.legislation.gov.uk/ukxi/2018/695/contents/made> [Accessed: 01/05/2025].

² Planning Practice Guidance (PPG) – Guidance: Environmental Impact Assessment. Available at: <https://www.gov.uk/guidance/environmental-impact-assessment> [Accessed: 01/05/2025].

³ Planning Inspectorate (2019) Advice Note Seventeen: Cumulative Effects assessment relevant to nationally significant infrastructure projects (Version 2). Available online - <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/>.

⁴ IEMA (2022) EIA Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance.

13. Summary

Overview

- 13.1 The purpose of this Chapter is to provide a summary of the assessments reported within **Technical Chapters 6 – 11** and **Chapter 12: Assessment of Cumulative Effects**, to:
- Confirm the residual effects assessed and their significance; and
 - Outline cumulative effects, in particular how such effects differ from effects individually / at the project-level.

Summary of Technical Chapters 6 – 11

- 13.2 Each of the **Technical Chapters 6 – 11** reports the assessments through residual effects, inclusive of a tabular summary. All residual levels of effect across the ES are summarised for both the construction and operational stages in **Tables 13.1** and **13.2**, respectively, where:
- Not significant residual effects were identified – denoted by ✕
 - Significant adverse residual effects were identified – denoted by ✓; and
 - Significant beneficial residual effects were identified – denoted by ✓.
- 13.3 Where relevant, the ranges in the residual levels of effect (and significance) are presented in **Tables 13.1** and **13.2**.
- 13.4 Residual effects of ‘minor’ and above have been colour-coded (**red** for adverse and **green** for beneficial).
- 13.5 Details of the receptors are provided in the relevant **Technical Chapters 6 – 11**.

Table 13.1: Summary of residual effects during construction

Technical topic / likely significant effect	Residual level of effect	Significant effects identified?
Chapter 6: Noise and Vibration		
Noise emissions from general construction activity	Minor adverse / Moderate adverse	✕ / ✓
Vibration transfer from general construction activity	Minor adverse / Moderate adverse	✕ / ✓
Chapter 7: Townscape and Visual – n/a^a		

^a No construction stage effects were ‘scoped in’ for assessment.

Technical topic / likely significant effect	Residual level of effect	Significant effects identified?
Chapter 8: Daylight, Sunlight and Overshadowing – n/a^b		
Chapter 9: Wind Microclimate – n/a^c		
Chapter 10: Socio-economics and Human Health		
Temporary employment uplift during the construction stage which will support uplift in GVA	Minor beneficial	x
Chapter 11: Climate Change		
Net GHG effect	Minor adverse ^d	x

Table 13.2: Summary of residual effects during operation

Technical topic / likely significant effect	Residual level of effect	Significant effects identified?
Chapter 6: Noise and Vibration		
Introduction of new residents on operational noise practices of existing late night entertainment premises (including music venues)	Negligible adverse	x
Existing road and commercial premises noise on the Proposed Scheme	Minor adverse	x
Chapter 7: Townscape and Visual		
Impact on open space within the Site	Moderate beneficial	x
Impact on townscape character within the ZTV and in close proximity to the Site	Minor to moderate adverse	x
Impact on existing building height within the Site	Minor to moderate beneficial	x

^b The operational stage effects summarised in **Table 13.2** are considered to represent the worst-case construction stage effects.

^c The operational stage effects summarised in **Table 13.2** are considered to represent the worst-case construction stage effects.

^d It is noted that the net effect of the construction and operational stages is reported within **Chapter 11: Climate Change** and this is concluded to be minor adverse (Not Significant).

Technical topic / likely significant effect		Residual level of effect	Significant effects identified?
Impact on the residential visual receptors within the ZTV in close proximity to the Site		Minor adverse	✗
Impact on receptors using public open space within the ZTV in close proximity to the Site		Minor adverse	✗
Impact on receptors using the strategic recreational route within the ZTV in close proximity to the Site		Minor adverse	✗
Chapter 8: Daylight, Sunlight and Overshadowing			
Alterations to daylight and sunlight levels within sensitive neighbouring properties as a result of the Proposed Scheme	Daylight	Negligible adverse to Moderate adverse	✗ / ✓
	Sunlight	Negligible adverse to Moderate adverse	✗ / ✓
Alterations in sunlight to neighbouring amenity spaces due to overshadowing resulting from the Proposed Scheme		Negligible adverse to Moderate adverse	✗ / ✓
Chapter 9: Wind Microclimate			
Potential adverse wind conditions for proposed uses:			
• Exceedance of the Industry standard Lawson Criteria for pedestrian comfort	Negligible adverse	✗	
• Exceedance of the Industry standard Lawson Criteria for pedestrian distress	Negligible adverse	✗	
Chapter 10: Socio-economics and Human Health			
Net change in operational employment (and change in GVA)		Minor beneficial	✗
Increase in the number of homes in the assessment area and contribution towards local housing need		Minor beneficial	✗

Technical topic / likely significant effect	Residual level of effect	Significant effects identified?
Additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in population	Minor adverse	✗
Additional demand for the use of existing leisure facilities and open / amenity areas within close proximity to the Site	Minor beneficial	✗
Chapter 11: Climate Change		
Net GHG effect	Minor adverse ^e	✗

Summary of Chapter 12: Assessment of Cumulative Effects

13.6 An assessment of cumulative effects has been completed within **Chapter 12: Assessment of Cumulative Effects**. The assessment considered two types of cumulative effects:

- Effect interactions (where more than one effect is experienced by a single receptor); and
- In-combination cumulative effects (where effects on a receptor may combine with those of other projects in the locale).

13.7 A summary of the outputs of the assessment for each type of cumulative effect is set out below.

Assessment of Effect Interactions

13.8 The assessment of effect interactions identified the following for the construction stage:

- Population and human health – effect interactions likely to be greater than the effects individually and perceived as **Significant**.

13.9 The assessment of effect interactions identified the following for the operational stage:

- Population and human health – effect interactions likely to be greater than the effects individually and perceived as **Significant**; and
- Landscape – effect interactions likely to be no greater than the effects individually and **Not Significant**.

^e It is noted that the net effect of the construction and operational stages is reported within **Chapter 11: Climate Change** and this is concluded to be minor adverse (Not Significant).

Assessment of In-combination Effects

- 13.10 The assessment of in-combination effects considered 32 Cumulative Projects on a technical topic-by-topic basis.
- 13.11 As noted in **Chapter 12: Assessment of Cumulative Effects**, climate change has not been specifically considered within the assessment of in-combination effects but it is noted that the overall net effect was determined to be minor adverse (Not Significant)
- 13.12 A summary of the evaluation of in-combination effects with the Cumulative Projects is provided in **Table 13.3**, which outlines:
- Whether in-combination effects were less than that at the project-level - denoted by <;
 - Whether in-combination effects were the same as that at the project-level - denoted by =; and
 - Whether in-combination effects were greater than that at the project-level - denoted by >.
- 13.13 An overarching commentary is provided alongside the above symbols.

Table 13.3: Summary of in-combination assessment

Technical topic	Summary	
Noise and vibration	= / >	In-combination noise and vibration effects are a mix; some would be the same as that at the project-level and would be Not Significant / Significant , while others are greater and would be potentially Significant .
Townscape and visual	=	In-combination townscape and visual effects would not exceed the maximum level of effect identified at the project-level and be Not Significant .
Daylight, Sunlight and Overshadowing	= / >	In-combination daylight, sunlight and overshadowing effects are a mix; some would be the same as that at the project-level and would be Not Significant / Significant , while others would be greater than at the project-level though would remain Not Significant .
Wind microclimate	=	In-combination wind microclimate effects are the same as that at the project-level and would be Not Significant .
Socio-economics and human health	= / >	In-combination socio-economics and human health effects are a mix; some would be the same as that at the project-level and would be Not Significant , while others would be greater than at

Technical topic	Summary
	the project-level and would be potentially Significant.
